



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences
School of Health Care Sciences
Department of Nursing Sciences

**EXPLORING THE VIEWS OF REGISTERED NURSES CARING FOR SPINAL
CORD INJURY PATIENTS IN A PRIVATE REHABILITATION HOSPITAL IN
GAUTENG**

by

Calvin Livhuwani Netshiya (u11370972)

Submitted in fulfilment of the requirements for Masters in nursing science
in the
Department of Nursing Sciences
at the
University of Pretoria

July 2023

Supervisor: Dr. M.R Musie
Co-Supervisor: Dr. N.R Lavhelani

DECLARATION

I, Calvin Livhuwai Netshiya, **declare that EXPLORING THE VIEWS OF REGISTERED NURSES CARING FOR SPINAL CORD INJURY PATIENTS IN A PRIVATE REHABILITATION HOSPITAL IN GAUTENG** is my own work and that all sources used or quoted have been indicated and acknowledged using complete reference. I declare that this work has not been submitted for any other degree at other institutions.

Calvin Livhuwai Netshiya

Date 23/07/2023

DEDICATION

My late mother, Violet Mafela Netshiya who passed on during my study period on 11 October 2022. She motivated me to study hard from primary school until varsity and paid the fees. I know you are proud of my achievement. May your precious soul rest in peace.

My wife, Khumbudzo Netshiya, always encouraged and supported me in my studies and was willing to assist with finances.

My sister, Ivy Mulaudzi, for the moral support and words of encouragement. The passing on of our mother made you show the extra mile love of looking after my home in Venda. May God bless you.

My beautiful children, Ritshidze, Ofhani and Livhuwani, for being patient throughout my studies.



ACKNOWLEDGEMENTS

I want to thank God Almighty for giving me the strength to finish this study. His grace has been sufficient for me throughout the whole period.

I am very grateful to everyone for their contributions, and in particular, I would like to thank the following people:

I express my appreciation to my supervisor, Dr. M.R Musie who was my great support even in times of need. I really appreciate your dedication and support in reaching my research outcomes.

I also want to express gratitude to my co-supervisor Dr. N.R Lavhelani and Dr. P Jiyani, who assisted me throughout the study. Your dedication, role modelling, supervision and guidance are deeply valued.

Mr. S Naidoo, an information specialist, at the University of Pretoria, for guiding me on how to access articles from different scientific journals and how to use endnotes.

Prof. A van der Wath, for her role as an independent coder in the data analysis phase of the study.

Ms. J Musi for editing my work with such insight.

Registered nurses who participated in the study and shared information about their care of spinal cord injury patients.

My colleague T Mposi, I appreciate your continuous support and encouragement.

The management of the hospital for allowing me to conduct this study at your institution.



ABSTRACT

Introduction: Spinal Cord Injury is one of the most devastating conditions affecting a person's physical, psychological, and social well-being. The World Health Organisation estimates that the annual global incidences of spinal cord injuries rose from 40 to 80 cases per million people. Furthermore, in South Africa, the number of people affected by spinal cord injury is approximately 12.3 per 100 000 people. Within the rehabilitation centres the registered nurses are actively involved in caring for spinal cord injury patients throughout the patient's lifetime while admitted to the rehabilitation units. Although many studies have been conducted on spinal cord injury, there is limited studies relating to the views of the registered nurses towards the care of patient in rehabilitation.

Aims: The aim of the study is to explore and describe the views of registered nurses caring for patients with spinal cord injuries at a private rehabilitation hospital in the Gauteng Province.

Research design and methods: The study used a descriptive, exploratory, and contextual design, qualitative approach and research method. Semi-structured face-to-face interviews were used to collect data from the 12 registered nurses caring for patients with spinal cord injuries at a rehabilitation hospital in the Gauteng Province. The data was analysed following the 8 steps of Tesch data analysis method. Measures to ensure trustworthiness were ensured throughout the study.

Results: Upon analysis of the data, the following five (5) themes emerged, namely 1. Nurse's views on the care for spinal cord injury patients, 2. Nurses' challenges when caring for spinal cord injury patients, 3. Challenges faced by spinal cord injury patients, 4. Nurses competencies to care for spinal cord injury patients and 5. Nurses recommendations when caring for spinal cord injury patients.

Conclusion: The findings of the study concluded that the objectives had been attained. The registered nurses view their care for spinal cord injury patients as being multifaceted. The care includes preventing pressure sore, slips and falls, promoting bladder and bowel management, some patients are reluctant to participate in the rehabilitation programme, patient financial challenges, family training, patient institutional hospitalization, a home visit by the social worker, community support and considering more registered nurse in a rehabilitation unit. Lastly, the researcher has made recommendations to improve the care of spinal cord injury patients at private rehabilitation.

Key words: Caring, private hospital, registered nurses; rehabilitation; spinal cord injury.

TABLE OF CONTENTS

DECLARATION	II
DEDICATION	III
ACKNOWLEDGEMENTS	IV
ABSTRACT	V
CHAPTER 1: OVERVIEW OF THE STUDY	1
1.1 INTRODUCTION	1
1.2 BACKGROUND	1
1.2.1 <i>The aetiology of Spinal Cord Injuries</i>	1
1.2.2 <i>The effects of Spinal Cord injuries on individuals</i>	2
1.2.3 <i>The role of registered nurses in the care for spinal cord injury patients.</i>	2
1.2.4 <i>Health and rehabilitation system in South Africa</i>	3
1.2.4 <i>The views of nurses in spinal rehabilitation</i>	4
1.3 PROBLEM STATEMENT	5
1.4 RESEARCH QUESTION	6
1.5 AIM	6
1.6 RESEARCH OBJECTIVES	6
1.7 SIGNIFICANCE OF THE STUDY	6
1.7.1 <i>Benefits for the spinal cord injury patients</i>	6
1.7.2 <i>Nursing practice</i>	6
1.7.3 <i>Nursing research</i>	7
1.7.3 <i>Nursing management</i>	7
1.8 DEFINITION OF TERMS	7
1.8.1 <i>Caring</i>	7
1.8.2 <i>Explore</i>	7
1.8.3 <i>Private hospital</i>	7
1.8.4 <i>Rehabilitation</i>	7
1.8.5 <i>Registered Nurse</i>	8
1.8.6 <i>Spinal cord injury</i>	8
1.8.7 <i>Views</i>	8
1.9 PHILOSOPHICAL ASSUMPTIONS	8
1.9.2 <i>Ontological assumptions</i>	8
1.9.3 <i>Epistemological assumption</i>	9
1.9.4 <i>Methodological assumption</i>	9
1.10 RESEARCH DESIGN AND METHODS	9
TABLE 1.1: <i>illustrates summary of research design and methods</i>	9
1.11 ETHICAL CONSIDERATION	9
1.11.1 <i>Principle of beneficence and non-maleficence</i>	10
1.11.2 <i>Respect for human dignity</i>	10
1.11.3 <i>Informed consent</i>	10
1.11.4 <i>Principle of justice</i>	10
1.12 ORGANISATION OF CHAPTERS	10
1.13 CONCLUSION	11
.....	12
CHAPTER 2: RESEARCH DESIGN AND METHODS	12
2.1 INTRODUCTION	12
2.2 RESEARCH APPROACH	12
2.2.1 <i>Qualitative research design</i>	12
2.2.2 <i>Exploratory research design</i>	13

2.2.3 Descriptive research design.....	13
2.2.4 Contextual research design.....	13
2.3.1 Context.....	14
2.3.2 Population.....	14
2.3.3 Sample and Sampling.....	14
2.4 DATA COLLECTION.....	15
Table 2.1 Advantages and disadvantages of semi-structured interviews.....	17
2.5 DATA ANALYSIS.....	19
2.6 TRUSTWORTHINESS.....	20
2.6.1 Credibility.....	20
2.6.2 Dependability.....	20
2.6.3 Conformability.....	21
2.6.4 Transferability.....	21
CHAPTER 3: RESEARCH FINDINGS.....	22
3.1 INTRODUCTION.....	22
3.2 DEMOGRAPHIC DESCRIPTION OF THE PARTICIPANTS.....	22
Table 3.1: Demographic profile of participants.....	22
3.3 PROCESS OF DATA ANALYSIS.....	23
3.4 PRESENTATION OF THE THEMES AND SUBTHEMES.....	23
Table 3.2 Themes, categories, and sub-categories.....	23
3.4 THEME 1. NURSES VIEW ON THE CARE FOR SPINAL CORD INJURY PATIENT.....	25
3.4.1 Categories 1.1: Provision of care to meet basic needs.....	25
3.4.2 Categories 1.2: Maintain physiological functions.....	28
3.4.3 Categories 1.3: Provision of psychological care.....	30
3.4.4 Categories 1.4: Provision of Social care.....	32
3.4.5 Categories 1.5: Provision of patient-centred care.....	33
3.4.8 Categories 1.6: Interprofessional care.....	35
3.5 THEME 2. NURSES' CHALLENGES WHEN CARING FOR SPINAL CORD INJURY PATIENTS.....	37
3.5.1 Category 2.1: Patient related challenges.....	37
3.5.2 Category 2.2 Resource related challenges.....	39
3.6 THEME 3: CHALLENGES FACED BY SPINAL CORD INJURY PATIENTS.....	40
3.6.1 Category 3.1: Physical challenges.....	41
3.6.2 Category 3.2 Psychological challenges.....	42
3.6.3 Category 3.3 Social challenges.....	43
3.7 THEME 4: NURSES' COMPETENCIES TO CARE FOR SPINAL CORD INJURY PATIENTS.....	45
3.7.1 Categories 4.1: Psychomotor competencies.....	45
3.7.2 Categories 4.2: Psychological competencies.....	46
3.8 THEMES 5: NURSES' RECOMMENDATIONS WHEN CARING FOR SPINAL CORD INJURY PATIENTS.....	47
3.8.1 Categories 5.1: Recommendations for the healthcare system.....	47
3.8.2 Categories 5.2: Recommendations for patients.....	48
3.9 CONCLUSION.....	51
CHAPTER 4: DISCUSSION OF THE FINDINGS.....	52
4.1 INTRODUCTION.....	52
4.2 DISCUSSION OF THE FINDINGS.....	52
4.3 THEME 1. NURSES VIEW ON THE CARE FOR SPINAL CORD INJURY PATIENT.....	53
4.4.1 Category 1.1: Provision of care to meet basic needs.....	53
4.4.2 Category 1.2 Maintain physiological functions.....	53
4.4.3 Category:1.3 Provision of psychological care.....	54
4.4.4 Category:1.4 Provision of social care.....	54
4.5.5 Category:1.5 Provision of patient-centred care.....	55
4.6.6 Category:1.6 Interprofessional care.....	55
4.2 THEME 2 NURSES' CHALLENGES WHEN CARING FOR SPINAL CORD INJURY PATIENTS.....	56
4.2.1 Category 2.1: Patient related challenges.....	56
4.2.2 Category 2.2: Resource related challenges.....	56
4.3 THEME 3: CHALLENGES FACED BY SPINAL CORD INJURY PATIENTS.....	57

