DEVELOPMENT OF STRATEGIES TO SUPPORT THE RESUSCITATION TEAM IN EMERGENCY DEPARTMENTS OF MANKWENG AND PIETERSBURG PUBLIC HOSPITALS IN LIMPOPO PROVINCE, SOUTH AFRICA

By

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DISSERTATION

Submitted in fulfillment of the requirements for the degree of

MASTER OF NURSING

In the

FACULTY OF HEALTH SCIENCES

(School of Health Care Sciences) at the

UNIVERSITY OF LIMPOPO

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2022

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DECLARATION

I declare that I have not previously submitted the dissertation hereby submitted to the University of Limpopo for the degree of Master in Nursing for a degree at this or any university. It is my work in design and execution. All material contained has been duly acknowledged.

SEIMELA MH 25 May 2021

Surname and Initials **DATE**

DEDICATION

The study is dedicated to all medical doctors, and professional nurses employed in the EDs of Mankweng and Pietersburg Hospitals in Limpopo Province and are involved in resuscitation processes daily.

ACKNOWLEDGEMENT

Firstly, I would like to thank my Heavenly Father for giving me courage, wisdom, and patience from the beginning to the end of the study.

- To my supervisor, Mrs. L Muthelo, thank you for your remarks, guidance, and support your everlasting patience.

- To my co-supervisor, Prof RN Malema, thank you for steering this study.

- To the University of Limpopo Nursing Department staff, your effort and dedication in developing students in research gave me the courage and drove me to achieve my goal.

- Thank you for permitting me to conduct the research study at your institutions to the Department of Health in Limpopo Province and the management of Mankweng and Pietersburg Hospitals.

- To the medical doctors and professional nurses of Mankweng and Pietersburg Hospitals, who participated in this study, thank you for your cooperation and willingness to provide information during the interview sessions

- To my mother, Maria Seimela, thank you for your continuous words of encouragement.

- To my family, the father of my children, Marege Ezekiel Magagane, thank you for your words of encouragement and your patience throughout the study.

- To my son Ishmael who was always by my side when I have technical difficulties, and my other kids Lesedi, Segala, and Matabo - thank you for your love, support, and understanding throughout the study.

- Lastly, thank you to the University of Limpopo, Turfloop Campus for allowing me to study at this higher institution of learning.

ABSTRACT

Background: Emergency departments (EDs) as the hospitals' front door have a critical role in ensuring access to and efficient care of acute illness and injuries in the healthcare system. The environment in EDs is physically and emotionally demanding and burdened by complex patient loads, long shifts, and administrative challenges resulting in high pressure and high volume workloads amongst the staff members.

Purpose: The study aimed to develop support strategies for the resuscitation team in EDs of Mankweng and Pietersburg public hospitals in Limpopo Province, South Africa.

Study method: A descriptive, phenomenological, and explorative research design was used to explore the resuscitation team's experiences and the available strategies to support them. Purposive and convenience sampling methods were used to select five Medical doctors and twelve Professional nurses to participate in the study. The sample size was determined by the depth of the information obtained from the participants.Data was collected through semi-structured individual interviews. Interview guide was developed to guide with organised line of questioning and thinking. Qualitative data analysis using Tesch's approach was then followed. The quality of data was ensured by applying four elements; credibility, transferability, dependability, and confirmability. Turfloop Research Ethics Committee, the Limpopo Department of Health, and the Mankweng/Pietersburg Ethics Committee permitted the study. The study's details were explained to potential participants, who then agreed to be part of the study and signed consent forms.

Results: The following themes emerged: Challenges related to the shortage of resources in the ED, challenges related to lack of standardized procedures and policies for handling the resuscitation process, psychological challenges of resuscitation failure, leadership, and managerial support challenges, and challenges related to education and training of the resuscitation team.

Conclusion: This study's results indicated that the resuscitation teams of EDs from Mankweng and Pietersburg Public Hospitals face challenges that cause them stress and burnout. The challenges result from an increased overload of work with no personnel and material resources. They become demoralized by being engaged in failed resuscitation with no psychological support from the management. They don't receive any debriefing or counseling post failed resuscitation and no educational

backing of the management. The study's findings guided the researcher in developing strategies to support the resuscitation teams in the EDs of Mankweng and Pietersburg Public Hospitals.

Key concepts: Strategies, Resuscitation team, Professional nurses, Medical doctors.

DEFINITION OF CONCEPTS

Support

Boulevard (2010) defines support as a means of giving strength and encouragement to someone to achieve an activity. For this study, support shall mean encouraging and strengthening the resuscitation team concerning different challenges and emotions they are experiencing during and after resuscitation of patients in the EDs of Mankweng and Pietersburg Public Hospitals, Limpopo Province, South Africa.

Strategies

Deuter, Brandbery, and Turnbull (2015) define strategy as a plan of action chosen to achieve the desired goal. In this study, strategies shall mean a plan of action and coping mechanisms that will be developed to support the resuscitation team in the EDs of Mankweng and Pietersburg Public Hospitals, Limpopo province, South Africa.

Resuscitation team

A resuscitation team means a group of people who work together to restore the life or consciousness of the patient dying or whose respiration has ceased (American Heart Association,2016;Boulevard,2010). In this study, the resuscitation team shall mean medical doctors and professional nurses who are working together to archive the same goal: preserving the lives of patients in the form of performing emergency actions such as resuscitation in the EDs Mankweng and Pietersburg Public Hospitals.

Emergency Department (ED)

According to Webster (2018), the Emergency Department is a division of an organization wherein unforeseen circumstances resulting in a state that calls for immediate action are addressed. In this study, the ED shall mean a division in Mankweng and Pietersburg Public hospitals called EDs where patients with emergency life-threatening conditions that require immediate resuscitation are addressed.

Medical Doctor

A medical doctor is skilled or specializing in healing and holds an advanced degree, and is licensed to practice (Webster, 2018). In the study, a medical doctor shall mean medical officers practicing in the EDs of Mankweng and Pietersburg public Hospitals in Limpopo Province, South Africa.

Professional Nurse

According to section 31 of the Nursing Act (Act 33 of 2005), a Professional nurse is a person who is qualified and competent to independently practice comprehensive nursing in the manner and to the level prescribed and who can assume responsibility and accountability for such practice. In this study, the professional nurse shall mean a person who has done a comprehensive or general nursing science and is registered with the South African Nursing Council.

LIST OF ABBREVIATIONS

AED **:** Automated External Defibrillator
AHA **:** American Heart Association
BLS **:** Basic Life Support
CPR **:** Cardio-Pulmonary Resuscitation
DNA **:** Do not attempt resuscitation
DR **:** Doctor
ED **:** ED
IHCA **:** In-Hospital Cardiac Arrest
JD-R **:** Job Demand Resources
PN **:** Professional Nurse
SA **:** South Africa
RCSA : Resuscitation Council of South Africa
USA **:** United States of America

CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND

Emergency departments (EDs), as the hospitals' front door, have a critical role in ensuring access to and efficient care of acute illness and injuries in the healthcare system (He, Hou, Toloo, Patrick & Gerald, 2011). However, the EDs environment is physically and emotionally demanding because of burdened complex patient loads, long shifts, and administrative challenges resulting in high pressure and high volume workloads amongst the staff members (Hunsaker, Chen, Maughan & Heaston, 2015). The staff members in the EDs deal with unpredictable events, life-threatening medical emergencies such as Tension Pneumothorax, Cardiac Tamponade, Status Asthmatics, and some of these conditions complicate Cardiac Arrest that has an unknown outcome. In this regard, Mellick and Adams (2009) noted that a well-coordinated and executed Cardiopulmonary Resuscitation (CPR) brought a better Cardiac Arrest outcome. They were thus suggesting that effective CPR requires a psychologically healthy, skilled, and composed resuscitation team. However, the stress level brought by the burden of workload is likely to lead to more mistakes by the ED staff and unsuccessful cardiopulmonary resuscitation.

Cardiopulmonary Resuscitation is a combination of chest compressions and rescue breathing, which forms the basis for Basic Life Support (BLS) (Nolan, Soar & Perkins, 2012). Various authors have noted that healthcare settings have a different number of healthcare professionals such as trained and untrained, or specialized healthcare professionals (both Medical doctors and Professional nurses) who are responsible for the provision of resuscitative care (Duko, Geja, Oltaye, Belayneh, et al. 2019; Mucktar & Fadlallah 2018; Mellick & Adams, 2009). Mellick and Adams (2009) argue that because of the burdened EDs and fatigue, the Medical doctors and Professional nurses are entitled to make errors during the resuscitation process. While Duko, Geja, Oltaye, Belayneh, et al. (2019) argued that errors during resuscitation might result from Medical doctors and Professional nurses‘s insufficient knowledge and skills in handling

the resuscitation process. Therefore, the EDs are regarded as the most stressful departments for providing patient care by Medical doctors and Professional nurses.
For example, Abraham, Thom, Greenslade, Wallis, Johnston, et al. (2018) noted global trends about the EDs being recognized as stressful environments for staff members. The aforementioned authors further indicated that the stressful EDs were related to the increasing numbers of patients with cardiovascular-related conditions who demanded more staff members' efforts. In the United States (US), the EDs are more stressful and busier, with more patients workload of more than 131 million total visits in the ED in 2011 (Weiss, Wier, Stocks, & Blanchard, 2014). While in Sweden, Kallberg, Ehrenberg, Florin, Ostergren, and Egoransson (2017) reported Medical doctors and Professional nurses are confronted with administrative challenges such as lack of organization and control in the EDs with high workload that affect the provision of quality patient care.
Many countries in sub-Saharan Africa face the challenge of having an integrated emergency care system recommended by the World Health Assembly due to the diverse burden of acute diseases in the hospitals (Reynolds, Mfinnanqa, Sawe, Rynon & Mwafongo, 2012). Furthermore, Reynolds et al. (2012) noted that many African countries face challenges such as lack of capacity of ED personnel and the infrastructure and resources challenges. For example, the University of Botswana resuscitation training project has developed a strategy to support the emergency resuscitation teams, which included Medical doctors Professional nurses.Despite challenges in staff retention, maintenance of educational courses, ongoing financial support, and health professionals' spreading, the country continues to become overpopulated (Cox & Dichabeng, 2017). The strategy was done in the form of training 1600 participants, which included University staff, students, and other health care workers such as Medical doctors and Professional nurses, courses to be attended were increased, training venues and experiences in the faculty of medicine were also increased (Cox & Dichabeng, 2017).

South Africa is no exception to other African countries confronted with challenges of providing quality emergency care. For example, Ocen et al (2015) reported that most of the cardiac arrest patients were dissatisfied with the waiting period in the EDs. The patient waiting period has deliberated several times by different authors in South Africa

who concurred that a triage system would be the best option to reduce the problem (Phukubye, Mbombi, & Mothiba, 2019; Engelbrecht, Du Toit, & Geyser, 2015; Masango-Makgobela, Govender, & Ndimande, 2013).In response to the Ocen (2015) results, the Resuscitation Council of South Africa (RCSA) promoted Cardio-Pulmonary-Resuscitation (CPR) training to the public and health professionals, intending to increase patient's survival both in the hospital and in the community settings. CPR skill demands training and practice. However, the RCSA decided to adopt the American Heart Association (AHA) emergency cardiovascular care programs and guidelines to deliver training and endorsed this as a minimum standard for resuscitation in South Africa (Botha, 2010). Furthermore, the initiative to train more health professionals regarding resuscitation activities followed the concern about how the resuscitation team handled resuscitation's bad outcomes (Masia, Basson & Ogunbanjo, 2010). For example, a study conducted at George Mukhari Hospital ED reported many self-blames by the medical doctors and nurses who felt incompetent and helpless when the patients failed to survive during the resuscitation. As a result, some of these health professionals resorted to working longer hours with the hope of restoring the lost, thus suggesting the element of denial. The feeling of denial that manifests as one rejects the emotional feeling often results in chronic grief and depression, affecting the resuscitation team in the EDs (Masia, Basson & Ogunbanjo, 2010). The above study indicates that there is a need for intervention measures to assist the resuscitation team in EDs to overcome emotional reactions that are experienced during the resuscitation process. Therefore, based on the above background, the nurses and medical doctors are subject to different strains during the provision of emergency care services, suggesting a need for support, especially when aiming for quality patient care. The Job Demands- Resource Model was used explore the challenges experienced by the resuscitation teams in two selected public hospitals.

1.2. PROBLEM STATEMENT

According to the weekly statistics compiled in October 2018 by the head of the ED, about 348 patients are seen in the emergency unit every week, making +-49 patients 24 hours (Pietersburg/Mankweng Emergency unit monthly report, 2018). Of the 348

patients, 80% come with critical conditions and complications which require resuscitation. However, only 50% of the resuscitated cases become successful. Minnie, Goodman, and Wallis (2014) opined that South Africa is burdened by the Injury mortality rates, which is higher than the global average. Therefore it is not starting why 50% of the two hospitals' resuscitated cases are not successful. In the above situation, the high level of emotional stress was realized amongst the resuscitation team members as evidenced by different reactions such as aggressive behavior, anger, sadness, avoidance, and self-blame. A literature review study done by Abraham et al. (2018) reported that very few intervention studies were done to assist the ED staff in coping with the stressful and demanding work environment.
During clinical practice, the researcher observed that the nature of the job faced and experienced by the resuscitation team daily appears to be stressful. They share a high level of day-to-day operational and organizational stress in the work environment, including exposure to critical incidents daily, shift work, long-standing hours, making critical decisions under time pressures, and dealing with the bereaved family who lost their loved ones. This was observed amongst the Medical doctors and Professional nurses working in the emergency unit in the two tertiary hospitals in Limpopo Province, Pietersburg, and Mankweng hospital. The two tertiary hospitals are referral hospitals with different specialist medical doctors. The ED in these two hospitals receives specialized treatment from all the district hospitals in Limpopo Province.Therefore based on the statistics and researcher’s clinical experience the current study aim to develop the strategies to improve quality patient care and reduce the stress level amongst the resuscitation teams of the two selected Public Hospitals.

1.3 PURPOSE OF THE STUDY

The study's purpose was to develop support strategies for the resuscitation team in EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa.

1.4 OBJECTIVES OF THE STUDY

The objectives of the study were to:

- To explore and describe the challenges experienced by the resuscitation teams in EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa.
- To develop the support strategies for the resuscitation teams in EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa.

1.5. RESEARCH QUESTIONS

The following research questions guided the researcher throughout the study:

- What are the challenges experienced by the resuscitation teams in EDs of Mankweng and Pietersburg public hospitals in Limpopo Province, South Africa?
- What are the support strategies for the resuscitation teams in EDs of Mankweng and Pietersburg public hospitals in Limpopo Province, South Africa?
- What support strategies can be developed for the resuscitation teams in the EDs of Pietersburg and Mankweng hospitals?

1.6. RESEARCH METHODOLOGY

A qualitative research approach was applied to conduct this study. The qualitative research approach refers to an inquiry that concentrates on interpreting people's lived experiences in the clinical setting (Holloway & Galvin, 2017). The qualitative research enabled the researcher to explore the challenges experienced by the resuscitation teams in Mankweng and Pietersburg public hospitals' EDs in Limpopo province, South Africa. The exploration of their challenges assisted the researcher in developing strategies to support them.

1.6.1 Study site

The study was conducted in the EDs of two tertiary hospitals situated in the Capricorn District of Limpopo Province. The two public hospitals are Pietersburg and Mankweng Hospitals, located in the city of Polokwane. Polokwane hospital is located at corner

Dorp and Hospital Street, and Mankweng hospital is 27km east of Polokwane on the R71 road. The two tertiary hospitals are the level three hospitals providing health services to all districts in Limpopo Province. Study site will be explained in details in chapter three of the study.