4.3.1 Category 3.1: Physical challenges	57
4.3.2 Category 3.2: Psychological challenges.....	57
4.4 THEME 4: NURSES' COMPETENCIES TO CARE FOR SPINAL CORD INJURY PATIENTS	58
4.4.1 Category 4.1 Psychomotor competencies	58
4.4.2 Category 4.2: Psychological competencies.....	58
4.5 THEME 5 NURSES' RECOMMENDATIONS WHEN CARING FOR SPINAL CORD INJURY PATIENTS.....	59
4.5.1 Category 5.1: Recommendations for the healthcare system	59
4.5.2 Category 5.2: Recommendations for patients.....	59
CHAPTER 5: SUMMARY, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION	60
5.1 INTRODUCTION	60
5.2 SUMMARY OF THE STUDY.....	60
5.3 THEME 1. NURSES VIEW ON THE CARE FOR SPINAL CORD INJURY PATIENTS	60
5.3.1 Category 1.1 Provision of care to meet basic needs.....	60
5.3.2 Category 1.2 maintaining physiological function.....	60
5.3.3 Category 1.3 Provision of psychological care	61
5.3.4 Category 1.4 Provision of social care	61
5.3.5 Category 1.5 Provision of patient centered care.....	61
5.3.6 Category 1.6 interprofessional care	61
5.4 THEME 2: NURSES' CHALLENGES WHEN CARING FOR SPINAL CORD INJURY PATIENTS	61
5.4.2 Resource related challenges.....	62
5.5THEME 3: CHALLENGES FACED BY SPINAL CORD INJURY PATIENTS	62
5.5.1 Category 3.1 Physical challenges	62
5.5.2 Category 3.2 Psychological challenges.....	63
5.5.3 Category 3.3 Social challenges.....	63
5.6 THEME 4: NURSES' COMPETENCIES TO CARE FOR SPINAL CORD INJURY PATIENTS	63
5.6.1 Category 4.1 Psychomotor competencies	63
5.6.2 Category 4.2 Psychological competencies.....	63
5.7THEME 5: NURSES' RECOMMENDATION WHEN CARING FOR SPINAL CORD INJURY PATIENTS	63
5.7.1 Category 5.1 Recommendation for the healthcare system.....	64
5.7.2 Category 5.1 Recommendation for patients	64
5.8 RECOMMENDATIONS OF THE STUDY	64
5.8.1 Rehabilitation practice	64
5.8.2 Nursing Education	65
5.8.3 Nursing regulatory body.....	65
5.8.5 Families and community members	66
5.9 LIMITATIONS OF THE STUDY.....	66
5.10 CONTRIBUTION TO BODY OF KNOWLEDGE.....	66
5.11 FINAL CONCLUSION.....	66
REFERENCES.....	68
ANNEXURES.....	71
ANNEXURE A: INFORMED CONSENT FORM	71
ANNEXURE B: INTERVIEW GUIDE	76
ANNEXURE C: REQUESTING PERMISSION TO CONDUCT RESEARCH	77
ANNEXURE D: PERMISSION LETTER.....	78
ANNEXURE E: ETHICAL CLEARANCE LETTER	80
ANNEXURE F: TRANSCRIPT EXAMPLE.....	81
ANNEXURE G: EDITING CERTIFICATE	87

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION

The World Health Organisation (WHO, 2013) describes Spinal cord injury (SCI) resulting from damage to the spinal cord following trauma, disease, and degeneration (Bibi, Rasmussen & McLeish, 2018:31). According to the global spine care initiative that was proposed by World spine care (2018) spine-related disorders are the number one cause of disability (Johnson, Haldeman, Nordin, Green, Cote, Hurwitz, Kopansky-Gilesm Acaroglu, Cedraschi and Ameis, 2018:185). The initiative goes further to indicate that in 2013 the annual global incidences of spinal cord injury were estimated at 40 to 80 cases per million population. In 2012 in the United States of America (USA), spinal cord injuries were estimated to be 54 cases per million (Wein, 2016:685). According to (Hachem, Ahuja and Fehlings, 2017:665), 12,500 new cases worldwide are reported annually. The incidence of SCI is estimated to be 29 per million in Sub-Saharan Africa (Lee, Cripps, Fitzharris and Wing, 2014:110).

South Africa is one of the countries in Africa with the highest cases of spinal cord injuries (Joseph, Scriba, Wilson, Mothabeng and Theron, 2017:109). The average annual incidence rate of spinal cord injuries in KwaZulu Natal and Western Cape in South Africa are estimated at 12.3 to 75.6 per million population (Pefile, Mothabeng and Naidoo, 2019:5; Joseph, Delcarme, Vlok, Wahman, Phillips and Wikmar, 2015:692). Spinal cord injury patient affects people globally and depends on the aetiology of the injury. It has been found that men are more vulnerable than women at a ratio of 2:1 (Alizadeh, Dyck and Karimi-Abdolrezaee, 2019:282). It has been denoted in literature that there are limited studies on the views and experiences of nurses caring for traumatic spinal cord injury patients, majority of the literature focuses on the patients and family experiences on the care during rehabilitation phase (Bibi, Rasmussen & McLeish, 2018:31). Thus, prompted the researcher to explore more the views of registered nurses on caring for spinal injury patients.

1.2 BACKGROUND

1.2.1 The aetiology of Spinal Cord Injuries

The causes of spinal cord injury differ per region in the country due to developments, gender and age (Kang, Ding, Zhou, Wei, Liu, Pan and Feng, 2018:2). World health organisation (WHO, 2013) reports that 90% of these cases are due to traumatic causes. However, the proportion of non-traumatic spinal cord injuries appears to be growing. The traumatic causes range from falls, assaults, road accidents and sports related injuries (Bárbara-Bataller, Méndez-Suárez, Alemán-Sánchez, Ramírez-Lorenzo and Sosa-Henríquez, 2017:15; Alizadeh et al., 2019:282). In Spain, falls are the

leading cause of spinal cord injury (48.2%), followed by traffic accidents (37.6%) (Bárbara-Bataller et al., 2017:15). While in the USA, an increase in falls has been observed in recent years (Chen, He and DeVivo, 2016:1610). In other settings such as Europe sports related spinal cord injury accounts for more than 13% of SCI (Chan, Eng, Tator, Krassioukov and Team, 2016:255). Falls are the leading causes of SCI in Tanzania (Rashid, Jusabani, Mandari and Dekker, 2017:1). In South Africa, assaults contribute 59% of SCI compared to motor vehicle accidents and gunshot related spinal cord injury accounted for 30% of SCI in the Western Cape Province (Joseph et al., 2015:692). Another study, conducted in Japan showed that most frequent cause of overall was fall on level surface (38.6%), followed by traffic accident (20.1%). Causes of Traumatic spinal cord injury by age group are shown in Sports-related injuries were the most frequent in teenagers (43.2%). The proportion of fall on level surface markedly increased with age. In summary among the five major causes of Traumatic spinal cord injury, traffic accident, low fall, fall on level surface, and fall downstairs showed a peak in the 70–79-year-old age group, and high fall showed a peak at 60–69 years (Miyakoshi, Suda, Kudo, Sakai, Nakagawa, Mikami, Suzuki, Tokioka, Tokuhiko and Takei, 2021:627).

1.2.2 The effects of Spinal Cord injuries on individuals

The effects of SCI can affect anyone, and it is dependent on the severity of the injury. People with SCI have more significant health challenges than the general population (Chaffey and Bigby, 2018:1). The SCI presents with psychological, social, economic and permanent neurologic effects (Sweis and Biller, 2017:8). SCI commonly results in significant impairments in physical, sexual, psychosocial and financial functioning (Hall, McGrath, Peterson, Chadd, DeVivo, Heinemann and Kalpakjian, 2019:95). Physically, consequences of spinal cord injury (SCI) is paralysis which then leads to loss of body functions such as bladder, bowel, respiratory, cardiovascular and sexual function (Harvey, 2016:4). The loss of body functions eventually affects the quality of life, loss of mobility, disruption in sexual health, inability to satisfy personal care needs and failure to meet financial life demands (Harvey, 2016:4; Hachem et al., 2017:665). Thus, it is imperative that the health professionals assist the patient to gain function and restore activities of daily living.

1.2.3 The role of registered nurses in the care for spinal cord injury patients.

Globally, in Taiwan and the United Kingdom, Registered nurse are a part of multidisciplinary team, and provide proper nursing care to prevent or alleviate further Spinal cord injury complications and promote the best outcomes for patients (Wang, Hong and Tan, 2022:2; Chang, Chen, Cheng and Liu, 2017; Babamohamadi, Negarandeh and Dehghan Nayeri, 2020). In support a study done in the University of Texas Health Science Center at Houston; showed that a rehabilitation nurse has specialized training in rehabilitative and restorative principles, works collaboratively with the entire rehabilitation team, and ascribes to a philosophy of care that takes a holistic approach to meeting a patient's functional, emotional, medical, vocational, educational, environmental, and spiritual

needs (Emerich, Parsons and Stein, 2012:153). Some of the challenges mentioned in providing care includes that nurses are exposed to a highly demanding and stressful clinical environment (Wang et al., 2022:2). A study done in Asia also highlighted the initial care of Spinal cord injury patient as provided by the registered nurses in their countries was inadequate and there were few centres providing a comprehensive multi-disciplinary SCI rehabilitation (Uddin, Shakoor, Rathore and Sakel, 2022:884).

A study done in Namibia indicates that the main primary goal of spinal cord injury rehabilitation is prevention of secondary complication. Rehabilitation nurses which are concerned with the issues of bowel and bladder dysfunction and management of pressure ulcer/bedsores (Hedimbi, Amakali-Nauseb and Niikondo, 2019:78). A systematic review was done which highlights the deficits of poor reports on the care provided to patients prehospital when they experienced total spinal cord injury (TSCI) representing the eight countries in Africa including Middle East and Southeast Asia as cited by (Eisner, Delaney, Widder, Aleem, Tate, Raghavendran and Scott, 2021: 339). The implementation of the Spinal cord injury (SCI)- Rehabilitation Centre at the Princess Marina Hospital in Botswana in 2013 as a national referral centre contributed to positive outcomes for newly injured individuals with a spinal cord injury. The Active Rehabilitation (AR) training programme for community-dwelling individuals with spinal cord injury (SCI) in Botswana on physical independence, wheelchair mobility, self-efficacy, life satisfaction, level of physical activity and community participation (Divanoglou, Trok, Jörgensen, Hultling, Sekakela and Tasiemski, 2019)

In South Africa the Nursing Act 33 of 2005 stipulates the role of the registered nurse with regards to providing nursing care for the treatment and rehabilitation of individuals, however there are no clear roles stipulated with no specific scope of rehabilitation nurse in the management of patients with spinal cord injury. People with spinal cord injury have unmet care needs for health information and support to prevent secondary health conditions, these include pain, pressure sores and urinary tract infections, (Pilusa, Myezwa and Potterton, 2022:2). The registered nurses play an important role to prevent these complications. A systematic review done in South Africa, indicated that nurses should use the evidence to facilitate informed decision-making in balancing the benefits of spinal immobilization against harm when considering the needs and values of the patient (Geldenhuys and Downing, 2020:318). The main findings were that spinal immobilization may compromise pulmonary function and airway management, cause pain and pressure ulcers, and be inappropriate with penetrating trauma.