1.6.2 Research designs

Explorative, phenomenological, and descriptive research designs were used to explore the resuscitation team's experiences and describe the available strategies to support them. The phenomenological design emphasizes the description of human experiences and insists on carefully portraying everyday life as people experience them (Polit & Beck, 2017). The exploratory design is directed towards exploring dimensions of the resuscitation team's challenges in EDs (Porter et al., 2014). The researcher explored, understood, and described the resuscitation team's challenges in the selected EDs. Chapter 3 discusses the detailed research designs of the study.

1.6.3 Population and Sampling

The population is a complete set of persons that shared characteristics that are critical to the study (Polit & Beck, 2017). In the study, the population was all Medical doctors and Professional nurses working in the EDs of Mankweng and Pietersburg Hospitals, Limpopo Province South Africa. Purposive and convenience sampling were used to purposely select the available resuscitation team members in the chosen EDs. The resuscitation team was the best suitable participants for the study because of their knowledge regarding resuscitation (Polit & Beck, 2017). A total number of 20 professional nurses and ten medical doctors were purposively and conveniently selected for participation in the study. The researcher used only four professional nurses and one medical doctor for a pilot study and later excluded them in the main study findings.

1.6.4. Data Collection

Data collection refers to the collected information that assists the researcher in addressing the research problem (Polit & Beck, 2017). Semi-structured individual interviews using an interview guide was conducted where the researcher selected counseling rooms in the EDs to conduct the interview session. A semi-structured

interview is a qualitative interview approach that helped the researcher explore the challenges experienced by the resuscitation team. The researcher used a structured set of questions during the interview for answering the research questions (Galletta & Cross, 2013). The interviews were recorded using the voice recorder, and field notes were written to collect data from the participants as they respond. One central question was, **'Will you describe your challenges concerning resuscitation?'** this question was used to ask all participants. The interview guide was written in English since professional nurses and medical officers are highly literate and could understand English in any context. Probing questions was then asked after the first response to gather more information about their experiences. Probing questions usually seek more information about a particular topic and encourage the person to provide more detail about the already provided information (O'Toole, 2012). Semi-structured interviews were conducted until data saturation was reached. The data collection process will be discussed further in chapter 3.

1.6.5. Data analysis

Tesch's data analysis method, which comprises eight integrated steps, was used to analyze the data (Creswell, 2014; de Vos, Strydom, Fouche & Delport, 2011). The researcher transcribed all the data verbatim from the tapes. The eight steps of Tesch's open coding method, as described by Cresswell (2014), were used to analyze the transcribed data. The eight steps will be discussed in detail in Chapter 3 of this report.

1.7. MEASUSERS TO ENSURE TRUSTWORTHINESS

Trustworthiness is the criterion to test the research design quality (Polit & Beck, 2017). As cited in de Vos et al. (2011), Lincoln and Guba recommend four strategies: credibility, transferability, dependability, and confirmability be applied to ensure trustworthiness in this study. The four strategies will be discussed in full in Chapter 3.

1.8. SIGNIFICANCE OF THE STUDY

This study's results may benefit the Department of Health and both hospitals by describing the resuscitation team's challenges. Conflicts and burnout among the resuscitation team could be reduced by applying the developed support strategies. The resuscitation team's ability to cope with the challenges may result in more focus

on patients and thus improving the quality of life. The resuscitation team might also benefit from the developed strategies as they will uplift their morale, thereby enhancing patient care quality. The resuscitation teams will then have a positive attitude towards their work, which will boost the institution's image and the department.

1.9. ETHICAL CONSIDERATIONS

Ethics is the rightness or wrongness of an activity or act. It is further defined as suitable methods or techniques applied or used in any research activity (Mutero, 2015). The following ethical standards were observed when conducting the study: Ethical clearance, permission to conduct the study, informed consent, confidentiality and anonymity, right to privacy and protection from harm, and non-maleficence, the principle of beneficence and justice, honesty. Detailed ethical considerations will be discussed in Chapter 3 of this report.

1.10. CHAPTER SUMMARY

Chapter 1 has provided an introduction and background, the problem statement, the purpose of the study, the research questions, the objectives of the study, research methodology, the study site, the population and sampling, data collection, data analysis, measures to ensure trustworthiness, the significance the research and ethical considerations.

1.11. OUTLINE OF DISSERTATION

The chapters in this dissertation are organized as follows:

Chapter 1: Overview of the study.

Chapter 2: Literature review and theoretical framework.

Chapter 3: Research design and methodology.

Chapter 4: Discussion of research results and literature control.

Chapter 5: Summary, Conclusions, limitations, and recommendations

CHAPTER TWO
LITERATURE REVIEW

2.1. INTRODUCTION

A literature review refers to a process of identifying, criticizing, and reporting on the existing literature and gap concerning the study topic (Bernard, Wutich & Ryan, 2016). For example, the literature reviewed in the current study relates to various authors' challenges, as reported during the resuscitation process. This chapter discusses the meaning of resuscitation, the constituents and role of the resuscitation team, the difficulties encountered and strategies to support resuscitation teams in the EDs.The chapter also ouline the Job Demand- Resourses Model which guided the study.The researcher used various databases to obtain national and international literature about resuscitation, such as Google Scholar, PubMed, and Medscape. The chapter further makes reference to Cardiac Arrest as the prevalent medical condition that necessitates Cardio-Pulmonary Resuscitation in the clinical area.

2.2. RESUSCITATION TEAM

The resuscitation team comprises four professional nurses and three medical doctors who perform different duties. The team leader should be the most senior Medical doctor on the floor; such a doctor is responsible for supervising patient care during resuscitation; he is the one who is making significant decisions and delegates the work to team members (Porter, Cooper & Taylor, 2014). The second Medical doctor's role is to attend to airway and breathing with the Professional nurse number one, and the third one follows the circulation and gives drugs with the second Professional nurse's assistance. The third Professional nurse becomes a scriber to document the resuscitation events. The scriber should solely remain in that role and should be ideally an experienced senior emergency nurse. The last Professiona nurse is a runner nurse who ensures that everything that is needed during resuscitation is nearer as being called by Professional nurses one, two, three, and the doctors, respectively (Porter et al., 2014).

2.2.1. CHALLENGES EXPERIENCED BY THE RESUSCITATION TEAM

In a study conducted by Rajeswaran and Ehlers (2013) about cardio-pulmonary resuscitation challenges in Botswana hospitals, the challenges which were experienced by the resuscitation team included staff shortages, which cause excessive workloads and might impact negatively on CPR interventions. The same author's discovered that the lack of staff is so severe that two nurses had to care for multiple patients in certain incidences, which affected decision-making during critical situations and the cardiopulmonary resuscitation process.

2.2.2. CARDIOPULMONARY RESUSCITATION CHALLENGES

The study about the Cardio-Pulmonary Resuscitation challenge conducted by Rajeswaran and Ehlers (2013) in Botswana reported an increased risk of deaths for road accident victims and other patients in the EDs. The medical disorders due to non-availability of trained personnel to provide adequate cardiopulmonary resuscitation, inadequate equipment, and resources and overloaded staff members were reported as the leading cause of deaths. Furthermore, Rajeswaran and Ehlers (2013) outlined the following challenges concerning cardiopulmonary resuscitation:

- **Organizational factors**

It was found that the shortage of nurses and doctors delays the inception of CPR, causes excessive workloads, and increases the resuscitation team's stress levels during critical situations.

- **Supplies and equipment's**

The shortage of equipment and drugs was also a challenge and a barrier between the resuscitation team.

- **Inadequate space to perform CPR**

The overloaded healthcare system contributed to poor patient care in the ED. Overpopulation of patients in the EDs aggravated the spread of various acute diseases while rendering emergency care ineffective, mainly that most patients were occupying the spaces for machines (Rajeswaran & Ehlers, 2013).

- **Non- existing CPR policies and guidelines**

Friess and Sutton et al. (2013) established that in the current situation, guidelines for the treatment of cardiac arrest have an assumption that all patients can be treated following a uniform chest compression depth irrespective of the lack of data which shows adequate myocardial blood flow. Rajeswaran and Ehlers (2013) further reported that most of the resuscitation team members were either confused or panic due to the shortage of guidelines policies for the CPR process. The same authors discovered that the lack of CPR policies poses challenges for effective CPR implementation. The absence of clear guidelines affects nurses' CPR competence negatively, contributing to substandard practices. The Resuscitation Council of the United Kingdom recommends that resuscitation committees ensure compliance with national resuscitation guidelines and standards since the absence of such guidelines creates a gap between CPR theory and practice (Rajeswaran & Ehlers, 2013).

- **Training challenges**

A qualitative inquiry of challenges experienced by registered general nurses in the ED in Ghana discovered that almost all nurses taking part in the study mentioned lack of formal education in emergency care as a challenge and believed formal education in emergency care would help prevent unnecessary deaths in the EDs (Atakro et al., 2016). The study conducted about the challenges of training, support, and assessment of healthcare support workers, discovered that ED managers and healthcare support workers commonly spoke of the difficulty of releasing staff from busy wards to undertake any training they had booked to attend. The findings indicated that it was impossible to complete even the training that the hospitals reported as mandatory (Sarre et al., 2018).

2.5. ETHICAL CHALLENGES IN RESUSCITATION

Mentzelopoulos et al. (2018) reported ethical challenges in resuscitation, which impact either resuscitate or ignore dying patients. For example, the authors mentioned above discovered the challenges regarding the objectivity and ethical integrity of criteria applied for "Do Not Attempt Cardio-Pulmonary Resuscitation [DNACPR] or Life-Sustaining Treatments (LST)" decisions. Furthermore, obtaining informed consent as an ethical standard and maintaining the principle of autonomy has been reported as a challenge for the resuscitation team in the EDs.

Furthermore, Mentzelopoulos (2018) reported that it was difficult for resuscitation to prevent patient harm. Some of the medical interventions, such as intubation or giving injections, made it difficult for the team to ensure no damage. The ethical challenges have been reported to occur during the process of CPR, in the process, and when terminating the CPR. For instance, depending on CPR's outcomes, some of the patients failed to voice their views regarding harm or benefits during the resuscitation process, making it difficult to conclude a fair debriefing process.

Torke, Bledsoe, et al. (2015) reported that the other challenge facing the resuscitation team is deciding when to stop resuscitating the patients, especially when the desired outcomes are not being achieved. Failure to determine when to stop the extra effort of bringing patients' lives indicates the existence of an ethical dilemma to the resuscitation team. This further questions the guidelines on when does one stop resuscitating, which is a clinical judgment that collective efforts cannot achieve. Thus, the CPR process requires the resuscitation team to be equipped with communication skills and clinical judgment (Torke, Bledsoe, et al., 2015).

2.6. STRATEGIES TO SUPPORT THE RESUSCITATION TEAMS IN THE EDS

Gwinnutt, Davies, and Jasmeet (2015) noted that the various healthcare systems have one or few strategies to support the resuscitation team, including briefing and debriefing sessions and disaster drills to know which role he or she should play during the resuscitation process. While the above strategies' aim includes discussing problems and concerns openly and allowing learning and improvement in a constructive manner, there remains a concern to other healthcare settings with limited or no strategy.

Mellick and Adams (2009) emphasize the resuscitation team leader's importance by indicating that the leader needs to involve all the team members during the planning process for either a drill situation or a real-life resuscitation event. The authors mentioned above suggest that the resuscitation team's discussion should include a brief of the expected resuscitation procedures, protocols, and necessary resources.

Hunziker, Johanssion, and Tschan (2011) concur with using a disaster drill to increase the knowledge of healthcare professionals. The authors further indicate that High-

fidelity simulation can add more knowledge and skills to the resuscitation team. The use of High-fidelity simulation with a computerized system offers an advanced opportunity for healthcare professionals to improve their experience, especially that it will display the simulation practices from the beginning to the end while indicating the possible areas of improvement by the team member (Hunziker, Johanssion & Tschan, 2011).

Carl, Davies, and Soar (2015) have reported using job aids as strategies to support the resuscitation team in clinical settings. An example of job aids, according to Mellick and Adams (2009), includes using a checklist that can be completed before, during, and after the resuscitation process. Mellick and Adams (2009) argue that the checklist has proven to be effective in different departments such as the department of transport (Flight industry) and even with the department of health. Therefore, the resuscitation team could have a checklist for room preparation, role allocation checklist such as leadership, and a checklist for available resources for the resuscitation process. (Mellick & Adams, 2009).

The application of the principle of autonomy may also help the resuscitation teams cope with job demands. In contrast, social support and high-quality relationship with supervisors may have buffered the impact of job demands on levels of burnout because employees would have received instrumental help and emotional support. In contrast, feedback may also help the resuscitation teams as it provides employees with information necessary to maintain their performance and stay healthy (Bakker & Demerouti, 2007). According to Gholamzadeh & Shariff (2011), the most effective support strategy to be used by medical doctors and professional nurses in EDs is positive reappraisal. One reason why positive reappraisal may be used more is that this coping strategy has religious dimensions. Nurses working in Iran utilize more religious coping than other countries.

2.7 THEORETICAL FRAMEWORK

A theory has a logical statement that explains the relationship between two or more objects or humans' characteristics. The Job demands - Resources Model guided this study to explore the challenges experienced by the resuscitation team in Mankweng and Pietersburg hospital's emergency units. This theory was also used to develop and

recommend the strategies that were designed to support the resuscitation team in EDs.

2.7.1 The origin of the theory

The Job demands - Resources Model formulated by Bakker and Demerouti (2007) supports this research study. It is a model that intergrades two independent research traditions, such as the stress research tradition and the motivation research tradition. According to the job demands-resources model, job demands are initiators of a health impairment process, and job resources are initiators of a motivational strategy. The model also specifies how needs and resources interact and predict essential organizational outcomes (Demerouti & Bakker, 2011).

2.7.2. The importance of the Job-demands –Resources Model

The model states that when job demands are high and job resources/positives are low stress and burnout increase. Conversely, an increased number of job positives can offset the effects of high job demands (Bakker & Demerouti, 2007). In the context of this study, the emergency unit is a physically and emotionally demanding unit which is also burdened by complex patient loads, long shifts, and administrative challenges resulting in high pressure and high volume workloads amongst the staff members. As a result of the workload, the staff members' stress level is likely to increase, leading to more mistakes and medico-legal hazards.

2.7.3. The relationship of the Job-demands- Resources Model and health

The theory describes that when the job-demands are overwhelming to the ED due to the limited resources, the resuscitation team's health may be impaired. Health is a state of complete physical, mental, and social wellbeing. Thus, health impairment means any disruption in the state of complete wellbeing (WHO, 2009). It is a model that intergrades two independent research traditions, such as the stress research tradition and the motivation research tradition. According to the job demands-resources model, job demands are initiators of a health impairment process, and job resources are initiators of a motivational strategy. Motivation is a process that triggers, steers, and maintains the work behavior of an employee. An employee's behavior is preceded by mental procedures and is target-oriented to achieve an individual state

(Kamau, 2015). The application of this model in this study shows that the overwhelming situation that the resuscitation teams are in compromises their complete wellbeing, as explained above. The model supports that their work behavior determines the motivational process of the resuscitation team. Thus utilizing this model in the study will guide the researcher in developing support strategies for the resuscitation teams in the EDs of Mankweng and Pietersburg Public Hospitals in Limpopo province, South Africa.

Many studies have shown that job characteristics can profoundly impact employee well-being, such as job strain, stress, and burn-out during the past decades. Research has revealed that job demands, such as high work pressure, emotional needs, and role ambiguity, may lead to sleeping problems, exhaustion, and impaired health (Tremblay & Messervey, 2011). In contrast, job resources such as social support, performance feedback, and autonomy may instigate a motivational process, leading to job-related learning work, engagement, and organizational commitment (Tremblay & Messervey, 2011).

The Job demands - Resources Model further indicates that the interaction between job demands and job resources is vital for job development and motivation. More specifically, job resources may buffer the impact of job demands on job strain, including burnout. The evidence for the buffer effect of job resources found that work overload, emotional, physical need, and work-home interference cannot result in high levels of burnout if employees experienced autonomy, received feedback, have social support or high quality relationship with their supervisors (Bakker & Demerouti, 2007).

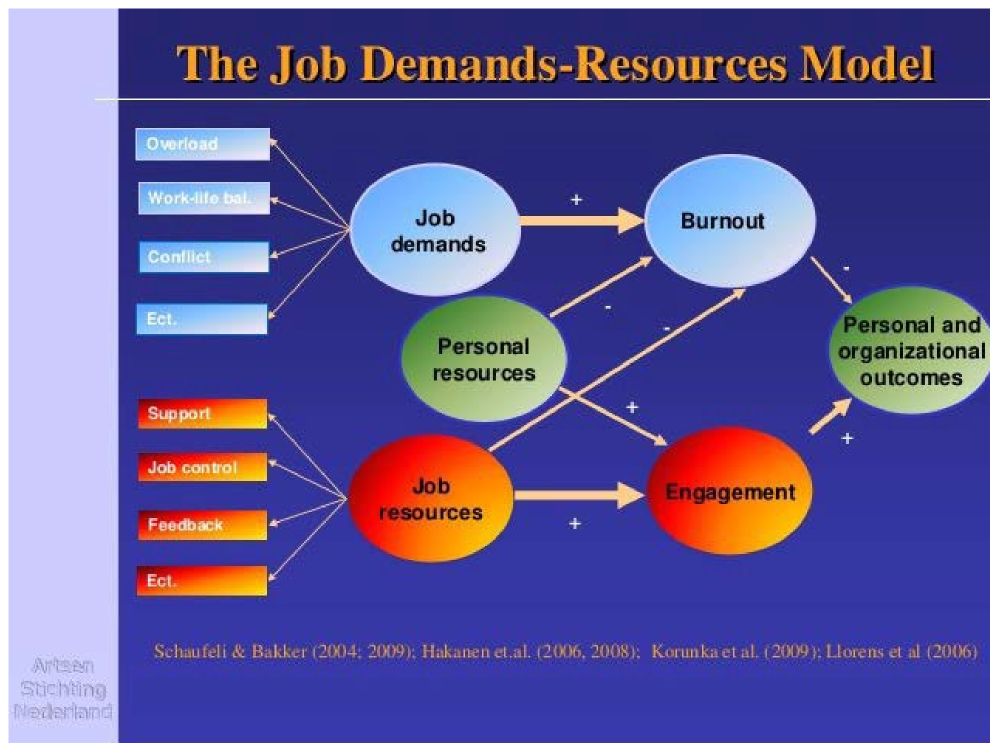

Figure 2.1: Schematic diagram showing the main concepts in theory adopted from Schaufeli and Bakker (2009).

- **Job demands**

Job demands consist of those factors (such as time pressure and workload) which reduce health and energy causing severe mental disorders and, eventually, low employee performance (Bakker & Demerouti, 2011). In the context of this study, the job demand in the emergency unit is caused by incoming critically ill patients from either home or from referring Hospitals resulting in an overload of work by the resuscitation team. However, the overload might cause conflict amongst the resuscitation team.

- **Burnout**

According to Adili and Baig (2018), employee burnout is created by the additional workload, time pressure, and work-life imbalance. Furthermore, burnout can seriously threaten employees' well-being. Job demands are positively associated with burnout. Additionally, employees might suffer from burnout if they remain unsuccessful in effectively managing their workload within the stipulated time. In other words, the state of burnout is generally observed due to higher job demands and insufficient job resources available to employees (Adili & Baig, 2018). In this study, the resuscitation

team performance in the emergency unit might become poor, medical errors might occur, which might also cost the patients' lives. Ultimately, the hospitals' performance will become negatively affected.

- **Job resources**

Job resources comprise different factors that motivate employees and mitigate the repercussions of higher job demands (Demerouti & Bakker, 2011). In the current study considering that Mankweng and Pietersburg hospitals are the referring Hospitals in the Province, job resources such as proper staffing of the trained professional nurses and medical doctors.

- **Engagement**

The model further stresses the engagement process as an essential factor. There should be engagement between the top management, middle management, and the resuscitation team in the ED. During the engagement, the team will verbalize their challenges during resuscitation, such as shortage of personnel to make a complete team or demoralization in failed resuscitation.

- **Personal resources**

Engagement with management will increase personal resources. They will support the resuscitation team, give them both negative and positive feedback, and motivate them to do a good job, such as successful resuscitation.

- **Personal and management outcomes**

The result of management engagement is positive personal and organizational outcomes.

2.8. CHAPTER SUMMARY

Chapter 2 discussed the literature review and the Job-demand resource model, which guided this study. The chapter discussed the cardiac arrest and Cardio-Pulmonary Resuscitation process. The researcher described the composition of the resuscitation team with the roles and challenges they experience. The chapter also discussed the ethical challenges in resuscitation and strategies to support the resuscitation teams in

EDs. Theoretical framework and its origin, the importance, and the relationship of the theory to the health of the ED resuscitation team were also discussed. Lastly, the main concepts in the Job-demands resource model were discussed. The next chapter will focus on the methodology of this study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. INTRODUCTION

The current chapter presents the detailed research methodology used to address the problem statement. The research methodology is discussed according to the following structure; research approach, the study site, research design, population to be studied, sampling method and sample size, data collection and analysis, measures taken to ensure trustworthiness, and ethical considerations.

3.2. RESEARCH APPROACH

The study adopted a qualitative research approach. Qualitative research is a systematic approach used to describe the experiences and situations from the person's perspective in the situation (Grove, Gray & Burns, 2015). In this study, qualitative research enabled the researcher to describe the challenges experienced by the resuscitation teams in the EDs of Mankweng and Pietersburg Hospitals in Limpopo province, South Africa. The exploration of their challenges assisted the researcher in developing strategies to support them. According to Creswell (2014), in qualitative research, the researchers are key instruments; they collect data themselves and try to create a complex picture of the problem under study. The researcher utilized a qualitative approach to understand the perceptions and challenges experienced by the resuscitation teams. Furthermore, the resuscitation team's coping strategies were developed guided by the job resource model steps discussed in detail in chapter 5.

3.3. STUDY SITE

The study was conducted in the EDs of two tertiary hospitals which are situated in the Capricorn district of Limpopo Province. Both public hospitals are situated in the city of Polokwane and they serve the different cultural and environmental backgrouds such as Tshivenda, Xitsonga and Sepedi. Hospital A is a level three tertiary hospital with twenty-two wards and fourteen specialized clinics. Its emergency department has fourteen cubicles which include two resuscitation (trauma and medical/surgical),one triage, one assessment area, four cubicles for medical/ Surgical conditions,three cubicles for trauma patients,paediatric, suturing,gynaecology cubicles.This

department has got 21 Professional nurses and 11 Medical doctors.Furthermore, hospital A has specialized clinics which include urology, obstetrics & gynaecology, ear-nose and throat, orthopaedic,dermatology, oncology, maxi-facial, neurology, neurosurgery, medical, surgical, nuclear medicine, psychiatry. Hospital B is a tertiary hospital which is 27km east of Polokwane on the R71 road. The hospital has fourteen wards and comprises of the following eleven specialized clinics, plastic surgery, optometry, ophthalmology, neonatology, obstetrics and gynaecology, medical, surgical, paediatrics, orthopaedics and burns.Its emergency department has 32 Professional nurses and 12 Medical doctors, additionally,its emergency department has nine cubicles which include resuscitation, paediatric, suturing, orthopaedic, gynaecology and four medical/surgical cubicle. The two tertiary hospitals are the level three hospitals providing health services to five districts in Limpopo Province.The hospitals receive patients from district hospitals in Limpopo, with different and complicated conditions that require emergency care and resuscitation.

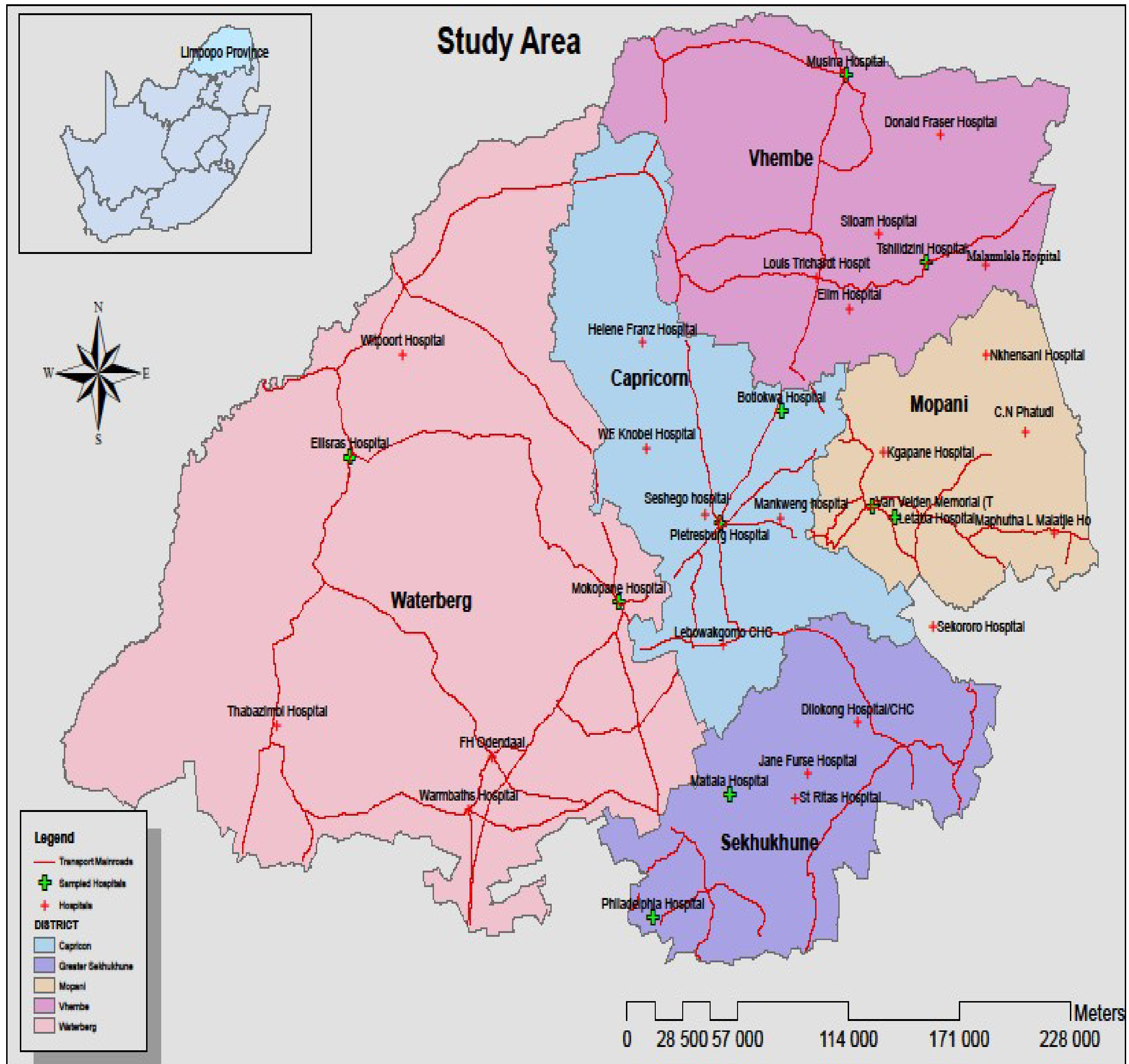

Figure 3.2: Map of the Limpopo Province hospitals showing the referral hospitals and two Hospitals where the study is taking place

3.4. RESEARCH DESIGNS

The research design is the overall plan for addressing a research question, including strategies for enhancing the study integrity (Polit & Beck, 2017). In this study, explorative, phenomenological, and descriptive research designs were used to explore, understand, and describe the resuscitation team's experiences and describe whether there are strategies to support them.

3.4.1. Phenomenological design

The phenomenological design emphasizes human experiences and insists on the careful portrayal of everyday life as people experience them (Polit & Beck, 2017). The design enabled the researcher to understand the resuscitation team's challenges as described by the participants who are working in the selected emergency units. The four descriptive phenomenology steps was applied to understand participant’s experiences (Porter, Cooper & Taylor, 2014). The steps are described below:

- **Bracketing**

Bracketing refers to the process of identifying and holding in abeyance preconceived beliefs and opinions about the phenomenon under study (Polit & Beck, 2017). The information that is known by the researcher about the experiences of the resuscitation team was written aside before the commencement of the interviews so that they will not have an impact on data collection from the resuscitation team.

- **Intuiting**

Intuiting occurs when the researcher remains open to the meanings attributed by those who have experienced it. The researcher listened and explained the participants' experiences and interpreted them.

- **Analyzing**

Analysing refers to extracting significant statements, categorizing, and making sense of the phenomenon's essential meanings (Polit & Beck, 2017). The researcher categorized the resuscitation team's data about their experiences and different emotions about the phenomena.

3.4.2. Exploratory design

The exploratory design is directed towards exploring dimensions of the phenomenon, how it is presented, and the factors in which it is related (Porter et al, 2014). The researcher studied and understood the challenges experienced by the resuscitation team in the selected EDs. This was achieved through one-on-one semi-structured interviews by asking open-ended questions.

3.4.3. Descriptive design

Descriptive design refers to obtaining accurate and complete data about the phenomenon through description and classification (Polit & Beck, 2017). Gravetter and Forzano (2012) outlined that in descriptive research, the researcher attempts to discover facts or accurately describe reality as it exists naturally to gain an overview of a situation's current status. The descriptive approach enabled the researcher to gain insight into the challenges, as described by the participants, based on their experiences at the EDs. In this study, the descriptive approach helped the researcher describe the resuscitation team's experiences and strategized ways to solve the problem by developing support strategies. The resuscitation team was able to express their challenges in the ED based on their experience during the day to day practice.

3.5. POPULATION

The population is a complete set of persons or objects that pose common characteristics of interest to the researcher (Polit & Beck, 2017). In the study, all Medical doctors and Professional nurses worked in the EDs of Mankweng and Pietersburg public hospitals, Limpopo Province South Africa. The total number of Professional nurses working in the emergency unit in Mankweng hospital was 32, and Pietersburg hospital was 21, this included those who have trauma speciality and those who are not trained. The total number of medical doctors in Mankweng Hospital was 12, and in Pietersburg Hospital, it was 11. The total target population was 76 healthcare professionals.