1.2.4 Health and rehabilitation system in South Africa

The SA government has made strides in safeguarding the dignity of people with disabilities, including SCI. In 2002, a policy that protects the rights of people with disabilities was adopted, and specialised

units for people with SCI were provided (Joseph et al., 2017:109). According to (Herzer, Chen, Heinemann and González-Fernández, 2016:1620), immediate rehabilitation following traumatic SCI may improve patients' functional status at discharge. However, the quality of specialised rehabilitation in SA is not equitable as some institutions do not have adequate equipment and lack of skilled healthcare professionals (i.e., automatic wheelchairs) that is in line with the needs of spinal injury patients (Joseph et al., 2017:109). Even though the government has made some improvements in providing specialised care to patients with SCI, access to comprehensive care for people with SCI living in rural areas remains inequitable (Joseph et al., 2017:109). Both primary and secondary prevention presents an opportunity for recovering (Bellon, Kolakowsky-Hayner, Chen, McDowell, Bitterman and Klaas, 2013:25).

1.2.4 The views of nurses in spinal rehabilitation

Spinal cord injury (SCI) does not only significantly affect the patient and his/her family but nurses caring for the patients too. Nurses, through their nature of work, are expected to deliver care for patients with life changing injuries (Bibi, Rasmussen and McLiesh, 2018:31). However, in the spinal unit, registered nurses also affected physically and emotionally due to the burden of care. The care provided is mostly physical such as bathing, pressure care, transferring the patient from bed to wheelchair, passive exercises and changing the nappies if the patient is incontinent or immobile patients. The registered nurse assists patients to adapt to an altered lifestyle, designs and implements treatment strategies based on scientific nursing theory and evidence-based practice related to self-care, and promotes physical, psychosocial, and spiritual health (Emerich et al., 2012:153).

Registered nurses working in the rehabilitation center have a very crucial role throughout the rehabilitative process of the person with spinal cord injury (Tholl, Nitschke, Bellaguarda, Vieira, Silva and Busana). The main activities of the nurse include focusing care on activities of daily living for people with disabilities and seeking to strengthen their powers to recover and regain normal functioning. The nurse should adopt a care model that favors change from state of dependence to state of restore state of independence to the patient. Nurses, through their nature of work, are expected to deliver care for patients with life changing injuries (Bibi et al., 2018:31). In support, a study done in United Kingdom (UK) clearly articulates that nurses work as part of the multiprofessional teams in rehabilitation centers and their role is not clearly defined unlike other professionals (Pellatt, 2003:292). It is clearly articulated that if nurses are not certain what their role is in the rehabilitation of patients with spinal cord injury this will affect the patient care that needs to be provided. Physically, nurses experience backache due to the activities they perform when caring for patients. Nurses' resilience comes from their commitment and understanding that their role is

pivotal to rehabilitation. Thus, the study seeks to explore the views of registered nurses caring for spinal cord injury patients at a private rehabilitation hospital in the Gauteng Province.

1.3 PROBLEM STATEMENT

Spinal Cord Injury (SCI) is one of the most devastating conditions affecting a person's physical, psychological, and social well-being. The role of the registered nurses in the spinal rehabilitation unit has expanded to keep up with the increase of patients with spinal cord injuries. Registered nurse daily activities in caring for patients with spinal injury patient have the potential to affect their emotional and physical wellbeing (Bibi et al., 2018:31). In the chosen spinal hospital nurses portray commitment to care for the Spinal cord injury patients who sustained wounds from traffic accidents, gunshot injuries, falls, sports injuries and more (Nas, Yazmalar, Şah, Aydın, & Öneş, 2015:8). Some Spinal cord injury patients admitted remain dependent on the registered nurses and/ or families for long due to inability to attain an acceptable level of care rendered within the specified timeframe. The registered nurses in the SCI wards are therefore required to become multi-tasked. As the researcher working in the rehabilitation unit also observed that registered nurses raised the concerns about the challenges they faced during the care of spinal cord injury patients, examples, the patients are reluctant to follow the rehab goal leading to affecting their care. In addition, nurses verbalised that they often only bath the patient and perform routine care, the absence of a clear scope of practice for registered nurse working in rehabilitation centre makes them unclear of on their role in the management of patients with Spinal cord injury (SCI).

Registered nurses strive to perform most tasks to fulfil the full needs of all the admitted patients. To maintain the optimal health, professional nurses strive to maintain the patients' positive sense of the self while trying to adapt to the care to gain their self-care management during their hospital stay. Registered nurses find themselves having to carry weights of patients who have challenges to selfcare due to their disabilities caused by Spinal cord injury patients (Eriksson, 2018:41). In addition, the registered nurses oversee the general health requirements of each patient by performing a comprehensive physical assessment and that allow them to draw a comprehensive care plan for each patient.

Registered nurses fail to cope with the stress related to dealing with challenges during management of spinal injury patients due to deficits in performing the activities of daily living. Khan, Padke, Singh & Jain, 2017:1) Furthermore, highlighted that nurses are challenged while caring for patients who are physically and emotionally challenged by SCI. Nurses implement specific spinal cord nursing care plans which includes: risks for ineffective breathing pattern, trauma, autonomic dysreflexia, impaired skin integrity, impaired physical morbidity, disturbed sensory perception, and more (Matt,2019). As a result, nurses play an indispensable role to render holistic care that leave them with a burden of special care while caring for SCI patients. The researcher found it necessary to

conduct a study to explore the views of registered nurses caring for spinal cord injury patients in a private rehabilitation hospital. To identify the role of nursing staff in spinal cord injury patients and the challenges during the care of spinal cord injury patients.

1.4 RESEARCH QUESTION

The following research question guided the research study,

What are the views of nurses caring for spinal cord injury patients at a private rehabilitation hospital in Gauteng?

1.5 AIM

The overall aim of the study was to explore and describe the views of the nurses caring for spinal cord injury patients at a private rehabilitation hospital in Gauteng province.

1.6 RESEARCH OBJECTIVES

The following were the research objectives:

- To explore and describe the views of registered nurses caring for spinal cord injury patients at a private rehabilitation hospital in Gauteng province.

1.7 SIGNIFICANCE OF THE STUDY

Caring for spinal cord injury patients is significant in rehabilitation units, and registered nurses play crucial role in caring for patients. The significance of the study is discussed under the following headings:

1.7.1 Benefits for the spinal cord injury patients

The findings may assist the registered nurse to review the care that is provided to spinal cord injury patient and ensure support patient care to enhance recovery. The views of the registered nurses may be used to improve the service delivery for patients with spinal cord injury patients in rehabilitation units.

1.7.2 Nursing practice

The study seeks to allow registered nurses to reflect on their current practice toward the care provided to spinal cord patient. The findings of the study may assist in developing recommendations

to SANC and the nursing managers to develop clear scope on the role of registered nurse in rehabilitation wards.

1.7.3 Nursing research

The findings of the study may add to the body of nursing education in the Health Care Sciences and help improve patient care in rehabilitation units in SA. The study may contribute to formulating the scope of practice for the South African Nursing Council (SANC) for professional nurses working with spinal cord injury patients in a rehabilitation unit.

1.7.3 Nursing management

The findings may shed light on the nursing managers on nurses' views which may strengthen support for the SCI registered nurses. It may also improve the interest and satisfaction of registered nurses working at rehabilitation centres caring for patients with SCI.

1.8 DEFINITION OF TERMS

1.8.1 Caring

To improve nursing practice, it is important to understand the meanings of caring to nurses. (Tang, Ling, Lai, Chair and So, 2019:2). In this study caring refers to the care provided for spinal cord injury patient focus by the registered nurses working in rehab.

1.8.2 Explore

To explore is to search and discover an idea to have a better understanding (Walter, 2008:493). In this study, the researcher used the research question to elicit the views of the registered nurses to answer the research question.

1.8.3 Private hospital

A private hospital is a health institution managed by an independent entity instead of a government owned institutions (Walter, 2008). In this study, a private hospital refers to any nonstate-owned health institution that provides rehabilitation services to SCI patients.

1.8.4 Rehabilitation

The World Health Organization (WHO) has defined rehabilitation as "a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment(Bickenbach, Sabariego and Stucki, 2021:544). In this study, the term refers to caring for SCI patients to prepare them to cope with their condition after discharge.

1.8.5 Registered Nurse

The title of a registered nurse may only be used by a person who has met the prescribed educational requirements for registration as a registered nurse in the Regulations relating to the Approval of and the Minimum Requirements for the Education and Training of a Learner Leading to Registration in the Categories Professional Nurse and Midwife, published in Government Notice No.R. 174 of 8 March 2013. The purpose of this study registered nurse refers to the health professional that is responsible to provide care to the spinal cord injury patients during their stay in the rehabilitation ward.

1.8.6 Spinal cord injury

Spinal cord injury (SCI) is a devastating and clinically challenging injury leading to varying degrees of neurological function impairment and paralysis (Joseph et al., 2017:109). In this study, spinal cord injury is an injury that has caused the patient to have neurological and physically impaired functioning/limitation. These injuries require nurses to assist patients in regaining full functioning when discharged from the rehabilitation unit.

1.8.7 Views

An opinion or belief about something (Walter, 2008). In this study, views are experiences, thoughts and opinions of nurses caring for SCI patients in a private hospital.

1.9 PHILOSOPHICAL ASSUMPTIONS

1.9.1 Paradigm

A paradigm is defined as a way of observing a natural phenomenon from a worldview that includes a set of philosophical assumptions (Polit & Beck, 2017: 736). This study followed the constructivist paradigm according to Creswell and Creswell (2014:34), constructivists believe that individuals require an understanding of the world in which they live and work. Throughout the seeking process, they develop subjective meanings of their experiences directed toward certain objects, and the researcher believes that registered nurses' views are relative, subjective, and multiple. The assumptions will be discussed under the ontological, epistemological and methodological assumptions.

1.9.2 Ontological assumptions

(Gleave, 2019:169) states that ontological assumptions relate to the nature of reality and its characteristics. In this study, the reality is that registered nurses who care for spinal cord injury experiences varied challenges hence the current study focused on exploring the views of registered nurses in a rehabilitation unit at a private hospital in Gauteng Province. The researcher embraces and believes in the idea of multiple realities as the registered nurses will provide subjective information on how their view their care for spinal cord injury patients.

1.9.3 Epistemological assumption

In the epistemological constructivism assumption, the researcher gets closer to the participants to gather subjective information regarding the topic of interest (Al-Ababneh, 2020:75). In this study, the researcher assumes that the best way to explore the views of registered nurses caring for spinal cord injury patients is through interaction through semi structured interview. The researcher assumes that knowledge is established through the subjective experiences of the people affected; hence it is essential to conduct the study with the registered nurses caring for spinal cord injury patients, to explore their views.

1.9.4 Methodological assumption

The methodological assumption is a process the researcher undertakes to gather the information. According to (Creswell and Poth, 2014:21), the researcher uses inductive logic and studies the topic within the context. The researcher used the a descriptive, exploratory, ad contextual design, qualitative approach and research method to explore the views of the registered nurse caring for spinal cord injury patients. The research design investigates the whole nature of the phenomenon (Polit and Beck, 2017:52). As such, the nurses' own words are more important.

1.10 RESEARCH DESIGN AND METHODS

The term methods involve a detailed presentation of data collection, analysis and interpretation that the researcher adopts to conduct the study (Creswell and Poth, 2014). In addition, Polit & Beck (2017:743) state that research methods mean the techniques used by the researcher to structure a research study, including the gathering, and analysing of information. The descriptive-exploratory and contextual qualitative research design was employed in the study as follows refer to table 1.1 More detailed explanation on the methods is provided in chapter 2.