3.6. SAMPLING

Sampling is a portion of a population or universe studied (Etikan & Musa, 2016). Non-probability purposive or judgmental and convenience sampling was used in the study where the researchers' knowledge about the population can use to select the participants. Polit and Beck (2017) outlined that researchers must decide purposely to select subjects who are judged to be typical of the population or particularly knowledgeable about the issues under study in purposive sampling. In the current study, the researcher selected medical doctors and professional nurses involved in resuscitation activities daily. Since the emergency unit staff are always busy attending to emergencies, convenience sampling method was the suitable sampling method for

the study. Purposive and convenient sampling was used to select 22 professional nurses and 12 medical doctors working in the emergency unit of Mankweng and Pietersburg Hospital.

3.6.1. Sample size

According to Grove, Gray, and Burns (2015), the sample size in a qualitative study is determined by the depth of the information obtained and needed to gain insight into a phenomenon. In this study, the sample size of 12 Professional nurses and 5 Medical doctors was determined by data saturation from both Hospitals.

3.6.2 Inclusion and exclusion criteria

Inclusion and exclusion criteria have the joint goal of identifying a population in which it is feasible, ethical, and relevant to study the impact of the intervention on outcomes (Hulley and Cummings, 2011).

- *Inclusion criteria*

Polit and Beck (2017) describe inclusion criteria as a set of conditions that need to be met to participate in a research study. The study included full time permanent Medical doctors and Professional nurses with at least six-month experience to resuscitation activities in the EDs. The two professions were included because they were the sole providers of emergency services that enabled them to express their experienced challenges.

- *Exclusion criteria*

Exclusion criteria are explained as characteristics that are not relevant to the study (Polit & Beck, 2017). Medical doctors and professional nurses who were on contract, and those who were working overtime, and student Medical doctors and Professional nurses who were studying critical care and trauma were not included in the study because of the perception that they were still familiarising themselves with the department and the resuscitation activities.

3.7 DATA COLLECTION

Data collection refers to collecting information to address the research question (Polit & Beck, 2017). The following steps assisted the researcher in collecting data from the medical doctors and professional nurses working in the EDs:

3.7.1. Preparation of data collection

According to De Vos et al. (2011), it is vital to gain permission from the relevant authority to begin research in a chosen field. Ethical clearance to conduct the study was obtained in writing from the Turfloop Research Ethics Committee, permission to conduct the study was also granted by the Department of Health. The researcher then requested permission to research the Mankweng\Pietersburg Research Ethics committee. The nursing managers of the two Hospitals were then consulted and gave the go-ahead to conduct the study. The study's aim and objectives, the type of participants to be interviewed, and how the interviews were to be undertaken were explained to the nursing service manager. The nursing service manager then introduced the researcher to the EDs, operational managers, and the entire ED team and explained the study's purpose. With the manager's help, a well-ventilated room with no noise or other disturbances was identified as suitable for conducting the interview sessions. Members of the resuscitation team were identified for selection to participate in the study, with the potential date, time, and place of the interviews being arranged. The researcher negotiated with the participants to compromise for 15-30 minutes of their lunch time when they were on duty, and the interviews were conducted in emergency department counselling rooms of both selected public hospitals. Data collection was conducted during lockdown, the researcher ensured that the participants were protected by maintaining 1,5 distance apart from the interviwed participant and they were both wearing three layered surgical masks.

3.7.2. Pilot study

A pilot study is a small scale version or trial run of the research, which is designed to test the methods to be used in a more extensive study (Polit & Beck, 2017). A pilot

study was conducted at Pietersburg hospital to determine the feasibility of the study. It also created an opportunity for the researcher to refine and improve the interview guide and her interviewing technique. The researcher approached four Professional nurses and one Medical doctor working in the EDs to conduct the pilot study. These Professional nurses and Medical doctors who participated in the pilot study were excluded from the main research to avoid bias as they would already know the questions to be asked. After consulting supervisors of the research a decision was made that the researcher refrain from using leading questions.

3.7.3. Data collection process

Data was collected by the researcher with guidance from the supervisors who are skilled qualitative researchers and were collected from November 2019 to March 2020. The researcher started by obtaining informed consent from the participants that included their demographic data, which helped put employees at ease, create rapport, and understand their background.

Semi-structured individual interviews using an interview guide was conducted where the researcher selected counseling rooms in the EDs to conduct the interview session. A semi-structured interview is a qualitative method of inquiry that combines a pre-determined set of open questions with the opportunity for the interviewer to explore a particular theme or responses further (Galletta & Cross, 2013). The interviews were recorded using a digital voice recorder, and field notes were written to collect data from the participants as they respond. One central question such as **'Will you, please describe challenges you experience about resuscitation?'** was asked to each participant. The interview guide was written in English since professional nurses and medical officers were highly literate. Probing questions were used after the first response to gather more information about their experiences. Probing questions usually seek more information about a particular topic and encourage the person to provide more detail about the already provided information (O'Toole, 2012). Each interview lasted for approximately 15 to 30 minutes to understand in-depth information on the resuscitation team's challenges in the selected emergency units.

3.8 DATA ANALYSIS

Data analysis is the process of organizing, providing structure to, and eliciting meaning from the data (Polit & Beck, 2017). This research followed Tesch's approach to data analysis, which comprises eight integrated steps (Creswell, 2014).

- The researcher got a sense of the research as a whole by reading through the transcriptions of each interview carefully and jotting down ideas as they came to her;
- The researcher analyzed the interview's transcriptions and the field notes that were taken during the interview and selected those that were the most interesting. While going through the data, the researcher continuously asked: "What is this about?" to find the underlying meaning. All thoughts that came to mind were written in the margin;
- The researcher compiled a list of all topics. Similar topics were clustered together and formed into columns, arranged into major topics, unique topics, and irrelevant issues.
- The researcher abbreviated topics as codes and wrote them next to the appropriate segments of the text. This was done to establish whether new categories and codes emerged.
- The researcher reduced the total list of categories by grouping the topics related to each other. After that, she drew lines between the categories to show the relationship between them.
- The researcher finally decided on the abbreviations for each code and arranged these alphabetically. Data belonging to each category were assembled in one place, and a preliminary data analysis was performed.
- Existing data were inspected according to the themes and sub-themes.
- The supervisor and co-supervisor listened to the recorded interviews. The report findings were discussed with the supervisors and the audio recordings were available to validate data.
- The voice recorded data, copies of the transcribed data and field notes were sent to an independent coder who was an experienced qualitative researcher; and

- The researcher had a meeting with the independent coder where final themes and sub-themes developed by the researcher and the independent coder were identified and summarised.

3.9 MEASURES TO ENSURE TRUSTWORTHINESS

Trustworthiness is the criterion to test the research design quality (Polit and Beck, 2017). The following five criteria guided the researcher to ensure trustworthiness.

3.9.1. Credibility

Credibility refers to the confidence in the data's truth and interpretations (Polit & Beck, 2017). According to Babbie and Mouton (2011), credibility is achieved through prolonged engagement, triangulation, and referential adequacy. In the study, the researcher strived to establish the findings' confidence and truth by prolonged engagement with the participants and by staying in the field for two months with interviews lasting for 15-30 minutes. Theoretical triangulation was also be done by the researcher to establish that the results are credible or believable. This was ensured by doing member checking, a technique in which data, interpretations, and conclusions are shared with participants to clarify their intentions, correct errors, and add information if necessary. Following the interview guide, the questions were asked to each participant in the same manner. The researcher used the English language when probing during the interviews for more data to avoid misinterpretations. The interviews were conducted until data saturation was reached. All the interviews were captured on a digital voice recorder, with a written field note to capture non-verbal cues. The interviews allowed the researcher to build trust and rapport between the researcher and the participants, which was needed to gather rich data.

3.9.2. Dependability

Dependability refers to the provision of evidence such that if it were to be repeated with the same or similar context, its findings would be similar (Brink, Van der Walt & Van Rensburg, 2012). In this study, dependability was ensured by giving a thorough description of the research methods that were used in the study so that if there were a need to replicate the study with the same participants in a similar context, another

researcher would obtain the same results. A dependability inquiry audit was done by the researcher with her supervisors' guidance, who are experienced, qualitative researchers. All data collected was kept locked in a safe place, only accessible to the researcher, the supervisors, and the independent coder.

3.9.3. Confirmability

Confirmability refers to objectivity, that is the potential for congruence between two or more independent people or meaning (Polit & Beck, 2017). The unity was ensured by giving the independent coder an experienced qualitative researcher the proposal and voice recorded data, copies of the transcribed data, and field notes about the participants' information to make an audit trail. Confirmability was also ensured utilizing direct quotes from the participants to demonstrate that findings emerged from the data and not from the researcher's own biases. The researcher reached a consensus on the themes and sub-themes identified during the meeting with an independent coder.

3.9.4. Transferability

Transferability is the extent to which qualitative research findings can be transferred to or have applicability in other settings or groups (Polit & Beck, 2017). The researcher's responsibility is to provide sufficient descriptive data to enable another researcher to apply this information to a different setting (Polit & Beck, 2017). In the study, transferability was ensured by providing a detailed description of the study's context, the demographic information of the participants, and the research methodology. The researcher further ensured transferability by collecting thick and more detailed data from the selected participants using a purposive and convenient sampling technique.

3.10. BIAS

Bias is defined as any tendency which prevents unprejudiced consideration of a research question (Polit & Beck, 2017). In research, bias occurs when a systematic error is introduced into sampling or testing by selecting or encouraging one outcome or answer over others. Bias can occur at any phase of research, including study design or data collection, as well as in the process of data analysis and publication (Pannucci & Wilkins, 2011). Bias was avoided by selecting the sample population using

purposive sampling, which allowed the researcher to select the sample based on the elements that are related to the challenges experienced by the resuscitation team in the selected emergency units. The researcher purposively selected medical doctors and professional nurses working in the ED and daily resuscitation activities. During data collection, the researcher used English, which is understood by the participants. Furthermore, open-ended questions were asked, which allowed the participants to describe their understanding of the challenges experienced during resuscitation. The researcher excluded the personal views and knowledge of the researcher during the analysis of data.

3.11. ETHICAL CONSIDERATIONS

Ethics is the rightness or wrongness of an activity or act. It is further defined as fair methods or techniques applied or used in any activity (Mutero, 2015). The following ethics will be applied in the study:

3.11.1. Ethical clearance

The proposal was submitted to the University of Limpopo, Turfloop Research Ethics Committee for ethical clearance, and such approval was granted (TREC/82/2019: PG).

3.11.2 Permission to conduct the study

The proposal was submitted to the Department of health, Mankweng, and Pietersburg Hospital ethics committee and Management to obtain permission to conduct the research, and such permission was granted.

3.11.3. Informed consent

The researcher provided relevant, sufficient, and understandable information to the participants concerning his/her participation in the study. The information included the study's aims and objectives, the significance of the study, the individual interview, the use of a digital voice recorder, and the taking of field notes. The participants were informed about the free choice in giving consent without intimidation and obligations. The participants were also be told that they can terminate the study participation at any time without intimidation.

3.11.4. Right to confidentiality and anonymity

Confidentiality is a pledge that any information participants provide will not be publicly reported in a manner that identifies them and will not be made accessible to others (Polit & Beck, 2012). Anonymity means that no one, including the researcher, should be able to identify the participants or associate the data with participants. Anonymity and confidentiality were achieved by providing participants with codes rather than using their names. The data collected kept in a locked cupboard where no one except the researcher will access it. The information regarding anonymity and confidentiality was displayed to the participants when obtaining informed consent.

3.11.5. Right to privacy and protection from harm

The researcher implemented the right to privacy by conducting individual interviews in a private room. Participants were informed that they are free to express their emotions without fear or thoughts; that might later be used against them or misused to embarrass or humiliate them.

3.11.6. Principle of beneficence

Beneficence is the act of kindness or charity that goes beyond strict obligation, which leads to two rules, such as do not harm and maximize possible benefits and minimize potential harm (Polit & Beck, 2017). In the study, the researcher conducted interview sessions in a private room and a manner that harm to participants is avoided.

3.11.7. Principle of justice

The principle of justice has to do with the equitable distribution of the benefits and burdens (Moule & Goodman, 2013). In the study, the selection of Professional nurses and Medical doctors involved in resuscitation processes was made for the reasons directly related to the problem being studied and not because they are vulnerable or they are being favoured by the researcher.

3.11.8. Principle of Non-Maleficence

Non-Maleficence is the duty of no-harm essentially. It is a duty, wherever possible, to prevent physical, psychological, emotional, social, and economic harm (Moule &

Goodman, 2013). In the study, the researcher phrased the interview and probing questions in a manner that did not cause psychological and emotional harm, and the interview sessions were conducted in the EDs where participants are working during their lunchtime as per request to avoid economic harm. Lastly, physical harm was not by any chance available.

3.11.9. Veracity

Veracity is the ethical principle of telling the truth (Moule & Goodman, 2013). In the study, the researcher was honest with the participants and informed them of potential risks and benefits and their right to decide whether to participate or not without any coercion and to withdraw at any time. The researcher established respect and a trusting relationship with the participants.

3.12. CHAPTER SUMMARY

This chapter described and discussed the research methodology by looking at the approach which guided the whole study. Furthermore, the chapter provided detailed research methods to collect data for addressing the researcher's problem. Research method discussed includes; population, sampling, data collection method; bias; and data analysis. Various measures to ensure data quality were discussed in detail. The researcher wrapped up the chapter by discussing the ethical standards and principles applied in the study. The next chapter will discuss the research results and the implementation of literature control.

CHAPTER 4
RESULTS AND DISCUSSION OF THE FINDINGS

4.1. INTRODUCTION

The chapter outlines the results regarding the resuscitation team's experienced challenges, which was conducted from January 2020 to April 2020 in the EDs of two selected tertiary hospitals in Limpopo Province. The results were obtained from 12 professional nurses and five medical doctors who were interviewed in the study. The chapter presents the demographic characteristics of the participants, which are summarised in a table format. The main results and discussion are outlined according to the identified themes and sub-themes. The discussion of themes and sub-themes is supported by the participant's quotes such as PN (Professional Nurse) and MD (Medical Doctor). Furthermore, the findings are compared, verified, and contrasted to the existing literature.

4.2 : DEMOGRAPHIC PROFILE OF PARTICIPANTS

The demographic profile of the resuscitation team is presented according to professional nurses and medical doctors.

4.2.1. Demographic profile of professional nurses

Table 4.2 outlines the demographic profile of professional nurses who participated in the study. The profile is categorized according to characteristics such as gender, age, qualifications, year of experience, and categories of nurses as indicated below;

Table 4.2: Demographic profile of professional nurses

GENDER	AGE	QUALIFICATIONS	NUMBER OF YEARS EMPLOYED	NUMBER OF YEARS IN ED
Females(12)	25-45(4) 46-65(8)	B.CUR(1) Diploma in general nursing science(7) Diploma in comprehensive nursing science(4)	5-10 years(2) 10 years and above(10)	5-10years(3) 10 years and above(9)

The section that follows below presents the demographic profile of the medical doctors who participate in the study.

4.2.1. Demographic profile of Medical Doctors

Table 4.3 outlines the demographic profile of medical doctors who are part of the ED resuscitation team. The profile consists of characteristics such as gender, age, qualifications and working experience in the ED.

Table 4.3: Demographic profile of Medical doctors

GENDER	AGE	QUALIFICATIONS	NUMBER OF YEARS EMPLOYED	NUMBER OF YEARS IN ED

Males (2)	25-45(1) 46-65(1)	MBCHB(2)	5-10 years(2)	5-10years(2)
Females (3)	18-25(3)	MBCHB (3)	0-5years (3)	0-5years (3)

4.3. MAIN FINDINGS OF THE STUDY

The section that follows below presents the main findings of the study. The results are presented according to the identified themes and sub-themes as outlined in the table below;

Table 4.4: Themes and sub-themes that emerged from semi-structured interviews.