TABLE 1.1: illustrates summary of research design and methods

Research Design and Methods	Descriptive-exploratory and contextual qualitative research design
Sampling	Nonprobability, purposive sampling technique
Population	Registered Nurses
Data collection method	Semi-structured interviews
Data analysis	8 steps of Tesch data analysis
Measures of trustworthiness	Credibility, confirmability, dependability and transferability

1.11 ETHICAL CONSIDERATION

The researcher followed all the ethical principles, standards and steps required to ensure the participants' safety (Polit and Beck, 2017:255). The researcher submitted the proposal to the university Ethics committee of the Faculty of Health Sciences of the University of Pretoria for approval

before commencing with the data collection ethics no:624/2021. The researcher also obtained permission from the hospital where the study was conducted. Finally, the researcher obtained written informed consent from all the participants before collecting the data. The researcher adhered to the ethical principles of beneficence, respect and justice described below.

1.11.1 Principle of beneficence and non-maleficence

Beneficence speaks to the increase of benefits for research participants and ensures no harm to them (Polit and Beck, 2017:259). It also speaks to the right to freedom from harm and discomfort and protection from exploitation. Harm can be physical, psychological, social, and economic (Polit & Beck, 2017). In this study, it was anticipated that there would be psychologically minimal risk. However, the researcher reckoned that there would be no conflicting developments during the interviews. However, plans were made for assistance when psychological consequences arose during the interviews (Polit and Beck, 2017:259). The researcher adhered to the initial agreements as per the signed consent to avoid the exploitation of participants (Polit and Beck, 2017:259).

1.11.2 Respect for human dignity

The ethical research standards emphasize that humans should be treated as autonomous agents capable of controlling their activities and life (Polit and Beck, 2017:261). To respect autonomy, the participants' choice to participate in the study was entirely theirs, and there were no penalties or prejudicial treatment (Polit and Beck, 2017:261).

1.11.3 Informed consent

According to (Gray, Grove and Sutherland, 2017:296), getting the participants informed consent is a critical safeguard for ethical research. The information in the informed consent forms allows questions to ensure that the participants understand the context before agreeing and declining to participate in the study (Polit and Beck, 2017:268).

1.11.4 Principle of justice

The principle of justice emphasizes fair treatment, the right to privacy and anonymity before, during and after their participation in the study (Polit and Beck, 2017:262). By nature, qualitative research involves intruding into personal lives, and the principle advocates that researchers should take responsibility to ensure less intrusion into the participants' lives (Polit and Beck, 2017:263). The participants' privacy and confidentiality were maintained throughout the study. To ensure the privacy and confidentiality of participants, any data provided was kept in confidence, and the identity of the respondents was anonymous.

1.12 ORGANISATION OF CHAPTERS

CHAPTER ONE: Overview of the study

CHAPTER TWO: Research Design and methods

CHAPTER THREE: Research finding

CHAPTER FOUR: Data analysis, discussion and literature control

CHAPTER FIVE: Recommendation and conclusion

1.13 CONCLUSION

This chapter gave an overview of this study. The following were discussed, background, the aim, research problem, significance of the study and an overview of the research methods which guided the study. Chapter two will deal with the research design and approach adopted by the study.

CHAPTER 2: RESEARCH DESIGN AND METHODS

2.1 INTRODUCTION

In Chapter 1 the overview of the study was discussed in detail which included the introduction, background, problem statement, and research methods and design. In Chapter 2, the researcher describes the research design, which was used to conduct the study on views of registered nurses caring for patients with spinal cord injuries at a private rehabilitation hospital in the Gauteng Province. The research methods refers to the techniques used to structure a study and to gather and analyze the information in a systematic fashion (Polit and Beck, 2022:398). The methodology includes research method, study design, study setting, the population, sampling method, sample size, method of data collection, and data analysis conducted. The issues relating to the trustworthiness of the study and ethical considerations. The researcher used the qualitative, descriptive, exploratory and contextual method and conducted semi-structured interviews as a data collection method. The data analysis and measures of trustworthiness will also be discussed in the chapter. The aim of the study was to “explore and describe the views of the registered nurses caring for spinal cord injury patients in private rehabilitation hospitals” in Gauteng.

2.2 RESEARCH APPROACH

“Research design is the overall strategy that choose to address a research question including strategies” (Polit and Beck, 2022:398). Research design is employed in an organised, subjective way to describe the views of the registered nurse caring for patients with spinal cord injury patients (SCI). The design allows research to sharpen the research method suitable for the subject matter and setup will further that be elaborated below.

2.2.1 Qualitative research design

According to (Flick, 2018:89), the process of designing qualitative research in detail includes formulating a research design, selecting an appropriate strategy, conceptual framework and data source and collecting and analysing data. Qualitative research is exploratory research used to understand the phenomenon's underlying reasons, opinions, and motivations in a social setting. Furthermore qualitative research can be used to understand the way people interpret and make sense of their experiences in their environment (Polit and Beck, 2022:168). In this study qualitative research was conducted to explore the views of the registered nurses who are caring for spinal cord injury patients at a rehabilitation hospital. The participating registered nurses were asked to narrate the care they provide to patients with SCI and share their experiences.

2.2.2 Exploratory research design

Exploratory research is defined as means to investigate the phenomenon in its whole nature and how it manifest (Cedraschi, Nordin, Haldeman, Randhawa, Kopansky-Giles, Johnson, Chou, Hurwitz and Côté, 2018:819; James, Lucchesi, Bisignano, Castle, Dingels, Fox, Hamilton, Liu, McCracken and Nixon, 2020). Exploratory research is a methodology approach that explores research questions that have not previously been studied in depth(Kraus, Kanbach, Krysta, Steinhoff and Tomini, 2022:52).The researcher chooses the design to gain insight into the matter under discussion It attempts to answer the “*what*” part of the question asked and an in-depth information on the care of nurses of SCI patients during the rehabilitation (De Vos, 2002:109). The design provided in-depth information on the care as it is rendered for the spinal cord injury patient. This was done to identify the views of registered nurses regarding caring for spinal cord injury patients and to make recommendations in line with the experiences and the challenges encountered during the care of the patients. This exploratory research design was the most suitable method as the researcher explored more views verbalised by participants using open ended questions.

2.2.3 Descriptive research design

Descriptive research refers to research that has as a primary objective the accurate portrayal of peoples characteristics or circumstances and /or the frequency with which certain phenomena occur (Polit and Beck, 2022:382). (Doyle, McCabe, Keogh, Brady and McCann, 2020:289) define descriptive as a term that intensely examines what is being studied and its deeper meaning. It captures the specific issues within the asked phenomenon by focusing on the “*how*” and “*why*”. This study described the views of the registered nurses work in a private rehabilitation Gauteng. In this study, the registered nurses described the care they provide to spinal cord injury patients. In the description they included the role they play to rehabilitate the patients and ensure that their needs are taken care which included of initiating the clients on the bowel programme for example for those patients with complete and incomplete spinal injury. In this study, the descriptive design allowed the researchers to probe more and describe the phenomena as experienced by participants who are caring for spinal cord injury patients.

2.2.4 Contextual research design

Contextual research design seeks to gain deep understanding inherent in the perceptions of the registered nurses (Ndawo, 2021:2). The contextual design is suitable for this study to understand the views of the registered nurses who are carrying out the spinal cord injury patients at the rehab units. The study was conducted in the rehabilitation units where registered nurses work with the spinal cord injury patients and as such, they have inherent experience of care for this kind of patients. The chosen hospital offers spinal cord injury patients (SCI) care, where patients with spinal injuries are admitted for rehabilitation.

2.3.1 Context

According to (Hobyane, 2022:21) the context in qualitative study is critical as it gives participants the authenticity of their description. This study was conducted at the rehabilitation unit of a private hospital in Gauteng Province. The facility has licensed for the following: 42 beds for acute adult neuro-physical rehabilitation, 10 beds unit bed for paediatric neuro-physical rehabilitation, 20 beds sub-acute unit for clients needing convalescent care, and a 20 bedded unit for mental healthcare patients. The hospital operated on a 24 hours service. The selected hospital is hospital offers SCI care, where patients with spinal injuries are admitted for rehabilitation. The hospital has been in operation for more than 10 years and registered nurses make the backbone of the staff in the nursing management of the spinal injury patients. The interviews were conducted only with registered nurses working in the two units namely: rehabilitation and sub-acute units respectively. Patients' statistics admitted with SCI on monthly basis was 42. Before the lockdown, services offered included physiotherapy, speech therapy, occupational therapy, social worker services and the general nursing care. The registered nurses were accessible because they work in this rehab. The staff allocation working in these two units comprises of 2 Unit Managers, 16 registered nurses, 10 enrolled nurses, 9 assistant nurses and 30 community health care workers (acting as supportive staff to assist with basic needs of feeding the patient and pressure part care).

2.3.2 Population

Polit ad Beck (2022:401) define population as the entire aggregation of cases in which a researcher is interested in. Population refers to the entire group of persons or objects that is of interest to the researcher (Baloyi, 2019:46). Furthermore, population is explained as a group of individuals having similar attributes Target population is the participants that meet the sampling criteria in the study. In this study, the population comprises of all registered nurses working in a rehabilitation unit in a private hospital based in the Gauteng Province who met the inclusion criteria. Currently there are 16 registered nurses who all met the inclusion criteria, however 12 registered nurses agreed to participate in the study. The researcher also worked in the same hospital which was easy to access the population.

2.3.3 Sample and Sampling

A sample is a subset of a population chosen for a study, while sampling is a process of selecting a portion of the population to represent the entire population (Polit & Beck, 2022:399). Sampling is the process of used by the research to select populations. Effective sampling requires preliminary knowledge about the target population (Raifman, DeVost, Digitale, Chen and Morris, 2022:40). In this study the sampling was based on the researcher's judgement as he selected participants who represented a variety of views and experiences related to views of the registered nurse caring for the spinal cord injury patients.

2.3.3.1 Sampling Method

The study utilised purposive sampling technique to sample the population of interest. Purposive sampling is nonprobability sampling in which the researcher identified participants that are believed to have the best knowledge and experience of the phenomenon under the study (Barratt, Ferris and Lenton, 2015:6). Hence registered nurses caring for spinal cord injury patients (SCI) at the selected hospital were purposively selected as are knowledge expert regarding the area of interest. All the registered nurses who worked in rehab unit at least six months or more were selected, to gain more information due to their experience.

2.3.3.2 Sample size

In a qualitative study, the sample size is determined by the saturation principle (Polit and Beck, 2017:308). Saturation is considered to have been reached when there is no longer new information coming from participants (Moser and Korstjens, 2018:11). In this study the sample size was 12 registered nurses and data saturation was reached after twelve (12) participants were interviewed.

2.3.3.2.1 Inclusion criteria

The term means the criteria of the population under study (Polit & Beck, 2017:250). The inclusion criteria of the study encompassed of the following:

- All registered nurses (male and female) who are currently working in the rehabilitation unit for at least six months or more.
- All registered nurses who are dealing directly with patients with SCI.
- The nurses should also be registered with the South African Nursing Council (SANC)
- All those participants who agreed to participate in the study.

2.3.3.2.2 Exclusion criteria

- Any other registered nurse not working in the rehabilitation unit.
- Those who are not caring for spinal cord injury patients.
- Those who refuse to participate in the study.

2.4 DATA COLLECTION

According to Polit & Beck (2017:725), data collection involves gathering information that addresses the research question. Different data collection strategies were involved in data collection, such as interviewing, observing, reflecting, and taking field notes. Interviews were conducted at a selected private hospital in the Gauteng Province. Prior to the major study, the researcher conducted a pilot

study, which was a small-scale study to test the feasibility of the question and study methods (Polit & Beck 2017:739).

2.4.1 Recruitment of the participants

The researcher invited the illegible participants to an information session held in the unit on the 12 of March 2022 to outline the purpose of the study as alluded in annexures A. During the recruitment the researcher informed the participants what is expected from them during the interview. The researcher also secured an appointment date based on their availability for the actual data collection. Prior to data collection, the researcher obtained consent from the private hospital ethics committee (Annexure D) and the University Research committee (Annexure E). The researcher issued the participant that were interested to participate with an information leaflet (Annexure A). The researcher reminded the participants about the interview dates 2 days prior to schedule appointment. Despite working in the same hospital, the researcher had to adhere to all the requirements for conducting research as follows:

2.4.2 Preparation phase

Pre-test semi-structured interview

Before the actual research commences a preliminary interview were conducted. The purpose was to test the research question if it was clear or not. The researcher conducted a pre-test semi-structured interview with one of the registered nurses who agreed to participate in the study. The pre-test semi-structured interview was done in a conducive environment where in to conduct the interviews.

The following questions was posed and was followed by probing question.

- *What are your views as a registered nurse caring for spinal cord injury patients in a rehabilitation hospital in Gauteng?*

Describe the nursing care of spinal cord injury?

What is your experience caring for spinal cord injury patients?

What are the needs of this client who has a spinal cord injury?

The researcher will ask probing questions based on the participants' responses in order to acquire more information on the selected topic.

How long have you been working as a nurse dealing with spinal cord injury patients?

What are some of the challenges you have encountered when nursing the spinal cord injury?

The findings of the pilot interview were not used in the main study.

2.4.3 Individual interviews phase

Data was collected after ethical approval was sought from the Faculty of Health Sciences at the University of Pretoria, ref no 624/2021: (Annexure E). The researcher collected data from the registered nurses at their workplace after permission was granted by the leadership this was despite the researcher being an employee of the same organisation. An individual interview is defined as method of gathering information in which the researcher asks the question to the participants face to face (Polit & Beck, 2017:269).

- **Data collection instrument (semi-structure interview guide)**

The data collection instrument used in the data collection is semi-structured interview guide. Semi-structured interviews are interactive in nature and most suitable for researchers with no clear idea of what they do not know, hence allow participants to tell their stories (Polit and Beck, 2017:897). The interview guide included of specified number of questions, but the researcher could pose additional open-ended questions. Included below is a table that highlights the advantages and disadvantages of semi-structured interviews as cited by (Brink, van der Walt& van Rensburg, 2018: 139).

Table 2.1 Advantages and disadvantages of semi-structured interviews

Advantages	Disadvantages
1. The semi-structured interviews allow for in-depth responses to be obtained.	1. Interviews can be time-consuming and expensive to conduct and arranging the interviews may be difficult. They require the interviewer to be skilled and understand research.
2. Questions may also be clarified if they are misunderstood and may probe further.	2. Participants may feel coerced, or the answering may be influenced by the researcher characteristics.
3. The researcher is able to observe the behaviour and mannerisms during the interviews.	

(a) The beginning of every interview session.

The researcher chose a conducive environment where in to conduct the interviews. This type of environment was chosen area with no noise and interferences. A clear notice was placed on the door to indicate that there should be “no noise” and that “interviews are in progress”. The room

temperature was cool with comfortable furniture. The researcher placed a jug of water and a glass on the table for the participants' usage in case of any arising need.

The researcher was ensuring the safety of the team during COVID-19 as a priority. Since research specialists, McGrath, Palmgren & Liljedahl (2019:4) advise that researchers should be prepared to handle unanticipated emotions, an arrangement with a local psychologist was made for timeous attention of any participant who might show signs of psychological disturbances during the interview process. The researcher was fully aware of the current COVID-19 crisis. As a result, the researcher adhered to the regulations provided for prevention of transmission during the viral infection during the pandemic. This includes the wearing of facemasks, sanitisation, and social distancing. An interview room was be prepared in such a way that allow the social distance of more than one meter between the researcher and each participant was maintained throughout the interviews.

(b) The middle of the session.

At the beginning of every interview, the researcher greets every participant with a smile and then requested to sit down and to relax. Eye contact maintained throughout the interviews to timely pick-up any negative signs or facial expressions and addressed jot them immediately.

The researcher conducted semi structured, face to face interviews was conducted to collect data (Polit and Beck, 2017:897) from the registered nurses working at rehabilitation units. semi-structured interviews are the best fit for the chosen design. The following central question was asked: *What are your views as a registered nurse caring for spinal cord injury patients in a rehabilitation hospital in Gauteng?* An interview guide (Annexure B) was drafted and was contain one open-ended question which was allow each participant to expatiate further using own words which are not structured in a pre-established, limiting manner (Polit & Beck, 2017:269). During the interviews, the following communication skills for example, active listening, probing, clarification, prompting, paraphrasing, validation, focusing, active listening, reflection etc., was be applied throughout the data collection. The researcher was reassuring each participant about the role of confidentiality of all matters regarding the interviews. The researcher was using an audio-recorder to capture the participants' verbatim. The researcher was asked permission to use it from each participant. The participants' responses were direct different communication skills to elicit more information. A voice recorder was used to record the interviews with the permission of each participant. The interview was last for about 45 maximums as more minutes might lead to possible participant exhaustion.

2.4.4 Post interview phase

(c) The end of each interview session.

The researcher thanks each participant for the opportunity to participate. The voice recorders and field notes kept safe in the locked drawer of the researcher's cabinet for 15 years and copies thereof will be issued to the Nursing Department, University of Pretoria.

2.4.5 Communication skills

- **Probing**

Probing is explained by Polit and Beck (2021:395) as asking thought inciting questions in a gentle way. In this study it was achieved by asking the participants to add more information on what was meant by a statement mentioned in the report. The researcher keeps on repeated the participants comments to gain clarity.

- **Paraphrasing**

Paraphrasing refers to confirming from the participants what they had mentioned. In this study the researcher repeated the participants words to gain an understanding. The researcher corroborates and verify what the participants said throughout the interview. Paraphrasing is to help readers understand paraphrases in texts ((Ilter, 2017:2)

- **Listening**

The last communication skill used during the interview process was listening which refers to speaking less and listening more to what the client is saying (Burns & Grove, 2011: 272). The researcher listened to the views of the nurses regarding their care of spinal cord injury patients and was nodding and keeping eye-contact to ensure that they're actively listening to the registered nurses.

2.5 DATA ANALYSIS

Data analysis is a systematic organization of data in a qualitative study (Polit and Beck, 2022:381). The process that breaks data and brings meaningful insights and purpose. During data analysis, the researcher listened to the audio recorder, read the field notes, and transcribed the data verbatim. Tesch's method for qualitative data analysis was used to analyse the data. The following 8 steps of Tesch were followed during the analysis process.

- The researcher transcribed audio-recorded, word for word after every semi structured face to face interview.

- After all the 12 transcripts were written, the researcher selected one interview and read it to try to get meaning in the information, writing down thoughts coming to mind.
- Notes were written to the data to explain what it meant. The researcher organized the data into categories and sub-categories and grouped into themes.
- The transcripts were shown to the participants to verify whether they agreed that it a true reflection of what was discussed during the semi structured interview.
- The verbatim transcripts were sent to an independent co-coder who conducted independent data analysis, the after the researcher discussed with the supervisors to compare the results.
- They reached consensus on the themes, categories and sub-categories identified.
- The data material belonging to each category was put together in one place as illustrated in chapter 3, table 3.2.
- A final decision was made after repeated refining and naming of the main themes, categories, and sub-categories. Recording of the data was done as presented in chapter 3 of the study.

2.6 TRUSTWORTHINESS

Trustworthiness of a study refers to the degree of confidence in data, interpretation and methods used to ensure the quality of a study (Grove and Gray, 2018:362). The trustworthiness of the study is ensured by credibility, conformability, transferability, and dependability.

2.6.1 Credibility

The credibility of the study, or the confidence in the truth of the research and, therefore, the findings, is the most crucial criterion (Polit and Beck, 2017:986). It is emphasised that a qualitative researcher should strive to establish confidence in the truth of findings. To ensure credibility, the researcher prolonged his stay in the wards where registered nurses are doing their duties to develop the feel and build trust and rapport with the registered nurses. The researcher also performed a member check in which he shared the findings with participants for feedback to strengthen the data (Korstjens and Moser, 2018:121). An ongoing member checking was carried out as data was collected through deliberate probing to ensure that the registered nurses' meanings were fully understood (Polit and Beck, 2017:990).

2.6.2 Dependability

Dependability guarantees the consistency of the findings in the case where the inquiry is repeated in a similar context (Korstjens and Moser, 2018:121). Dependability is the documentation of steps taken and decisions made during the analysis as indicated in chapter 2 of the study (Grove and Gray, 2018:362). A reflective journal was kept to illustrate decisions made throughout the study (Polit and Beck, 2017:1002).

2.6.3 Conformability

Conformability is the neutrality of the findings (Grove and Gray, 2018:362) that are free from bias (Korstjens and Moser, 2018:122) and that the data collected represents the information from participants (Polit and Beck, 2017:989). In this study, the researcher ensured conformability by developing and maintaining an audit trail of all the verbatim transcripts, a systematic collection of documentation that allows an independent auditor to conclude the quality of the data (Polit and Beck, 2017:989).

2.6.4 Transferability

Transferability or applicability in other settings with similar participants (Grove and Gray, 2018:362). The degree to which the results of qualitative research can be transferred to other contexts or settings with different respondents (Polit and Beck, 2017:983). The researcher facilitates the transferability judgment by a potential user through thick descriptions (Korstjens and Moser, 2018:121). A thick description refers to a thorough description of the context of the study, including participants and the processes undertaken. In this study, the researcher described the methods in detail to enable transferability refer to chapter 2

2.7 CONCLUSION

Chapter 2 focused on the research design and methodology by describing the sampling method, population, research approach, inclusion criteria and ethical issues related to the study. Sampling included the data collection method and ethical considerations related to the data analysis. Chapter 3 provides an overview of the study findings and discussions related to literature of the data collected.

CHAPTER 3: RESEARCH FINDINGS

3.1 INTRODUCTION

Chapter 2 describes the research design and methodology used. Chapter 3 focuses on the research findings obtained from the interviews to get the meaning of participants' views of caring for spinal cord injury patients at a private rehabilitation hospital in the Gauteng Province. The data was derived from participants' views and experiences. This chapter is arranged by themes, categories and sub-categories which emerged from data analysis.

3.2 DEMOGRAPHIC DESCRIPTION OF THE PARTICIPANTS

Registered nurses provided input on caring for spinal cord injury patients in rehabilitation. Data was gathered using semi structured interviews. The total number of nurses interviewed was twelve (12) participants, guided by data saturation. Each registered nurse worked in the Rehabilitation hospital for six (6) months or more. The participants were seven (7) female and five (5) male registered nurses whose ages ranged from 32 – 64 years. Their educational qualification included certificates and diplomas. Table 3.1 below displays the demographic profile of the participants.