THEMES	SUB-THEMES
1. Challenges related to the shortage of resources in the ED	1.1. Explanation of challenges regarding the general shortage of staff in all categories and lack of competent and trained staff 1.2. Description of the existing shortage of resources and poor maintenance of emergency equipment
2. Challenges related to the lack of standardized procedures and policies for handling the resuscitation process	2.1. Diverse experience concerning different practices and instructions from various team members.
3. Psychological challenges based on resuscitation failure	3.1. Explanation of diverse experience regarding lack of debriefing after resuscitation 3.2. Description of existing systems regarding trauma counseling sessions 3.3 Explanation of experience of blame after failed resuscitation

4. Leadership and managerial support challenges	4.1. Description of experience related to lack of appreciation and recognition for successful resuscitation by managers
5. Challenges related to education and training of the resuscitation team	5.1. Diverse experience regarding lack of continuous training program 5.2. Description of lack of availability of funds for payment of national and international trauma symposium

THEME 1: CHALLENGES RELATED TO SHORTAGE OF RESOURCES IN THE ED

The South African government mandates that all citizens have adequate healthcare services, including in the EDs. However, the provision of the healthcare services depends on the available staff members and their knowledge and skills as well as the resource allocation in the EDs. However, the current study reports that achieving quality patient care in EDs is challenging due to a shortage of resources. Both the professional nurses and medical doctors expressed concerns regarding the ED's lack of resources that affect quality patient care. The theme is summarized according to the following sub-themes.

Sub-theme 1.1. Explanation of challenges regarding the general shortage of staff in all categories and lack of competent and trained staff

Both medical doctors and professional nurses in the study reported that there is a general shortage of staff, including competent and trained staff in the ED to render emergency care. The following extracts reflect the challenges experienced in the ED with a lack of competent and trained staff.

PN 4: ***"****Due to shortage of trained staff, you find that the resuscitation room is not in order and people don't know what they are doing, they don't know their roles during resuscitation. But if we practice more often and we get enough staff, we will be able to provide quality resuscitation with better outcomes."*

PN 2: "***T****he challenge that we encounter is that we don't have more trauma trained nurses and some of the doctors are not conversant with resuscitation. Those who are conversant with resuscitation are ED doctors, and we have the team*

*from family medicine, they come after hours and during weekends, some of them do not kno*w how to resuscitate."

MD 5: "*They should hire trained nurses and doctors. They should also develop us, train us, and find us because most of the time we develop ourselves and use our own money*".

The findings above are congruent to those described by different authors in both African and European continents. For example, Rajeswaran and Ehlers (2013) in selected Botswana Hospitals reported the unavailability of trained healthcare professionals to render emergency care a challenge in the ED that negatively impacted the cardiopulmonary resuscitation (CPR) process. The authors above argued that most of the nurses and medical doctors lacked adequate knowledge to render CPR in the EDs. Similar findings on the current study were reported in the Western Cape Province of South Africa, where there was a concern about the lack of trauma specialists personnel for rendering emergency care during the COVID-19 pandemic (Kim, Nyengerai & Mendenhall, 2020). The Royal College of Nursing (2015) reported similar findings to those of the current study in the United Kingdom. The college shared the same sentiments with Kim et al. (2020) regarding the lack of trauma specialists' concern.

Sub-theme 1.2: Description of the existing shortage of resources and poor maintenance of emergency equipment

Emergency medical equipment are a critical component in the ED. They are used to prevent, diagnose, and treat acute diseases in the EDs. However, the current study participants reported a shortage and low maintenance of the available equipment as a challenge affecting emergency care services and resuscitation. The following quotes support the participants' responses related to the shortage of equipment.

PN 5: "*Equipment that is not working frustrates us during resuscitation, you find that you send someone to request that equipment during resuscitation process and the time the equipment is available, the patient has complicated, that is one reason why we lose patients".*

MD 1: "*Lack of equipment, faulty equipment, is the main one on my list, poor training, and development of staff. A simple thing like blood gas machine for instance*

now we don't have, an ultrasound machine which is a basic examination tool, it is not even a special examination tool, It's like a stethoscope, It's like a diagnostic Ear, Nose, and Throat set, that thing must be by the patient's bedside, we don't have such".

MD 4 added by saying,

"I mean, for blood gas, now, I just did a blood gas, I walked for almost about a kilo-meter, I had to leave casualty where I should be attending patients because I'm chasing the machine which is probably the only one working in the complex, I had to leave and do the blood gas, that is in factual because my absence can mean death to somebody who enters and they'll say the Doctor was absent". Basic things that we have, like laryngoscope, we have got this laryngoscope that is not working well; apparently, it has a factory fault, you try to intubate, the light will turn off inside patient's mouth, then you'll have to employ extraordinary skills to be able to intubate so that things make resuscitation challenging. Maybe when you develop your strategies, this is where you should probably start."

MD 2: *"Lack of equipment also plays a major role. Eh, for example, you want to do an x-ray quickly on the patient, there is only one mobile machine may be in the hospital the time you call for that x-ray, you find that the radiographer went somewhere with that machine, so you have to wait, some of the equipment will be the blood gas machine".*

MD 5: "*Equipment such as Computed Tomography-Scan (CT-SCAN), in most cases you find that CT-SCAN is not working and you find that after resuscitating a trauma patient with a suspected head injury, you need to do Computed Tomography-Scan and that's where patients are being delayed because you must transfer him/her to Pietersburg Hospital. Sometimes, this becomes frustrating when a patient's condition worsens, complicates or even loses lives while waiting for the Emergency Medical Service people to come and transfer them from Mankweng to Pietersburg Hospital or vice versa done CT-Scan. This, especially when you resuscitate young trauma patients, demoralizes us. Another equipment that challenges us is a dysfunctional laryngoscope during intubation."*

Similar findings were reported in the study conducted by Moyimane, Matlala and Kekana (2017) regarding nurses' experiences on the critical shortage of medical equipment at a rural district hospital in South Africa. The authors above found that lack of quality in the available equipment and unavailability of emergency equipment were challenges confronting the rural hospital nurses in the ED. In a study conducted by Ono and Tanigawa et al. (2017), it was discovered that Japanese EDs have shortage of emergency medical equipment, their availability were queried. Emergency equipment such as direct laryngoscope, adjunct equipment (a curved blade, straight blade, McCoy laryngoscope, stylet, and alternate intubation equipment such as rigid video laryngoscope, flexible fiberscope, retrograde intubation kit, surgical airway equipment as well as sedatives, and neuromuscular blocking agents to facilitate endotracheal intubations, and reversal agents were not available in the departments.

THEME 2: CHALLENGES RELATED TO LACK OF STANDARDIZED PROCEDURES AND POLICIES FOR HANDLING THE RESUSCITATION PROCESS

The development and the use of Standard Operating Procedure (SOP) have proven to effective in achieving the desired quality emergency care during resuscitation activities. The ED is an accident & ED which provides care to acute illness and injuries, therefore standard operating procedures are important for the effective and successful delivery of emergency care by health care professionals (Department of Public Service and Administration South Africa, 2011). Guidelines can also be used to provide an algorithm for how CPR subtasks should be optimally organized and synchronized during the resuscitation process. Task synchronization requires the assignment and coordination of responsibilities among resuscitation team members, which can be an additional challenge yet essential for the efficiency of CPR and patients’ and team members’ safety (Castelao & Russo et al., 2013).

Sub-theme 2.1. Diverse experience concerning different practice and instructions from various team members

The participants indicated that they experience challenges of getting contradicting instructions and a lack of standardized procedures in the emergency unit. The following quotes support the sub-theme:

PN1: "*When we work with doctors who do not want advice from the nurses, it becomes a problem. Usually, the nurse will observe that patient is deteriorating and needs intubation, suggest to the doctor responded to the patient, the doctor in most instances ignore the nurse, but you find that by the time he/she realizes that the patient indeed needs intubation, the patient has already complicated."*

PN 2:" *We also need a standardized method, what can I try to say, you will find different people, eh, maybe doctors, giving different orders, maybe even arguing in front of patients, one saying I've trained, we are doing things like this and the other one saying I've also trained at such and such a place and were doing things like this. They sometimes even argue about medications."*

PN 9: "*During resuscitation, you find that maybe the patient was in room one and you notice that he/she is not doing well and move him/her to the resuscitation room. Sometimes you find that the doctor is not competent with the work, so the nurses who are trauma trained, even us who are not trained, we are the ones to guide the doctors and tell them what to do."*

PN 10: ***"****What I have realized most of the time is the incompetency of doctors, especially doctors from outpatients. There is this time that we find ourselves working with them when our doctors are not there. When the patient that needs to be resuscitated arrive, you can see that they are afraid, they don't know what to do, they don't know where to start, and sometimes when you tell them, "we do this way, we start this way", they don't take it positively, it is as if as a nurse you're instructing him on what to do whereas you are not a doctor. They believe a nurse must follow the doctor's instructions. Not the other way round, others refuse to attend to the patient, they just say, no, this one is critical, I won't manage, he or she will wait to be seen by the senior doctor. Sometimes you find that the doctor is saying this. Even without being on the Hospital premises, he is on lunch outside. Sometimes you find that when that senior doctor arrives, the patient has been with nurses only or maybe has already died. The most painful thing is that they cover each other. When that senior doctor arrives, he*

will write in the file as if he was with the patient throughout the time until he/she demise. It hurts me to see that, because imagine if you know the patient or even if you don't know the patient, it might be somebody's beloved parent, brother, sister, or child. Other doctors go to the extent of becoming angry with us and becoming mute. How will you work with a doctor who does not speak to you."

Reynolds et al. (2012) reported similar findings to the currents study by indicating a lack of established standardized regionally-appropriate clinical guidelines for acute care in the EDs at both sub-district and community level (Bhanji and Mancini et al., 2010).

THEME 3: PSYCHOLOGICAL CHALLENGES BASED ON RESUSCITATION FAILURE

The majority of healthcare professionals working in EDs has been reported to have suffered from different psychological impacts. The current study participants are of no exception as they reported feeling stressed that results due to a failed resuscitation process. The following sub-themes breaks down the theme to indicate challenges experienced by the resuscitation team.

Sub-theme 3.1: Explanation of diverse experience regarding lack of debriefing after each failed resuscitation

The current study findings indicated that both nurses and medical doctors are concerned with a lack of debriefing after every resuscitation process in the EDs. Previous studies have identified that debriefing sessions allow ED staff to express their feelings and emotions and allow for discussions on how to improve future performance. ED providers are subjected to cumulative exposure to critical incidents, which may predispose them to Post-Traumatic Stress Disorder (PTSD). Critical Incident Stress Debriefing (CISD) aims to remediate the effects of a critical incident (Elhart, Dotson & Smart, 2019). Participants expressed a need for support, especially after a failed resuscitation process.

Additionally, debriefing is another robust quality and educational tool that can potentially change team behavior and positively influence patient outcomes. Previous

studies have shown that team-based debriefings after clinical events result in improved effectiveness in teams that debriefed compared with those that did not. After clinical cardiopulmonary resuscitation events, debriefing programs have demonstrated an improved return rate of spontaneous circulation, neurologic outcomes, hands-off compression times, and time delay to first compression(Kessler, Cheng & Mullan, 2015). Accordingly, the 2010 American Heart Association resuscitation guidelines officially recommend debriefing after resuscitations as a psychological support strategy and educational program to improve clinical performance. The following extracts support this:

MD 3: "*Post resuscitation, there is no support, you just reassure yourself, you say maybe I should have done this, maybe I should have done that, maybe if the surgeon had come in early, there is no support, it's like you're counseling yourself.*"

PN 10: "*We use a platform of our mortality meetings to discuss resuscitated patients, especially files where things went wrong, and sit down and discuss them.*"

In contrast to the current study findings, Wyllie and Bruinenberg et al. (2015) reported that the critical part in the ED was providing constructive feedback regarding the allocated roles of the resuscitation team members. Findings are different from those of the current study. Furthermore, Lyman (2019) has reported that most EDs that implemented the debriefing session post-resuscitation process achieved some positive outcomes, suggesting that debriefing during the resuscitation process remains a critical strategy implemented in the EDs. Various authors further deliberated on the impact of debriefing during the emergency resuscitation, which includes the ability to identify human errors and gaps, while providing an opportunity of improving on the resuscitation process (Healy & Tyrrell, 2013; Couper & Perkins, 2013; Field, Hazinski, et al, 2010).

Sub-theme 3.2: Description of existing systems regarding trauma counseling sessions

The current study reported that both the medical doctors and nurses in the EDs are subjected to regular trauma counseling despite working in stressful departments. The

expressed concern often results in some nurses and medical doctors not performing well during the resuscitation process. Participants in this study reported that they do not receive counseling sessions.

PN 2: "*When I start working here some few years back, I found that they were having trauma counselors so that after treating those patients, we were counseled, whether the patient survives or not, we were supposed to have counseling after treating patients. These days we don't have trauma counselors, we don't have debriefing sessions, we don't have anything, they will just give a report that we have succeeded in resuscitating the patient so and so, and we will get excited from that but never do anything to uplift our emotions or our morale.*"

PN 3: "*Another issue is the one of emotional exposure to us, you may find that we are resuscitating a patient and the patient came to us being critically ill, so it is not always the case where all patients do survive, others they come here being complicated already, so when we are trying to safe that patients you find that it is too late, so the patient end up dying. There is no psychologist arranged to counsel us, we just leave in another environment, we see these people dying and nothing is done to you, we are not being taken care of as staff, because normally they must organize psychologist to counsel us after these things that are happening.*"

PN 3: "*Support from the superiors, I can't say we are getting it because really lot of things you may report like as we are speaking about counselling and staff, they are not doing anything about it, they know that we are dealing with bad situations in our Unit but no one will ever come and say this is not right, we will try and organize you a psychologist. Even during a disaster they'll just come, look at us and leave.*"

PN 4: "In oversees, they do have Priests who stay there, for this bad news they are the ones to give us support when we are breaking news to the relatives, if we can have those people around the Hospital, we will know that the spiritual well-being will be taken care of, you will just break the news and he will take care of the rest. Some of the relatives come to the Hospital with the hope that they are going to see their loved ones, not knowing that he/she passed away due to lack of communication, or due to unavailability of contact numbers of family, and you

break bad news, this is frustrating even to us because you will say this relative came alone, I'll break bad news, and he/she is going to leave the hospital alone. So if the Chaplin is around it will be better."

DR 3: ***"****No, you become discouraged until you go home; no one will give you that* support. There's no room for post counseling or anything. Once the resuscitation becomes unsuccessful, you are on your own; they'll tell you,' you should have done this, you should have done that'. You just have to recover first because there's no support after resuscitation, whether successful or not, there's no structure for support, even after the death of the patient there is no post-counselling, only families will be counselled, but as for the doctor, you are on your own, there is no structure to support doctors or nurses.