Table 3.1: Demographic profile of participants

Participant no	Age	gender	Role	Years of experience	Highest qualification
Participant no1	29 years	Male	Registered nurse	6 years	Diploma
Participant no2	44 years	Female	Registered nurse	5 years	Diploma
Participant no3	32 years	Male	Registered nurse	2 years	Diploma
Participant no4	46 years	Female	Registered nurse	6 years	Diploma
Participant no5	47 years	Male	Registered nurse	5 years	Diploma
Participant no6	41 years	Male	Registered nurse	6 years	Diploma
Participant no7	49 years	Female	Registered nurse	2 years	Diploma
Participant no8	46 years	Female	Registered nurse	4 years	Diploma
Participant no9	36 years	Female	Registered nurse	4 years	Diploma
Participant no10	33 years	Male	Registered nurse	7 months	Diploma
Participant no11	35 years	Female	Registered nurse	2 years	Diploma
Participant no12	64 years	Female	Registered nurse	20 years	Diploma

3.3 PROCESS OF DATA ANALYSIS

The study yielded five (5) major themes supported by relevant participant quotes. A summary of the themes, categories and sub-categories is presented in table 3.2 below.

3.4 PRESENTATION OF THE THEMES AND SUBTHEMES

The findings of the study yielded five (5) major themes with supporting categories and subcategories. Findings are based on open-ended questions posed to the registered nurse during the semi-structured interviews. *“What are your views as a registered nurse caring for spinal cord injury patients in a rehabilitation hospital in Gauteng?”* *“Describe the Nursing care of spinal cord injury patient?”* *“What are the needs of spinal cord injury patients?”*. *“How long have you been working as a nurse dealing with spinal cord injury patients.”* *“What are some of the challenges you have encountered in this field?”* *“What do you think can be done to improve the service that’s being given to spinal cord injury patients.”* The researcher asked probing questions based on the participant’s responses to acquire more information. Table 3.2 below indicates the themes that emanated from the findings.

Table 3.2 Themes, categories, and sub-categories

Themes	Categories	Subcategories
1.Nurses view on the care for Spinal cord injury patient	1.1 Provision of care to meet basic needs	1.1.1 Care of nutritional and hygiene needs
		1.1.2 Care of safety needs
		1.1.3 Care of elimination needs
	1.2 Maintain physiological functions	1.2.1 Care to ensure skin integrity
		1.2.2 Care to ensure homeostasis
	1.3 Provision of psychological care	1.3.1 Care of educational needs
		1.3.2 Care of emotional needs
	1.4 Provision of social care	1.4.1 Care of family and caregiver needs
	1.5 Provision of patient-centred care	1.5.1 Care in accordance with level of dependence
		1.5.2 Care in accordance with identified needs

		1.5.3 Care in accordance with rehabilitation needs
	1.6 Interprofessional care	1.6.1 Collaboration with the interprofessional team
		1.6.2 Collaboration with the social worker and psychologist
2. Nurses' challenges when caring for spinal cord injury patients	2.1 Patient related challenges	2.1.1 Multiple and complicated care needs
		2.1.2 Psychological challenges
		2.1.3 Non-compliance
	2.2 Resource related challenges	2.2.1 Inadequate equipment and human resources
3. Challenges faced by spinal cord injury patients	3.1 Physical challenges	3.1.1 Elimination and sexual challenges
		3.1.2 Complications of the spinal cord injury
	3.2 Psychological challenges	
	3.3 Social challenges	3.3.1 Caregiver and family related challenges
		3.3.2 Financial and community challenges
4. Nurses' competencies to care for spinal cord injury patients	4.1 Psychomotor competencies	
	4.2 Psychological competencies	
5. Nurses' recommendations when caring for spinal cord injury patients	5.1 Recommendations for health care system	
	5.2 Recommendation for the patients	5.2.1 Family and caregiver support
		5.2.2 Social support

		5.2.3 Occupational and recreational support
--	--	---

3.4 THEME 1. NURSES VIEW ON THE CARE FOR SPINAL CORD INJURY PATIENT

The first theme that was emerged from the study: nurses view on the care for spinal cord injury patient: The findings of the study clearly indicate that despite not having clear roles and scope of practice for registered nurse towards the care of patient in rehabilitation, the nurses viewed their care provided to SCI patients as being multifaceted. These findings are similar to a study done in by Bibi, et al (2018) which confirms that the care of a nurse does not only include activities of daily living for people with disabilities, however the care should be holistic and assist in regaining function for the physical, emotional, social and psychological aspects of the patient with SCI. This finding is further supported by the following six categories were developed from the theme which are: provision of care to meet basic needs, maintain physiological functions, provision of psychological care, provision of social care, provision of patient centred care, Interprofessional care. The category and sub-categories identified.

3.4.1 Categories 1.1: Provision of care to meet basic needs.

Provision of care to meet basic needs was identified as one of care that is provided by registered nurses. Patients will spinal cord injury (SCI) are mostly dependent on the nurse for the care of their basic needs which include personal hygiene, skin care, elimination needs (Wang, Hong and Tan, 2022:2-3). The study revealed five sub-categories of provision of care: care of nutritional and hygiene needs, care of safety needs, care of elimination needs in collaboration with patient, care of elimination needs (establish program before discharge).

- **Subcategories:1.1.1 Care of nutritional and hygiene needs**

In this study participants expressed the role of the registered nurse, is to ensure that spinal cord injury patients they meet nutritional needs and hygiene needs. This was mentioned by the following participants.

P2“we start with nutrition; others can eat by themselves while others need assistance. It depends on the level of injury. Others need minimal assistance with feeding them.

This was mentioned by the following statements.

P9“We feed the patient when needed. Some they can feed themselves.”

P5 Argued that “the basic principles of meeting the spinal cord injury patients’ nutritional needs, was to assist with push oral fluids”.

The participants expressed that patients' needs assisted with the hygienic needs. This was verbalised by the following statements.

P7 *“Spinal cord injury patient they need to clean after bowel action to maintains hygiene needs”.*

In this study participants expressed that spinal cord injured patients they need to be assisted with nutritional and Hygiene needs, this also expected from the Registered nurse to assist the spinal cord injury patients in Rehabilitation units to meet their basic needs.

- **Subcategories:1.1.2 Care of safety needs**

The second most crucial aspect is to provide safety as part of the care rendered by the nurse. In this study participants stated that care of safety needs is necessity to be guarded by the Registered nurse while in rehabilitation units. This was echoed by the following quotations.

P1 *“Patients are at high risk for falling. We always need to ensure that their beds are kept low. They need to be nursed between two cot side beds to prevent falling. They should always be up. There's a type of bell that we use for Quadriplegia, some their paraplegia. The bell is helpful for patients who cannot use their hands.”*

And

P10 *“We cohort the high-risk patient for falling, and we allocate a special care worker to care for them all the time. We ensure that all-day bed breaks they're on and courtside up when the patient is lying on the bed to prevent falling. We also orientate the patient to minimise the risk of falling”.*

This was also supported by.

P12 *Argued that “patients with spinal cord injured they need to practise to use the equipment while them still in the hospital for safety purpose for example wheelchair to prevent slips and falls.”*

Participants indicated that before they commence any “training, they check the level of injury to prevent complications. Also, before discharge, they order the same equipment for the patient to use at home. Patients at high risk of falling cohort together and are allocated special nurses to prevent slips and falls. Spinal cord injury needs to be nursed between two cot sides up to prevent falling.

- **Subcategories:1.1.3 Care of elimination needs**

The findings in this subcategory show that care of elimination needs is a problem in the setting where the study was conducted. This was expressed as follows.

P11 *“The most challenging is the bladder and bowel programme. Most patients take time to comply with the programme, and we keep training them until they understand”.*

Spinal cord injury patients need to get adequate intake of fluids to facilitate self-catheterisation, and the following was said:

P5 *“The other thing is the amount of fluid intake also determines how long the patient needs to do self-catheterisation.”*

P6 *“Doctors also discuss with the patient their normal bowel pattern before commencing the Dulcolax. Because some patients go to the toilet in the morning, some go to the toilet evening. Bowel programme commenced on an alternative day, and it helps them to know that their bowel works on alternative days”.*

P2 *“Give the patient psychological support and praise them. Keep on asking them to try so they can continue. Self-catheterisation is a challenge. After all, you must start on hand hygiene because sometimes, if you don't follow the protocol, you can cause cross infection, so we are supposed to wash hands before and after the procedure”.*

Spinal cord injury patients need consistent training until they comply with the programme. Participants indicated that doctors educate the patient about the bladder and bowel management programme before commencement. Spinal cord injury patients also need psychological support when commencing bladder and bowel programmes to encourage compliance. Indeed, if spinal cord injured patients not assisted with elimination needs it can lead to complications like constipation or faecal impaction.

P3 *“Patient commences on the bowel program at a particular time, particular date to prevent accidents, to ensure that there is a consistency the patient notes that the system. ...with the patient knowing that this time and around, I need to be passing the stool. This basically helps when they must go for a vacation or when their family members are not around so that there are no accidents. The body basically adapts to the routine, and the chance of having accidents becomes minimal”.*

Another participant stated that some patients are partially incontinent and said:

P2 *“...we also do bladder and bowel programmes. It depends on the patient's level of injury. Others are totally incontinent while others are partially incontinence”.*

Spinal cord injured patient they need to be prepared psychological and emotional before commencing bladder and bowel programme, all the patients' needs to be assessed how the use to go to the toilet before the injury.

P8 *“...when we admit them in the rehabilitation unit, there are standard procedures. The patient must be checked for rectal sphincter by the doctor to see if the patient can feel. If there is no sensation doctor orders a fleet enema to evacuate the colon, the patient is asked how often he passes the stool so that the doctor can commence the patient on a bowel programme. The doctor then orders*

a Dulcolax suppository the patient is taken with the commode by the care worker to the toilet. Dulcolax is normally given at 18h00 on alternate days to promote continence. Spinal cord injury patients are different. Paraplegics are taken with the commode. We wait there until the patient passes the stool to prevent the risk of falling, and we must monitor in between if the patient has incidents. If the patient has some incidents, the doctor changes to Lacson syrup. The most important thing for the bowel programme is to prevent the patient from messing up themselves, to protect the patient's dignity and prevent embarrassment".

And

P6 "Paraplegic patients can bathe themselves and turn themselves, but there is no sensation on the lower part of the body. Bladder and bowel programme is important to them because on discharge they are returning to the community, some of them are returning to work and need to control their bladder and bowel to prevent embarrassment".

According to participants, bladder and bowel programmes need to be commenced early before discharge because patients return to the communities and must be independent after the discharge.

3.4.2 Categories 1.2: Maintain physiological functions.

Registered nurses do not only provide care for basic needs however, also need to restore the physiological function of the patient. Spinal cord injury patients need to be maintained physiological functions by a trained nurse to prevent complications, and this was supported by the following sub-categories.

- **Subcategories:1.2.1 Care to ensure skin integrity**

In this study subcategory that emerged from the study is "care to ensure skin integrity." Spinal cord injury patients need pressure relief when they are in a wheelchair. Even those not in wheelchairs need two hourly pressure care to prevent pressure sores. Air mattresses are also used to avoid pressure sore, and this was said:

P4 "...pressure sore develops from sitting or lying in one position for too long, so we need to rub the patient to prevent pressure sores and turn the patient".