DR 2: "*We don't get counselling sessions, the only time we got emotional support was a long time ago when there was an accident where a Condor which was supposed to carry ten passengers carried sixteen passengers and got involved in a motor vehicle accident. That day the first patient we had from the scene was a young lady, she was already pale and gasping for oxygen, and she was highly pregnant. We could not save her because she had cardiac arrest immediately on her arrival, CPR was done with failure, and the baby could not be saved either. The next one was also a young lady, and she also died on arrival. We had, like five deaths at a go. The only patient we resuscitated with success was a male, even at a young age, was awake on arrival, with a femur fracture. We managed to resuscitate him and referred him to orthopedic surgeons timeously. The saddest moment was that the time the orthopedic doctor was busy assessing him, he crashed, and we had to do cardiopulmonary resuscitation. We lost him also. You can imagine the trauma of having so many deaths in the ED, and it was a terrifying situation. That's when the management invited a psychologist to come and counsel us.*

ED workers are particularlysusceptible to moral distress and compassion fatigue due to frequent exposure to critical incidents (Hammerle, Devendorf, Murray & McGhee, 2017). Ahwal and Arora (2015) further discovered that ED nurses might sense a higher workplace stress level due to traumatic events, death, and violence in the workplace. They have a higher prevalence of Post-Traumatic Stress Disorder than the general

population. In the ED, due to repeated exposure to high acuity patients and high volume, nurses need the opportunity to have debriefings emphasize the feelings of resiliency to compassion fatigue.

Sub-theme 3.3. Explanation of experience of blame after failed resuscitation

Findings of the current study outlined that they are being blamed after failed resuscitation, and this affects them psychologically. Workplace blame is believed to worsen care delivery and patient safety because clinician behavior, such as fear of blame, can lead to decreased error reporting. The same authors established that although nurses spend more time with patients than any other clinicians, they are the least comfortable disclosing their distress.19 It is, therefore, important to seek these nurses out and to proactively offer support in a nonthreatening manner, encouraging open discussion and the right to be heard. The following extract supports this;

DR 5: "*I don't even know the role of management in the ED because what they know is to blame us. But as for us, we usually sit on morbidity and mortality meetings, discuss the death and teach one another from the pitfalls identified.*"

However, blame-related distress may be triggered by, and contribute to, other environmental or individual patient safety determinants such as moral distress, burnout, compassion fatigue, lateral violence, and second-victim syndrome (Davidson & Agan et al., 2015).

THEME 4: LEADERSHIP AND MANAGERIAL SUPPORT CHALLENGES

Effective leadership and management in the health care setting are important in improving work environments, ensuring greater staff satisfaction, and improving patient care quality. The following subthemes emerged:

Sub-theme 4.1: Lack of support by management and supervisors

Participants indicated that they do not get support from the management and supervisors in the ED. This was reflected in the following statements**."**

PN 2: "*No, no support, we don't have support, they only see the mistake that you are doing, but when you do good things they don't see you, they don't even appreciate. We just support each other as nurses; during prayer time, we talk*

about what happened the previous day and comfort each other. But it hurts us because somebody cannot die, and we continue like nothing happened. That is why I say we don't get any support."

PN 12: "*Not at all, even if we can have a disaster and inform them timeously they don't come, they will only come later when the disaster has been called off. What they will ask is the statistics," how many priorities one, two or three did you have? How many death did you have?", and then they'll leave. They won't even appreciate the good work you're doing."*

In contrast to the current study findings, Oeppen & Davidson et al. (2019) deliberated on the impact of appreciation and recognition of good performance by the healthcare professional. The aforementioned author argues that recognizing and appreciating a good performance often boost the morale of the resuscitation team members in the EDs.

Sub-theme: 4.1. Description of experience related to lack of appreciation and recognition for successful resuscitation by managers

Participants indicated that the management and supervisors do not appreciate their good work in the ED. This was reflected in the following statements**."**

PN 2: "*No, no support, we don't have support, they only see the mistake that you are doing, but when you do good things they don't see you, they don't even appreciate. We just support each other as nurses, during prayer time we talk about what happened the previous day and comfort each other. But it hurts us because somebody cannot die and we continue like nothing happened. That is why I say we don't get any support."*

PN 12: *"Not at all, even if we can have a disaster and inform them timeously they don't come, they will only come later when the disaster has been called off. What they will ask is the statistics," how many priorities one, two or three did you have? How many death did you have?" and then they'll leave. They won't even appreciate the excellent work you're doing.*"

Employees want reasonable extrinsic compensation for the work and want to be praised and valued for their efforts on the job. As such, the resuscitation team's lack of appreciation and recognition has reported a challenge experienced by nurses and

medical doctors in the ED. In contrast to the current study findings, Oeppen & Davidson (2019) deliberated on the impact of appreciation and recognition of good performance by the healthcare professional managers. The author mentioned above argues that recognizing and appreciating a good performance often boost the morale of the resuscitation team members in the ED.

THEME 5: CHALLENGES RELATED TO EDUCATION AND TRAINING OF THE RESUSCITATION TEAM

The current study participants expressed concern about the existence of insufficient education and training strategies for the resuscitation team in the ED. Studies conducted in Japan by Ono & Tanigawa et al. (2017) have established that endotracheal intubation (ETI) is a common and, in many cases, life-saving intervention in EDs. Further discovered that endotracheal intubation in the ED setting is much more complicated than elective endotracheal intubations in the operating room because of the more critical patient population, the lesser controlled environment, and the inadequate opportunity for a complete evaluation of the patient. The same authors realized that the education and training of the resuscitation teams in EDs is a challenge. They discovered that objective information on the teaching of airway management in Japanese EDs is not available. The following sub-themes explain the theme.

Sub-theme 5.1: Diverse experience regarding lack if the continuous training program

Both medical doctors and professional nurses who participated in the current study expressed concern about the availability of the training program. Some of the participants reported that they have to pay for themselves for attending a resuscitation course. Furthermore, lack of in-service training also highlighted a challenge for the resuscitation team which can impact the provision of emergency care in the EDs. For example, participants reported that;

PN 3: “*Previously, we were receiving Basic Life Support training, but now they say we must pay for ourselves to be trained. But most of the times when we are not busy, we prepare lectures to empower ourselves and Hospital staff.”*

DR 1: "*You know this advanced courses, they do have, processes, methods do change, and one has to keep up with levels of skills, so, in-service training has to be periodic, we don't have that, apparently because of budget issues, it is only when you have money then you'll do it privately. The list that the Department is doing is to train us Basic Life support. Still, in the past, we used to have more than that, they were paying for us to do Advanced Trauma Life Support, Advanced Medical Life Support, and all that, without popping out money, but now we are just using the knowledge that we had five years ago."*

DR 2: *"I also think lack of training of the team members, if the government can do more to help health care practitioners with training as you know most trainings need the money and not always luxury but maybe they can meet us halfway to do certain courses that may help us improve the outcome of the patients."*

DR 5: "*I think the first thing is that they have to take us to the courses of resuscitation like Advanced Trauma Life Support, Basic Life Support, Paediatric Advanced Life Support, and Advanced Cardiac Life Support, and pay for us or maybe meet us halfway with the payments. Those will give us confidence, and at the same time, there must be post-counseling, there must be a support structure after resuscitation. Their approach to your notes should be changed. They must understand that when you resuscitate a patient is not the same as you see someone who has resuscitated, you read the notes and see a mistake. Still, when the patient is in front of you, you are trying your best, and somebody comes and crash your notes, then it becomes a problem, so we need support in this regard".*

The current study's findings are congruent with those by Cheng and Nadkarni et al. (2018) and Hunziker et al. (2011). For instance, Cheng and Nadkarni et al. (2018) indicated that the training program's provision is the best strategy for improving the resuscitation team's knowledge, skills, and practice in the ED. At the same time, Hunziker et al. (2011) reported a great improvement in the resuscitation team's performance following the established training program in the ED.

Sub-theme 5.2: Description of lack of funds provision for payment of national and international trauma symposium

Findings in the study revealed the need for funding to make sure that all members of the resuscitation team are financed to attend the National and Inter-National trauma symposium. The data collected results revealed that the resuscitation team does not receive any support concerning self -development in the form of funding of the workshops and symposiums. The following quotes support this;

DR 4: *"Our Head of Department do encourage us to do emergency management courses but the problem might be financed for most people because these courses are expensive, there was a time where these courses were offered for free, and people were encouraged to attend and upgrade their knowledge, at the moment now you have to use your own money, they are not even offered in our province, you have to travel to Johannesburg, book yourself a place to sleep at your own expense, you have to use your petrol and pay to attend. We try but that is a constraint, because if you want to do three courses per year and each course cost may be above R5000 00, some of them like ATLS (Advanced Trauma Life Support) cost above R10 000, 00, so you can't do three of those and they expire after every two years remember, so every two years you must come up with that amount of money to do those courses so the limiting thing is the costs".*

Similar results were reported by Ford and Menchine et al. (2016), who indicated that future research is needed to validate leadership assessment scales, develop optimal training mechanisms, and demonstrate leadership's effect on patient-level outcomes (While a study done by Atakro et al. (2016), recommended arrangements for workshops regarding resuscitation that should be facilitated by a trained and expert health professional in an emerging discipline. Furthermore, Osei-Ampofo (2013) reported that the use of workshops in Ghana assisted in providing frequent training to the ED resuscitation team, which had a positive outcome on the mortality rate.

4.4. CHAPTER SUMMARY

Themes and subthemes were developed from the data analysis and supported by the literature. In Theme 1: Challenges related to the shortage of resources in the ED, data revealed a general shortage of staff, trained and general medical doctors and

professional nurses in both EDs of Mankweng and Pietersburg Hospitals, resultant becoming an incomplete resuscitation team. It was also discovered that there is a lack of functional equipment for resuscitations to be fully and successfully handled. Theme 2: Challenges related to lack of standardized procedures and policies for managing the resuscitation process; it was also discovered that resuscitation teams are working with no direction as there are no standardized procedures and protocols available to guide them during resuscitation. Theme 3: Psychological challenges based on resuscitation failure; experiencing failed resuscitation or having to witness patients losing their lives was also a concern to most of the participants, and they mentioned that it is stressful to handle on a daily basis. It was discovered that despite the efforts, no debriefing sessions are offered, and no regular trauma counseling is offered to support them except blame after failed resuscitation. Theme 4: Leadership and managerial support challenges; participants mentioned that they don't get appreciated even when they had successful resuscitations. Theme 5: Challenges related to education and training of the resuscitation team; it was further discovered through participants' responses that there is no regular training about resuscitation offered, and even when there is a symposium to attend, no funding to support the resuscitation teams financially. The next chapter will present the application of theory to the findings

CHAPTER 5

DISCUSSION OF THE RESULTS, DEVELOPMENT OF STRATEGIES AND INTEGRATION OF THE THEORY

5.1. INTRODUCTION

This chapter discusses the major findings, as presented in chapter 4. The results are discussed according to the themes and sub-themes that emerged during data analysis. This study's objectives were to explore the challenges experienced by the resuscitation teams and develop the support strategies in the EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa.

5.2 DISCUSSION OF MAJOR FINDINGS

Major findings are discussed as follows:

THEME 1: CHALLENGES RELATED TO SHORTAGE OF RESOURCES IN THE ED

The study's findings identified the existence of a shortage of resources in both EDs of the selected hospitals. The following sub-themes emerged: Explanation of challenges regarding the general shortage of staff in all categories and lack of competent and trained staff and description of the existing shortage of resources and poor maintenance of emergency equipment.

Shortage of staff in all categories (professional nurses and medical doctors) is one of the major challenges in the emergency unit department. The environment and the nature of the work in the ED are highly demanding and stressful. The staff deal with unpredictable events and life-threatening medical emergency situations. However, the study results revealed that though the ED is highly demanding, the resuscitation team is overloaded with duties with a limited number of trained and untrained medical doctors and professional nurses. Globally, it has been documented that EDs are recognized as stressful environments for staff members, with increasing numbers of casualties' presentations resulting in high pressure and high volume workloads (Johnston, Abraham & Greenslade et al, 2016). In the United States (US) the EDs are reported to be more stressful and busier with more patient workload and staffing challenges (Weiss, Wier, Stocks & Blanchard, 2014). In Sweden, EDs physicians and registered nurses are faced with a shortage of staff with a high workload, lack of

control, communication, and organizational failures, which are perceived to jeopardize patient safety (Kallberg, Goransson et al., 2015). The above studies have supported the need for adequate staffing of the ED teams to cater to an increasing number of emergency casualties.

Shortage of equipment's and poor maintenance was also described as one of the major challenges experienced by the resuscitation team. They further reported that this makes them be frustrated during resuscitation. The resuscitation reported that they struggle to get the simple equipment such as blood gas machine, stethoscope, diagnostic ear, nose and throat set, which are supposed to be by the patient's bedside. The findings concur with The Job- Demands Resources Model, which outlined that stress arises from the imbalance between the job requirements and the resources the employee has available to meet those requirements (Bakker & Demerouti, 2007). Given the fact that the two selected hospitals are tertiary academic hospitals, which has a high intake and overflow of patients from the 5 districts in Limpopo province. The shortage and functioning of medical equipment have a huge impact on the quality of the health care providers since they are essential in the prevention, diagnosis, and treatment of disease and for the rehabilitation of patients. The challenge of shortage and functioning of the medical equipment has been identified in low-and middle-income countries (Compton, Barash, Farrington, Hall, Herzog, Meka, Taylor, & Varghese, 2018). In developing countries, the World Health Organization (WHO) estimates that 50 to 80 percent of medical equipment are not functioning well. This is has formed a barrier in the health care service delivery (Moyimane et al., 2017).

THEME 2: CHALLENGES RELATED TO LACK OF STANDARDIZED PROCEDURES, AND POLICIES FOR HANDLING THE RESUSCITATION PROCESS

The participants raised a concern that there are limited standardized procedures in the EDs of the two selected hospitals. The following sub-theme emerged: Diverse experience concerning different practices and instructions from various team members. They reported that they experience different practice and instructions that are not standardised and consistent from various team leader members. They all want to practice how they were taught in their different training institutions. Previous studies

by Hunziker & Johansson et al. (2011), have identified the importance of having resuscitation guidelines in the EDs because they provide a logical, sequential algorithmic approach. The above researchers agree with findings from the current study and support that resuscitation teams must be focused through the use of standardized guidelines.

THEME 3: PSYCHOLOGICAL CHALLENGES OF RESUSCITATION FAILURE

The study results revealed that members of the resuscitation teams are experiencing a high level of stress in their working environment, and it was found to be due to the poor outcome of resuscitations. The following sub-themes emerged; explanation of diverse experience regarding lack of debriefing after each failed resuscitation, description of existing systems regarding trauma counseling sessions, and explanation of blame after failed resuscitation. The participants reported that the resuscitation is not always successful and during the failed resuscitation, there are no debriefing sessions after each failed resuscitation. Furthermore, they further reported that the nature of the work and environment he works in requires regular counseling, especially because they often see trauma and dying patients. Spencer and Nolan (2019) agreed with the study findings when they highlighted that healthcare staff wellbeing and burnout is a significant concern with implications for staff attrition rates and, in turn, patient care, satisfaction, and safety. They further discovered that trauma-stress reactions are a normal but intense and potentially disabling reaction to an abnormal threat and one of many occupational hazards in an acute care environment. Effective debriefing and supporting the psychological aspects of resuscitation teams are of most importance. Previous studies by Yuwanich and Akhavan et al. (2017) have shown that occupational stress leads to negative consequences for ED nurses, such as stress-related psychophysiological illnesses, increased arousal and feeling of uneasiness. Due to this, ED nurses have higher rates of absenteeism and sick leave, decreased work performance, more work-home conflicts and more intentions to leave the profession compared with nurses who work in other environments. These effects relate to both ED nurses' considerable psychological job demands and a perceived lack of supervisor support. Yuwanich and Akhavan et al. (2017) further discovered that during data collection, one senior nurse described having to perform physicians’ tasks while waiting for the physician to arrive at the ED and perceive these circumstances as uncontrollable situations work.

THEME 4: LEADERSHIP AND MANAGERIAL SUPPORT CHALLENGES.

It was discovered in the current study that resuscitation teams of both EDs of Mankweng and Pietersburg Hospitals does not get support from the management and supervisors. The following sub-theme emerged; Description of experience related to lack of appreciation and recognition for successful resuscitation by managers, participants indicated that management does not appreciate the good work that they doing regardless of high volume of resuscitated cases in proportion to lack of human and material resources. One of the participants further outlined that management does not come to support them, even during disaster, they will only come to take statistics and cross- question then when things went wrong without appreciating what they did right. Previous studies agree with the findings and further discovered that lack of leadership and poor teamwork result in poor clinical outcomes for groups performing CPR and other emergency tasks. Leadership in task-oriented situations can be defined as the process that requires more specific coordination activities such as distributing tasks, assigning work, and enforcing rules and procedures (Hunziker & Johansson et al, 2011).

THEME 5: CHALLENGES RELATED TO EDUCATION AND TRAINING OF THE RESUSCITATION TEAM

The findings in the study revealed that the resuscitation teams in both EDs of Mankweng and Pietersburg Hospitals are not supported in terms of educational development and as a result there is a decay in the optimal mechanism for maintenance of skill competence. One of the participants suggested that cardio-pulmonary resuscitation training be done periodically. The following sub-themes emerged in the findings; Diverse experience regarding lack of continuous training programme, Studies conducted by Bhanji and Mancini et al (2010) support the fact that emergency cardiovascular care courses such as basic life support, advanced trauma life support and advanced cardiac life support should be part of a larger continuing education and continuous quality improvement process that reflects the needs and practices of individuals or systems. Previous studies by Cheng & Magid et al (2020), agree with the current research findings when they highlighted that

resuscitation training programs for the resuscitation teams plays a vital role and incorporate evidence-based content while providing opportunities for the team to practice lifesaving skills in individual and team-based clinical environments.

Another sub-theme that emerged is; Description of lack of funds provision for national and international trauma symposium, one medical doctor raised a concern about the fact that they don't get financial support from the management when they have to attend skill developing symposiums, she mentioned that members of the resuscitation teams become frustrated when they have to pay money from their pockets to get information that will promote patient survival rates. Studies by Mckay & Walker et al (2012), concur with current study when they outline the importance of healthcare sectors to begin to focus on training team-working skills as one way of reducing the rate of adverse events following high profile errors resulting in patient harm and attracting negative publicity.

5.3. DEVELOPMENT OF STRATEGIES AND INTEGRATION OF THE THEORY

5.3.1. Introduction

This chapter describes how strategies to support the resuscitation team in the EDs of the two selected hospitals were developed. The strategies developed were guided by the job demands-resources model and the findings of the study. The objectives of the study were achieved through the use of a qualitative research approach. One on one semi-structured interviews were conducted to obtain data from the participants. The strategies were developed based on the following objectives of the study:

Objective 1: To explore the challenges experienced by the resuscitation teams in EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa. In this objective, the researchers aimed to uncover the challenges experienced by the resuscitation team in the emergency unit as they occur in their context. The following challenges emerged from the study findings: Shortage of resources in the ED, Lack of standardized procedures and policies for handling the resuscitation process, describing psychological impacts from failed resuscitation, Appreciation and recognition for successful resuscitation, Infrastructure and equipment management

challenges. Therefore, the findings from the identified challenges guided the researcher in the development of the coping strategies.

Objective 2: was to describe the support strategies for the resuscitation teams in the EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa. The challenges identified in objective one and the job demand model that guided this study directed the researcher to develop the coping strategies.

5.3.2. Purpose of strategies

The purpose of these strategies is to support the resuscitation team in EDs.

5.3.3. The development of the strategies to support the resuscitation team in eds.

The study applied the job demand resource model in the development of coping strategies for the resuscitation team. The model emphasizes that even if the resuscitation teamwork is demanding and strenuous, the organization must provide the resources to support the resuscitation team and create a healthy working and supportive working environment. In the context of this study, the strategies will be developed to guide the department of health, the health care organizations, and the resuscitation team on the coping strategy. Hence the emergency unit and the duties performed seem to be challenging. The following steps from the Job demand resource model developed by Bakker and Demerouti (2007) guided the researcher in developing the coping strategies according to the themes that emerged from the semi-structured one-to-one interviews.

Step 1: Identification of job demands

Bakker and Demerouti (2007) depicted that the health care organization must first identify the stressors that could harm the resuscitation team. In the context of this study, the following stressors were determined according to the emerged themes.

In theme 1, the following challenges related to the shortage of resources in the ED were experienced by the resuscitation team (medical doctors and the professional nurses); overflow of patients with the limited number of both specialized and untrained

resuscitation team staff members, shortage of equipment and poor maintenance, lack of equipment and faulty medical equipment's. **Theme 2**, the participants reported challenges related to the lack of standardized procedures and policies for handling the resuscitation process. The resuscitation team raised concerns about experiencing different practices and instructions from various team members, especially during the resuscitation process. **In theme 3**, the participants outlined the challenge regarding lack of debriefing after each failed resuscitation, lack of existing systems regarding trauma counseling sessions, and explained the fact that they experience blame after failed resuscitation. **In theme 4**, the participants mentioned that they experience a lack of support and appreciation and recognition for successful resuscitation from the managers. **Theme 5,** the participants raised a concern of experiencing a lack of continuous training program and lack of funds provision for national and international trauma symposium.

Step 2: Address job demands

According to Bakker and Demerouti (2007), health care organizations should address the high job demands in the emergency unit by assigning the right personnel to the tasks. Theme 1 identified a lack of trained and experienced medical doctors and staff which in turn affects the quality of the resuscitation and patient care provision. Additionally, Bakker and Demerouti (2007) emphasized that if the staff members are not allocated in their area of expertise, they are more likely to experience high-stress levels. The following job positives were identified to act as a safeguard between the demands and resuscitation team members: mentoring or coaching opportunities; training and development opportunities; regular constructive feedback, increased autonomy, clearer goals and organizational rules, benefits, or processes that support and strengthen employees (Bakker & Demerouti (2007).

Step 3: Identifying possible job resources

In this step, the hospital management needs to engage with the emergency unit resuscitation team to discover changes that can be done to overcome their challenges (Bakker & Demerouti, 2007). The model further stresses the engagement process as an important factor. There should be engagement between the top management, middle management, and the resuscitation team in the ED. During the engagement,

the team verbalized their challenges during resuscitation, which can be addressed by providing job resources. The challenges were a shortage of personnel to make a complete team, lack of functional equipment, unavailability of standardized procedures, lack of debriefing and trauma counseling sessions, and demoralization due to blame after failing resuscitation process. The following job resources were identified by participating in professional nurses and medical doctors according to the themes;

In **Theme 1**, they suggested they could benefit if more trauma trained and untrained professional nurses and medical doctors could be hired, further explained the importance of having available and functional medical equipment. In **Theme 2**, the participants stressed that it would be better for them to have standardized protocols and guidelines to handle resuscitation processes. In **Theme 3**, the participants mentioned that the challenge of blame after failed resuscitation must be avoided and that there should be a debriefing and trauma counseling program to support them after failed resuscitation as a form of their emotional support against stress from demoralization. In **Theme 4**, the resuscitation team outlined that they could benefit from being appreciated and recognized by their managers after successful resuscitation. In **Theme 5**, the participants further stressed the challenge of education and training, indicating that it could be well managed if there could be a continuous training program and funding of national and international symposiums.

Step 4: Promote job resources

Bakker and Demerouti (2007) model emphasized the importance of a good working relationship in reducing staff members' stress. The model also emphasized that it is important for the emergency unit managers to set aside the socializing meetings either at work or after work to build rapport.

5.4. DEVELOPED STRATEGIES TO SUPPORT THE RESUSCITATION TEAM IN EDs

TABLE: 4.5. Support strategies and how to address them

Type of strategy	What should happen	How and by who	When should it happen	Success indicators
1.1.Strategy to address job demands & overload Job demands consist of those factors (such as time pressure and workload) which reduce health and energy causing severe mental disorders over some time and, eventually, lowers the employee	The team leader should involve the team in the planning process before the patient's arrival. The application of the principle of autonomy may also help the resuscitation teams cope with job demands. In contrast, social support and high-quality relationship with supervisors may have buffered the impact of job demands on levels of burnout	Team leaders and management. When participants were asked about how management would assist to help them deal with Job demands and overload the overall response was that this	During the strategic planning and also during the monthly meeting	Improved employee performance Improved quality patient care Decreased complications and mortality rate

performance (Bakker & Demerouti, 2007). In the context of this study, the job demand in the emergency unit is caused by incoming critically ill patients from either home or from referring Hospitals resulting in an overload of work by the resuscitation team. However, the overload causes overwhelming conditions, stress, and burnout amongst the resuscitation team.	because employees would have received instrumental help and emotional support. In contrast, feedback may also help the resuscitation teams as it provides employees with information necessary to maintain their performance and stay healthy (Bakker & Demerouti, 2007).	challenge can be well managed if more trained nurses and doctors can be hired, if there would be available functional equipment, available standardized protocols, proper referral system, regular debriefing and counseling sessions, proper referral system.	Always when a member of the resuscitation team retire or resign Every financial year	

	Material resource should be available and functional	Management to ensure available and functional emergency medical equipment Management to ensure that emergency medical equipment is serviced periodically	Always Quaterly or yearly	Improved patient survival rate and quality patient care
2. Strategy to address different practices and instructions	There should be standardized procedures and guidelines to manage resuscitation process	Management to provide with authorized protocols for resuscitation Management to ensure availability of resuscitation guidelines	Protocols to be reviewed yearly Guidelines to be reviewed yearly	Focused and straight forward resuscitation practices Well motivated resuscitation team

		for the resuscitation team		
3.Coping strategy for psychological challenges amongst resuscitation team	Resuscitation team should be provided with emotional support	Management to provide debriefing sessions Management to hire trauma psychologist for provision of counselling post failed resuscitation Management to engage with resuscitation team to allow them to ventilate their concerns	Post resuscitation processes Weekly Monthly	Emotional stability of resuscitation team Overall employee satisfaction Imprroved quality patient care
4.Strategy for leadership and managerial support	There should be moral uplift and occupational motivation of the resuscitation team	Management should verbalise gratitude to the resuscitation team or through hospital newsletter for their	Monthly	Outstanding performance levels by the resuscitation team

		efforts of sthriving to save lives. Management to adopt to a norm of avoiding blame to the resuscitation team. Management to motivate them by awarding the best employee of the month, eg, through organizing and subsidizing holiday tour or a meal for the hard working individual. Reward in the form of performance bonus should be done by management.	Always Monthly Monthly	Deep-routed and long-term ownership among the resuscitation team

5.Support strategy concerning education and training for the resuscition team	There should be staff development to the resuscitation team	Management to financially subsidize members of the team to undergo emergency medicine related courses. Head of emergency department to involve team members during morbidity and mortality meetings and to use the platform to address resuscitation process pitfalls	Quaterly Monthly	Improved patient care Overall employee satisfaction Outstanding employee perfomance

		Management to subsidize trauma related symposiums	Every financial year	

5.5. CHAPTER SUMMARY

In this chapter major findings of the results were discussed in terms of the themes and sub-themes which emerged from data analysis. Literature which supported the research findings were also reviewed. The strategies to support the resuscitation teams in emergency departments of Mankweng and Pietersburg Public Hospitals were developed. Steps from the job demand resource model guided the researcher in developing the strategies. Steps included, step 1: Identification of job demands, step 2: Addressing job demands, step 3: Identifying job resources and step 4: Promoting job resources. The following strategies were developed according to the themes emerged from the the study in line with the job demand resource steps, 1: Emergency department resource based strategy,1.1:Strategy to address job demands and overload, 1.2: Strategy to address shortage and poor maintenance of emergency medical equipments, 2: strategy to address different practices and instructions from various team leaders, 3: Coping strategy for psychological challenges amongst the resuscitation team, 4: Strategy for leadership and managerial support and lastly 5: Support strategy concerning education and training for resuscitation teams.

CHAPTER 6

SUMMARY, RECOMMENDATIONS, LIMITATIONS, AND CONCLUSION

6.1. INTRODUCTION

This chapter presents a summary of the research report, recommendations, limitations of this study, the conclusions that were drawn from the research findings, and the themes and sub-themes in Chapter 4 are formulated. The author believes the study gave an insightful look into the ED's challenges. Revealing these challenges and perceptive experiences, members of the resuscitation teams shared their stories that provided valuable information about obstacles hindering the quality resuscitation efforts. The recommendations in the form of strategies are given to enable the management of Mankweng and Pietersburg Hospitals to support both EDs concerning aspects given as challenges.

6.2. RESTATEMENT OF THE PROBLEM

During clinical practice, the researcher observed that the nature of the job faced and experienced by the resuscitation team daily appears to be stressful. They experience a high level of day-to-day operational and organizational stress in the work environment, including exposure to critical incidents daily, shift work, long-standing hours, making critical decisions under time pressures, and dealing with the bereaved family who lost their loved ones. This was observed amongst the professional nurses and doctors working in the emergency unit in the two tertiary hospitals in Limpopo Province; Pietersburg, and Mankweng Hospital. The two tertiary hospitals are referral hospitals with different specialist medical doctors. The ED in these two hospitals receives patients for specialized treatment from all the district hospitals in Limpopo Province.

According to the weekly statistics compiled in October 2018 by the head of the ED, about 348 patients are seen in the emergency unit every week, making +-49 patients 24 hours (Pietersburg/Mankweng Emergency unit monthly report, 2018). Of the 348 patients, 80% come with critical conditions and complications, which require resuscitation. However, only 50% of the resuscitated cases become successful. Minnie, Goodman, and Wallis (2014) opined that the diseases burden South Africa

and that the Injury mortality rates in South Africa are approximately six times higher than the global average. Therefore it is not startling why 50% of the resuscitated cases in the two hospitals are not successful. In the above situation, the high level of emotional stress was realized amongst the resuscitation team members as evidenced by different reactions such as aggressive behavior, anger, sadness, avoidance, and self-blame. A literature review study conducted by Johnston, Abraham, and Greenslade et al. (2016) reported very few intervention studies to help the ED staff cope with the stressful and demanding work environment. It is against this background that the researcher identified the need to develop strategies to support the resuscitation team in the Polokwane and Mankweng emergency unit to deal with trauma and stressful day-to-day operational and organizational stress in the work environment.

6.3. RESTATEMENT OF THE OBJECTIVES

The objectives of the study were to:

- To explore the resuscitation teams' challenges in the EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa.
- To describe the support strategies for the resuscitation teams in the EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province South Africa.

6.4. SUMMARY OF THE MAIN FINDINGS

The findings of the study are based on the following themes

6.4.1. Theme 1: Challenges related to the shortage of resources in the ED

The study findings have revealed a shortage of functional equipment and a general shortage of staff, including professional nurses and medical doctors in both EDs of Mankweng and Pietersburg Hospitals. Participants were explaining this as one of the challenges. They indicated that the available limited staff could not make a complete resuscitation team, resulting in difficulties during the resuscitation process. Participants further suggested that the challenge has been going on for some time, resulting in overwhelming work overload in the EDs. Similarly, Hunsaker, Chen, Maughan, and Heaston (2015) reported that the environment in EDs is physically and emotionally demanding and burdened by complex patient loads, long shifts, and administrative challenges resulting in high pressure and high volume workloads

amongst the staff members. In a study done in two referral Hospitals in Botswana about cardiopulmonary resuscitation challenges, Rajeswaran and Ehlers (2013) reported that staff shortages caused excessive workloads and might negatively impact cardiopulmonary resuscitation (CPR) interventions. Sometimes two nurses had to care for 70 patients, leaving one nurse to render CPR interventions while the other tried to call a doctor.