P2 "If the patient is a spinal patient and is sitting on the wheelchair, we teach them that every hour, they must balance on the wheelchair with their hand to relieve the pressure, to prevent pressure sore."

The care of pressure area and cleaning the urine and stool is an essential aspect for spinal cord injury patients, and the following was said:

P5 *“Turning the patient making sure that the patient is comfortable and doesn't develop a pressure sore and making sure that the patient is kept clean like making sure that that patient every two hours turning done to relieve pressure and to check nappy if the patient is not wet because like faecal matter and urine can cause the skin to break” ...*

P6 *“...yes in my institution, as a registered nurse, it is within my protocol to do wound care, so we do an assessment his/her admission, but it does not stop there. We continue to do daily assessments of our patients, checking on the skin integrity to see if they are wounds that need to be dressed. Indeed, doctors also take time to ask about the wound, and the hospital has designated sisters to do wound care”.*

P12 *“First of all, quadriplegic patients need hourly training to prevent pressure sores. You need to apply the creams, two-hourly pressures leave on the bone prominence parts, explain to the patient the risk of pressure sores and infection control”.*

Registered nurses also do wound care management. Spinal cord injury patients need two-hourly pressure care to prevent pressure sore. They are also encouraged to control their weight to reduce the risk of pressure sores. Participants also indicated that dry skin could quickly form cracks and lead to pressure sores. Air mattresses are also used to prevent pressure sores.

- **Subcategories:1.2.2 Care to ensure homeostasis**

There were numerous reports in the findings that care to ensure homeostasis. Spinal cord injury patient needs to be elevated lower limb to promote blood circulation and to prevent deep vein thrombosis, and the following was said:

P6 *“...but when you're dealing with spinal cord injury patients, you do not want to worsen the injury that they have sustained, they are also taught log rolling, and they teach us about common dislocations that can happen or worsen fracture that has happened. ...usually, when a patient sustains spinal injury through an accident, there might be other injuries it may be the hands, legs and sometimes even the head, so we need to be very careful when turning these patients, as such we do get sessions when we have training on how to care for these patients”.*

P8 *“...due to the spasm patients receive Baclofen medication... The patients with a muscle problem or spasticity do the Botox procedure based on the doctor assessment”.*

There are complications associated with spinal cord injury where patients get swelling feet because of poor circulation of blood due to compromised muscle function, and this was said:

P12“...we need to elevate the lower limb to promote circulation. The doctor orders elastic stockings to improve the return of blood to the heart, pulling the leg so that it becomes solid and warm to the touch. The leg should be checked urgently for a possible deep vein thrombosis”.

Registered nurses indicated that some patients need a Botox procedure after spinal cord injury depending on the injury level. This procedure also helps the patient to recover. Participants also commented on the complications associated with spinal cord injury, including the swelling of feet due to poor circulation and compromised muscle function. As such, patients need daily passive excises prevent complications.

P12 “... we need to elevate the lower limb to promote blood circulation. The doctor orders elastic stockings to improve the return of blood to the heart. We pull the leg to make it solid. The leg should be checked regularly for a possible deep vein thrombosis”.

Based on the participants' responses, spinal cord injury patients need constant supervision to prevent complications by performing daily frequent turning to prevent the pressure sores development.

3.4.3 Categories 1.3: Provision of psychological care

The third identified category for care provided by registered nurse to SCI patient includes the care of the psychological component. As indicated the care provided to the patient with SCI needs to be holistic thus the restoration of the psychological wellbeing is also important in the care of the patient. Based on the statements by the participants, provision of psychological care in a form of reassurance. Spinal cord injury patients need psychological support to motivate them under the following subcategories care of educational needs and care of emotional needs.

- **Subcategories:1.3.1 Care of educational needs**

In this study participants verbalized care of educational needs. Spinal cord injury patients need to be educated about bladder and bowel management before being discharged to avoid bowel incidents after the discharge, and this was said:

P1 “Bowel program is a priority to them for their discharge and ...education, there's nothing else like educating them. They need reassurance once you establish the problem and the reasons why the patients stop cooperating. You can establish the goals going forward is much easier, so the emphasis should be on education”.

And

P3 “Group teaching can help a lot. ...giving patients pamphlets to read about the management of spinal injury patients. We need to teach the patient about the spine first and the function of the spine.

It will help the patient to understand their condition better. They must know about the auto and motor nerve.”

Supported by

P10 *“Spinal cord injury patients need to be educated about their condition to prevent complications or cause more injury”.*

Spinal cord injury patients need group teaching sometimes to motivate them. They also maintain that they need general education about their condition and the management thereof. Registered nurses also indicated that they give counselling and psychological support to patients.

- **Subcategories:1.3.2 Care of emotional needs**

Spinal cord injury patients need emotional support when they are to undergo any procedure or engage in any activity, and this was said:

P11 *“Every time when you're doing something to them, you need to explain the procedure to reduce the anxiety. They need to know why you are doing this, and why it is important so that we can get the cooperation well otherwise, they are not going to cooperate”.*

And

P12 *“...make sure that what level of education patient has so s/he understand what is needed so once you look at the demographic of your patients you have to approach them, ...explain to them and give them an understanding of how things work and with the understanding, they accept the situation”.*

During the care of spinal cord injury patients, a multidisciplinary team needs to be involved in giving all the support, and the following was said:

P9 *“...the multidisciplinary team needs to improve the communication and should be transparent and understand what the patient is facing so that everyone can support the patient to improve their condition and situation”.*

Other participants stated that spinal cord injury patients need holistically nursing care, and this was said:

P3 *“The thing with them, need to nurse them holistically, the type of patient needs more psychological nursing, they need to be prepared before you care for the spine”.*

Supported by

P6 *“...so being in a position to convince a patient to give them the confidence that all is not lost they can still live a normal life, this is one of the biggest challenges that we have, but in most of the cases I want to add that we win in this situation”.*

P11 *“And we group them together to motivate each other. So that they can share ideas and encourage each other with the rehab goals, we also involve discharged patients to come and motivate the inpatient so that they can understand what they're going to face on this charge when they go back to the community.”*

Therefore, before you educate patients about their injury and the management thereof, you must provide emotional support. They also have to check the patients' demographics, as this will assist in understanding their background.

3.4.4 Categories 1.4: Provision of Social care

The fourth category to care provided by registered nurse, includes rehabilitation of the patient back to the society. The registered nurses involve the other multidisciplinary member that includes social worker to assist with the social and community component. After admission, the social worker starts to plan the family meeting to give feedback about the patient's condition and address social issues, and this was said:

- **Subcategories 1.4.1: Care of family and caregiver needs**

Spinal cord injury patients need family support, and this was said:

P12 *“Spinal cord injured patients need support from the family to minimise and to reduce the level of stress. Together with the family, the patient can receive a proper rehabilitation”.*

Before the discharge, family need to have a caregiver to look after the patient or a care home, and the following was said:

P5 *“... we establish the discharge plan who will be staying with the patient and how the family will support the patient. The family will receive bladder and bowel management training before the patient is discharged”.*

P2 *“We train the family during visiting periods to make them aware of bladder and bowel programmes. We also give them health education. If the patient has a supra pubic catheter, we explain that this pipe is permanent, and they're not allowed to remove it. We encourage the family to lower the catheter bag to prevent infection due to backflow. They must empty it and clean the side if it is blocked. They must send the patient to the nearest clinic.”*

Before the discharge, the social worker needs to arrange the caregiver and the caregiver training to promote continuity of care.

3.4.5 Categories 1.5: Provision of patient-centred care

The care provided to SCI patient should also be specific to the patient and client-centred to the patient as an individual. Spinal cord injury patient care depends on the level of injury, and this was supported by the following subcategories care in accordance to level of dependence, care in accordance to identified need and care according to rehabilitation needs as explored below.

- **Subcategories: 1.5.1 Care in accordance with the level of dependence**

Spinal cord injury patient's quadriplegic and paraplegic care depend on the level of injury, and the following was said:

P1 *"Spinal cord injuries in the vertebrae may be complete or incomplete. Nursing care depends on the level of injury. Apart from the level of injury, there is also severity, ...of course, it can be partial or complete or be on the one side or be on the inner side. It just depends on the level."*

P6 *"...spinal injury patients have certain degrees of injury which affect them, if you're affected on the cervical spine, we tend to have a patient who has quadriplegia and they cannot do anything by themselves they cannot move the upper limbs, they cannot bath themselves they cannot turn themselves. They cannot move their legs".*

P3 *"Paraplegia results in a back injury, the patient lacks sensation and movement usually in the lower body and lower limbs. Quadriplegia loss of sensation and movement on the upper limbs and lower limbs".*

P4 *"We check the safety-first, level of injury, what patient can do, what can we teach this patient because their injuries are different".*

P6 *"The care is not the same because we got quadriplegics in which both upper and lower limbs are not functioning. They need total nursing care. We do bed baths, we feed them, we do two-hourly turning to prevent pressure sores, we do skin assessment, and we do mouth care to prevent infection. We replace them on the semi fowlers position to prevent aspiration and respiratory distress. In paraplegics, the person lacks sensation and movement and usually, the lower body and legs have no damage and the upper limb function properly".*

Participants indicated that quadriplegic patients need total nursing care because the upper and lower limbs do not function.

- **Subcategories: 1.5.2 Care in accordance with identified needs**

Some of the spinal cord injury patients can do some daily activities, thus the care is targeted towards the needs identified and this was commented on as follows:

P11 *"Yes, ...they do some basic needs without assistance, but with both, we need to assess their daily needs so that we can identify weaknesses and how we can help them."*

Other participants stated that quadriplegic patients also use the nappy for elimination needs, and the following was said:

P1 *"Pain management, we use a scale of 10, we ask the patient how the pain is if the patient is not confused. We avoid giving analgesia if it is not necessary. During therapy, the pain subsides, and we administer analgesia if the patient complains of severe pain. Stilpane can cause constipation, so we encourage the patient to drink more water and eat fibre food"*.

Argued that.

P8 *"Quadriplegics are totally dependent for elimination. They use nappies while paraplegic patients are taken with the commode to the toilets. Even quadriplegia sometimes improves, and we place them on the commode with table support to prevent falling, but progress for spinal injury takes time, depending on the level of injury. Some end up independent, and some remain dependent"*.

Participants indicated that paraplegic patients need minimal assistance, while quadriplegia needs total nursing care.

- **Subcategories:1.5.3 Care in accordance with rehabilitation needs**

Paraplegic patients, when in rehab their goal is the management of bladder and bowel management and the wheelchair, and this was said:

P4 *"...paraplegic patients, we trained them to be independent because their upper limbs are functioning. We train them to transfer themselves from the bed to the wheelchair and from the wheelchair to the toilet... They can drive, and they can also transfer themselves from the wheelchair to the car"*.

Some spinal cord injury patients even go back to work after rehabilitation, and this said:

P12 *"... obviously, you do it according to the patient's lifestyle at home. The main purpose is to rehabilitate the patient so they can return to work if possible."*

P1 *"Spinal cord injuries in the vertebrae may be complete or incomplete, nursing care depending on the level of injury, apart of the level of injury, there is also the severity of course. You can have it partially and you could have it complete. It could be on one side, or it could be on the inner side, ...so it just depends"*.

Spinal cord injury patient they need therapy to gain the strength this was said by.