Furthermore, Rajeswaran and Ehlers (2013) outlined the following challenges concerning CPR:

- *Organizational factors*

  The current study found that the shortage of nurses and doctors delays the inception of CPR, cause excessive workloads, and increases the resuscitation team’s stress levels during critical situations.
- *Supplies and equipment’s*

  Shortage of equipment and drugs was found to be also a challenge and forms a barrier between the resuscitation team.

6.4.2 Theme 2: Challenges related to the lack of standardized procedures and policies for handling the resuscitation process

The study confirmed that standardized Cardio-Pulmonary-Resuscitation policies did not exist in both EDs of Mankweng and Pietersburg Hospitals, leading to a haphazard way of doing things during resuscitation, and some members become confused, panic, and don’t know what to do. Participants indicated that the lack of standardized procedures causes disagreements during the resuscitation process, potentially blaming the resuscitation team whenever the resuscitation fails. Mellick and Adams (2009) study findings discovered that disputes over procedures, confusion over team leadership, organizational chaos, or demeaning comments represent low team dynamics and cause a team to lose focus.

6.4.3 Theme 3: Psychological challenges from resuscitation failure

The current study revealed that the resuscitation teams in the EDs of Mankweng and Pietersburg Hospitals experience stress and burnout after having unsuccessful resuscitations. Research by Tremblay & Messervey (2011) agrees with the current research findings, and it has also revealed that job demands such as high work

pressure, emotional demands, and role ambiguity may lead to sleeping problems, exhaustion, and impaired health. Job demands consist of those factors (such as time pressure and workload) which reduce health and energy causing severe mental disorders and, eventually, low employee performance (Bakker & Demerouti, 2011). In the context of this study, the job demand in the EDs is caused by incoming critically ill patients from either home or from referring Hospitals resulting in an overload of work by the resuscitation team. However, the overload causes conflict amongst the resuscitation team. In support, Adil and Baig (2018) have also shown support of the findings as it reveals that burnout is generally observed due to higher job demands and insufficient job resources available to employees.

6.4.4 Theme 4: Leadership and management support challenges

The current study has revealed that resuscitation teams do not receive any form of appreciation or recognised by the Hospital management, which has demoralized them. Participants have been confirmed to be less motivated as they are working under extreme and stressful working situations with no appreciation for their efforts. Khan and Zarif (2011) have established in their study that organizations that have the motivational systems comprising employee recognition and appreciation at the place have found that it leads to higher employee morale and performance levels than even incentives since it, unlike incentives, creates a deep-rooted and long-term ownership among the employees for the organization. Recognizing excellent performance openly builds motivation within the entire organization. It is recognized that employee recognition has contagious effects. When employees see other employees being rewarded for their work, it becomes a chain reaction; employees repeat positive actions so that their work will also be appreciated.

6.4.5 Theme 5: Challenges related to education and training of the resuscitation team.

It was discovered in the current study that there is no support from the management to both resuscitation teams of both Hospitals in the form of training. Participants indicated that not developed, and even when they want to establish themselves, they are not funded as such; they find it challenging to handle finances as short trauma courses are expensive. The study by Mellick and Adams (2009) in Botswana showed

that the absence of ongoing cardiopulmonary resuscitation training affects CPR competence levels.

6.5. RECOMMENDATIONS

The following recommendations were made based on the five themes that had emerged during the one-on-one interviews with professional nurses and medical doctors in EDs of Mankweng and Pietersburg Hospitals. Suggestions served as strategies developed to support the resuscitation teams in the EDs of Mankweng and Pietersburg Hospitals.

6.5.1 Recommendations to management and practice

- The management should consider the importance of having more experienced and trained professional nurses and medical doctors in the EDs of Mankweng and Pietersburg Hospitals.
- Professional nurses with a specialty in Critical Care Nursing Trauma should be hired.
- Resuscitation teams in both Mankweng and Pietersburg EDs should be consulted for clarity when making resuscitation equipment specifications.
- The available equipment should be serviced regularly and taken care of by the end-users.

6.5.2 Recommendations for education and training

- Members of the resuscitation teams should be in-serviced on proper use and handling of resuscitation equipment as resuscitation depend on their functionality.
- Department of Health Limpopo should provide the Doctors' and Nurses' funds for emergency care symposium.
- Policies, protocols, and clinical guidelines should be made known and understandable by resuscitation teams for compliance.
- Drills and simulations on the management of cardiac arrest patients should be encouraged to promote compliance.

- Internal workshops on resuscitations of trauma and medical emergencies should be done periodically.

6.5.3 Recommendations for nursing research

- The current study was conducted in two tertiary hospitals in the province. It is recommended for similar studies to conduct in other district and local hospitals across the region.
- Further research should be undertaken to evaluate and implement the developed strategies in the selected hospitals.

6.6. LIMITATIONS OF THE STUDY

The study was conducted at the emergency units of Mankweng and Pietersburg Public Hospitals in the Capricon District, Limpopo Province, South Africa. Therefore, the findings of this study cannot be generalized to other Hospitals in the country. The study was conducted on a smaller scale.

6.7. CONCLUSION

The results of this study supported the researcher’s observations about expression of different emotions by the resuscitation teams in emergency departments of Mankweng and Pietersburg Public Hospitals. Challenges were identified during one on one interviews and the researcher was able to develop strategies to support them based on findings from one on one semi-structured interviews. The job demand resource model steps guided the researcher in developing the strategies to support the resuscitation teams in the emergency departments of this Hospitals based on themes derived from the study results.

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LIST OF ANNEXURES

Annexure A: Interview guide

Demographic information

1. Age

18-25	
25-45	
46-65	

2. Qualifications

B-CUR	
Specialty in trauma and emergency nursing science	
Diploma in comprehensive nursing science	
Diploma in general nursing science	

7. Number of years employed

6months -5 years	
5-10 years	
10 years and above	

8. Number of years in ED

0-5 years	
5-10 years	
10 years and above	

CENTRAL QUESTION

Can you describe the challenges that you experience in the emergency unit?

PROBING QUESTIONS

1. In the case where resuscitation is successful, what are your experiences with regard to that?
2. What are your experiences after failed resuscitation?
3. What do you think can be done to help you overcome the challenges you are facing in resuscitation and after failed resuscitation?
4. Can you describe the support or training received to deal with the day to day challenges in the emergency unit.

Annexure B: Consent form

DEPARTMENT OF NURSING SCIENCE ENGLISH CONSENT FORM

Statement concerning participation in a Clinical Research Project

Topic of the Study: Development of strategies to support the resuscitation team in EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa.

I have read the information and heard the aims and objectives of the proposed study and was provided the opportunity to ask questions and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressured to participate in any way.

I know that sound recordings will be taken of me. I am aware that this material may be used in scientific publications that will be electronically available worldwide. I consent to this, provided that my name and hospital number are not revealed.

I understand that participation in this study is completely voluntary and that I may withdraw from it at any time and without supplying reasons. This will not influence the regular treatment that holds for my condition, neither will it influence the care that I receive from my regular doctor. I know that this Study has been approved by the Turfloop Research Ethics Committee (TREC). I am fully aware that the results of this study will be used for scientific purposes and may be published. I agree to this, provided my privacy is guaranteed.

The Study envisaged may hold some risk for me that cannot be foreseen at this stage. Access to the records that pertain to my participation in the study will be restricted to persons directly involved in the research.

Any questions that I may have regarding the research or related matters, will be answered by the researcher. If any medical problem is identified at any stage during the research, or when I am vetted for participation, such condition will be discussed with me in confidence by a qualified person and/or I will be referred to my doctor.

I indemnify the University of Limpopo and all persons involved with the above study from any liability that may arise from my participation in the above study or that may be related to it, for whatever reasons, including negligence on the part of the mentioned persons.

I hereby give consent to participate in this Study.

Signature of researched person...

Signature of researcher .... Signed

at………………………this…………day of………………20…………………….

Contact………………………………………………………………………

Annexure C: Ethical clearance

University of Limpopo
Faculty of Health Sciences
Executive Dean
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2149, Fax: (015) 268 2685, Email:kgakgabi.letsoalo@ul.ac.za

DATE: 15 November 2018

NAME OF STUDENT: SEIMELA MH
STUDENT NUMBER: 9911566
DEPARTMENT: NURSING
SCHOOL: HEALTH CARE SCIENCE
QUALIFICATION: MNURS

Dear Student

FACULTY APPROVAL OF PROPOSAL (PROPOSAL NO. FHDC2018/7)

I have pleasure in informing you that your MNURS proposal served at the Faculty Higher Degrees Meeting on the 15 November 2018 and your title was approved as follows:

Approved Title: "Development of Strategies to support the Resuscitation team in Emergency Departments of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa "

Note the following:

Ethical Clearance	Tick One
Requires no ethical clearance Proceed with the study	
Requires ethical clearance (TREC) (apply online) Proceed with the study only after receipt of ethical clearance certificate	√

Yours faithfully

MR K.J Letsoalo
Chairperson

CC: Supervisor: Mrs L Muthelo
CO-Supervisor : Prof RN Malema

Annexure D: Department of Health Approval letter

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH AND SOCIAL

DEVELOPMENT ENQUIRIES: MR MA POOPEDI DATE: 02 OCTOBER 2019

MANAGER: CLINICAL RESEARCH

PIETERSBURG/MANKWENG

RESEARCH ETHICS COMMITTEE (PMREC)

ananiaspoopedi@gmail.com

REFERENCE : PMREC 02 October UL 2019/A

Date : 05 SEPTEMBER 2019

RESEARCHER: Ms MH SEIMELA (PRINCIPAL INVESTIGATOR)

RESEARCH: POST-GRADUATE RESEARCH

DEPARTMENT: NURSING

Project Title: Development of strategies to support the resuscitation team in EDs of Mankweng and Pietersburg Public Hospitals in Limpopo Province, South Africa.
Approval Status: Approved

The committee made the following recommendation (to be done by the candidate to the satisfaction of the supervisor(s))

The committee recommended that the candidate outlines how, during the data collection she will ensure that patient care will not be compromised.

____

Prof TAB Mashego, PhD
Chairperson: Pietersburg/Mankweng Complex Research Ethics
Committee School of Medicine
University of Limpopo
REC 300408-006

Annexure E: interview transcriptions

VERBATIN TRANSCRIPTS FOR INTERVIEWS CONDUCTED IN TWO SELECTED HOSPITALS

PARTICIPANT NUMBER 01

Researcher: Can you describe the challenges you are experiencing in the ED as one resuscitation team member?

Participant: The challenge we encounter is that we don't have more trauma trained nurses, and some of the doctors are not conversant with resuscitation.

Researcher: Ok, so, besides the doctors that are not conversant with resuscitation, you as a trauma trained professional nurse, during resuscitation if you observe that patient need to be intubated, does all the doctors that are working in the ED not conversant with the resuscitation processes?

Participant: No, others are conversant.

Researcher: In the case where you are resuscitating with conversant doctors, how are your experiences?

Participant: Those who are conversant with resuscitation are ED doctors, and we have the team from family medicine. They come after hours, and during weekends, some of them does not know how to resuscitate.

Researcher: Ok, in the case where resuscitation is successful, what are your experiences, what is it that you share with each other after you had a successful resuscitation?

Participant: We become proud of it and we discuss about it during the morning report, we share with others what happened the previous day.

Researcher: Ok, and then after you had failed resuscitation, how is your experience?

Participant: We become demoralized.

Researcher: So, do you usually have failed resuscitations, or even though we don't have statistics here, how can you comment about failed resuscitation in conjunction with successful ones?

Participant: Most of our resuscitations are successful.

Researcher: That is a good thing, so, what do you think can be done to help you overcome the challenges you're experiencing?

Participant: Maybe if they can bring back those short courses such as ATLS or BLS, they will help us improve our skills, especially those doctors who are unskilled.

Researcher: At this present moment you don't have any courses that is being offered?

Participant: No, we don't have.

Researcher: Can you describe the support or training you receive from the management to deal with day to day challenges in the ED?

Participant: Truly speaking, we don't get support, like debriefing, maybe the psychologist comes once in a while to ask us our feelings. We don't get that.

Researcher: After you have had a failed resuscitation, don't you feel you need support from the management or the department?

Participant: We feel that we need it.

Researcher: What is it that you need, because we will make recommendations to them that they support you, in what way?

Participant: By doing the debriefing.

Researcher: Ok, we are done, thank you very much for your participation, after I have collected this data I'm going to compile it , convey it to heads of departments, we'll see how they'll support us.

PARTICIPANT NUMBER 02

Researcher: Can you describe the challenges that you are experiencing during resuscitation in the ED?

Participant: During resuscitation, you find that maybe the patient was in room one, and you notice that he/she is not doing well and move him/her to the resuscitation room. Sometimes you find that the doctor is not competent with his work, so the nurses who are trauma trained, even us who are not trained, are the ones to guide the doctors and tell them what to do.

Researcher: don't you experience any challenge, does it goes well, do you guide the doctor, and nothing challenges you during resuscitation?

Participant: No, we do have posters. If the doctor is not competent enough, they look at the posters, and sometimes we do have drills. That is why we don't have problems, and we in-service one another.

Researcher: In case you resuscitate, and resuscitation becomes successful, what are your experiences about that?

Participant: It differs, some after resuscitation, they call us, whoever was in charge of resuscitation, and tell us that you did well or there, you did not do one, two three, if we did wrong we accept our mistakes. You find that you're a scrub, and sometimes you stand up and give drugs.

Researcher: When you do resuscitation, how many are you?

Participant: The one who is going to scribe, one who is going to give drugs, and one who is taking vital signs, nurses, we are three and two doctors.

Researcher: I just heard you saying that sometimes when you scrub, you stop and get the drugs.

Participant: Yes, because now we have community service nurses who are not experienced and if they are allocated with you, it becomes a challenge.

Researcher: So, the thing of having community service nurses is challenging to you.

Participant: Yes, it is challenging because they are still new and some they trained at Giyane and Venda but those who have trained in Mankweng does not have problems. They become problem because you have to teach them at the same time be involved in resuscitation, and I don't think that it is good to make them scribe because somewhere somehow they'll mix information.

Researcher: In the case where resuscitation becomes unsuccessful, what is your experience with regard to that?

Participant: I feel bad, sad, and we must go back and see where we went wrong, even if it is not you who caused the death, but you must look at some of the things after resuscitation.

Researcher: Is there anything that the management is doing to support you after you had unsuccessful resuscitation because you just said you feel bad and sad.

Participant: Nothing.

Researcher: How do you cope with your day to day challenges because now you have resuscitated this patient and it failed, and there are other patients you must see, how do you deal with your sadness and work?

Participant: We as nurses, we start comforting each other because there is no one from management. Even if they know that we have resuscitation, they don't come; instead, they'll say they are having resuscitation and the runaway.

Researcher: In terms of development and training, is there any support they are giving you with regard to resuscitation process?

Participant: From where?

Researcher: From the management, or from the department or from your head of department here in ED.

Participant: Our manager is supporting us, she is sometimes resuscitating with us.

Researcher: So, in terms of training and development?

Participant: For resuscitation? We are the ones who are going out with our manager, teaching the hospital staff.

Researcher: So you don't have problems with knowledge?

Participant: No.

Researcher: Thank you very much for your participation.