P10 *“The reason for the patient to go to the therapy, is to gain the strength. We encourage the patient to focus on therapy goals so that they can be independent”.*

In rehab, the spinal cord injury patient also received the health education, and the following was said:

P9 *“It is our responsibility to ensure that we train them so that they can be able to be independent. If they achieve their goal of being independent most of the time, they start to accept the condition and socialise with other patients”.*

In closing the registered nurse provide health education help patients to accept their condition and focus on rehab goals. After rehab some patients even go back to work independently. Spinal cord injury patients are helped and encouraged to gain independence while in rehab.

3.4.8 Categories 1.6: Interprofessional care

The last identified category under care provided by registered nurse to SCI patient, includes the involvement of the interprofessional team. During rehab spinal cord injury patients need multidisciplinary team of professional help, and the following subcategories collaboration with interprofessional team, social work and psychological support.

- **Subcategories:1.6.1 Collaboration with the interprofessional team**

Collaboration between interprofessional members happens in the wards and therapy is essential, and the following was said in support of therapist help:

P5 *“...initially, when we admit the patient, a multidiscipline team deals with the spinal cord injury patient. There are nurses, doctors, social workers, occupational therapists, and speech therapists. ... when the patient is admitted, the social worker will try to establish what is going to be their social support...”*

P10 *“We also have a good relationship with the therapist because they spend a lot of time with the patient. Nurses also advise the therapist if the patient is not fit, and, they advise the nurses if they identify a problem with the patient”.*

The collaboration between the nurses and therapy also commented by

P5 *“The relationship between the nursing and physiotherapy is very important because although physios are the ones who are responsible for physical therapy to the patients, nurses are the ones who are in the ward with the patients like 24/7”.*

Another team involves is the occupational therapist as explained below:

P6 “...assist our patients with doing specialised daily activities in life, for example, we assist them in writing, we assist them with feeding, how they can use their reflexes properly... The occupational therapist is there to assist the patient with specific aspects...”

The interprofessional team also includes psychologist as quoted below:

P3 “The whole team, starting with the social worker, ...doctors everyone plays a big role in explaining to the patient about the condition and the risks before the discharge. The psychologist addresses the patient on how to cope with the condition. Nurses train the patient based on the team goals”.

Lastly, the dietician is involved in the care of SCI patients.

P3 “The dietician ensures that the patient gets the right meals according to their diagnosis and weight. The kitchen prepares the food accordingly”.

P12 “And you need to involve the dietitian to order the diet that is in line with the patient's condition to minimise the risk of constipation or faecal impaction”.

During rehabilitation dietician and the kitchen work together to prepare a diet that is in line with the patient's condition, this prevents the patient from being overweight. Participants indicated that spinal cord injury patients need a multidisciplinary team of professionals, and this depends on the level of injury. The professionals are there to help patients achieve their goals and prevent complications.

- **Subcategories: 1:6.2 Collaboration with the social worker and psychologist**

Lastly, the collaboration also exists between the registered nurses and the social worker and the psychologist. Collaboration between the social worker and psychologist plays a vital role, and this was said:

P2 “The social worker assists with the psychological issues of the patient. If the patient has psychosocial issues at home, we call the social worker... Sometimes patients may not tell the nurses their problems as we see the signs of depression... we inform the social worker to come to talk to the patient”.

P12 “We also involve the psychologist and the social worker to assist those patients who are not cooperating.”

P10 “... when the patient had depressed, we involve the social worker, and if the social worker cannot handle the situation, we involve the psychologist”.

The social worker also helped the spinal cord injury patient to apply for the grant, and this was said:

P8 “... with the help of the social worker, the hospital transports those who cannot return to work to the SASA department to apply for a grant. Those who can use their upper limbs are discharged to go back to work”.

P11 “the social worker and the psychologist intervene with patients concerned about their sexual needs...”

The social worker and psychologist also address patients’ concerns about their sexual concerns. to prevent depression. The social worker also helped the patient to get government grants depending on the level of injury.

3.5 THEME 2. NURSES' CHALLENGES WHEN CARING FOR SPINAL CORD INJURY PATIENTS

The second theme identified was emanated from a question posed during the interviews of what the challenges are experienced by registered nurses in the care of the SCI patients (Annexure B). It is evident from the results of the study that nurses do experience various challenges in the care of the patients. The challenges emanating from patient related and resource related challenges. The two categories identified are explored below as the participants shared their clinical experiences:

3.5.1 Category 2.1: Patient related challenges

The first identified category under the nurse’s challenges includes patient related factors and this was explored. During the care of spinal cord injury, nurses can cause further complications, and this was expressed by the registered nurses as follows multiple and complicated needs, physiological challenges and

- **Subcategory:2.1.1 Multiple and complicated care needs**

The challenges related to the complications are further explored below. On admission to nursing a spinal cord injury, patients are difficult because some of them are not yet accepting of their condition, and their cognitive level is poor due to confusion, and the following was said:

P5 “...of course, especially during the initial phase, ...like they come from the acute hospital because sometimes we find that they come straight from ICU to rehab. ...during those days, it's very difficult because the patient cannot do anything, so s/he is totally dependent on the nursing staff”.

P3 “Quadriplegia need total nursing care, two-hourly turning, elimination needs, and they cannot transfer themselves to the wheelchair. They depend on the nurses for everything”. **P1** “When patients are still confused, we don’t commence on bladder and bowel programme due to poor cognitive level. We allocate a special nurse for high-risk patients who need constant supervision. We need to keep the spine in alignment to prevent dislodgement. Spinal injury patient needs two hourly pressure care and pressure relief to prevent pressure sore. We need to have two people assisting each other”.

Supported by

P5 *“The burden of care is very high for spinal cord injury patients because they depend on the staff for everything like bathing, feeding, clothing, everything that the person needs including elimination”.*

Some of the challenges during the care of spinal cord injury patients are chronic conditions, and the following were expressed:

P6 *“ You find that some of these patients have... like I told you before, they have had their spinal injury because they were involved in a car accident, but they also have other chronic problems, so besides just assisting them strictly for the spinal cord injury, the challenge is also making sure that our as nurses we are here to take care of other chronic medical problems that they may have, that can also be a challenge”.*

Based on the quotes, quadriplegia patients demand total nursing care.

- **Subcategory:2.1.2 Psychological challenges**

Another challenge experienced is psychological challenges of SCI patients were also mentioned as a challenge as they reduce the opportunity of delivering good quality care, and the following phrases were echoed:

P1 *“For patients that are still confused, we don't commence on bladder and bowel programme due to poor cognitive level”.*

Participants also said:

P1 *“...some patients, because of depression, tend not to want to do the bladder and bowel training. They start the program, but along the way, they get depressed. Once again, they relapse and forget the importance until it is a problem”.*

P2 *“As a registered nurse caring for spinal cord patients is a challenge. The first challenge is that when they are diagnosed with a spinal injury, some of them deny it. They don't accept it because before they were walking on their own life has totally changed due to the condition”.*

P3 *“Not all patients comply, some due to stress are depressed because they have been told that they won't walk again. Some patients start to fight during the training because of embarrassment because they messed themselves up and must use a nappy”.*

P4 *“The behavior you find that the patient showed the depressed moods they do not have any interest with anything they ask themselves why things happened to me they had lots of questions this is also affecting the nurses during the rehab goal or the nursing care if the patient is not complying.”*

It is evident that in this study, the spinal cord injury patients are under tremendous stress and are confused, and as such, they cannot comply with the bladder and bowel programme. Also, the poor cognitive level of patients due to stress affects the rehab goal.

- **Subcategories:2.1.3 Non-compliance**

The last challenge is that the patient with SCI are sometimes non-compliant to certain care provided. Spinal cord injury patients sometimes are not compliant with the bladder and bowel programme. They stop the programme along the way, and this was said:

P1 *“The patient starts the bladder and bowel programme and then just stops it, especially when they have been here for a longer period of time...”*

Another participant expressed that due to prolonged hospitalisation, patients influence each other and do not comply with rehab goals, and this was said:

P3 *“Some patients stay more than six months, they start to influence each other regardless of the type of injuries not to comply with rehab goal in general, forget why they here and not aware that the levels of injury are not the same”.*

Due to denial, some of the patients are not compliant with the rehab goal, and the following were comments made:

P2 *“Patients also influence each other not to comply with the bladder and bowel procedure”.*

P7 *“Challenges arise when the patients don’t want to comply or do things according to the protocol because some SCI patients want things to be done according to the way they want...”*

The participants expressed that due to long periods at the hospital, patients influence each other not to comply with rehab goals, for example, bladder and bowel management. Some patients refuse to follow the protocol due to depression.

3.5.2 Category 2.2 Resource related challenges

The second identified category is the resource related challenges that impede on the care provided. Resource related challenges indicating the inadequate equipment and human resources affecting the nursing care as expressed by the participants.

- **Subcategory:2.2.1 Inadequate equipment and human resources**

In this study participants indicated that inadequate equipment and human resources is one of the challenges. During bowel programme time, nurses experience shortages of commodes and toilets, and the following were echoed:

P1 *“Shortage of toilets when commencing bladder and bowel program. Shortage of commode to commence bladder and bowel programme” and P1 “Challenges shortage of staff when commencing bladder bowel programme”.*

P3 *“Shortage of equipment, you find that in the ward you have six (6) patients for bowel programme, but toilets are not enough. Shortage of commode during bowel programme”.*

Supported by

P6 *“...challenges of equipment we are in an advanced facility, but we have our shortcomings, so you find that sometimes you may not have adequate proper equipment that you may need to assist your patient an example would be a monkey chain; we have challenges with that...”*

P12 *“Sometimes you find that after rehabilitation, the patient refuses to go home because they know this situation that they are not staying in a conducive environment”.*

Participants also identified resource related challenges at the institution, and the following was said:

And

P9 *“We also have a challenge of a few male nurses in our rehab. Some of the male patients feel ashamed when females are doing the catheter care for them. Some male patients prefer to be nursed by the name the male nurses”.*

P3 *“Shortage of staff during bowel programme because spinal injury patients need one on one nursing because of their high risk for falling”.*

The participants in this study reported that they needed more equipment to commence the bladder and bowel programme. Also, there needs to be more staff, particularly a shortage of male nurses. Based on participants' comments, rehab patients need emotional support, and facilities must improve on human resources and equipment.

3.6 THEME 3: CHALLENGES FACED BY SPINAL CORD INJURY PATIENTS

The third theme that emerged from the study is the challenges faced by the spinal cord injury patient as explained by the registered nurses. The findings indicate that the patients themselves do also experience some challenges during the care provided by the nurses. Most of the challenges reported affect the patients' functioning. In these instances, challenges referred to physical, psychological, and social challenges. The following categories support the central identified theme.

3.6.1 Category 3.1: Physical challenges

The category that emerged from this study was “Physical challenges” participants pointed out that spinal injured patients were susceptible to developing contractures and pressure sores, elimination and sexual dysfunction challenges.

- **Subcategory: 3.1.1 Complications of the spinal cord injury**

The subcategory that emerged was the complications of spinal cord injury. Participants mentioned that spinal injured patients are high risk patients for developing bedsores, and the following statements were made:

P6 *“These pressure sores are very bad because they can also get septic, and the patient can get a condition called septicaemia, which can cause more problems on top of their challenges”.*

P5 *“The other thing is the patient's social environment because when the patient doesn't have good family support after discharge, the patient will automatically get pressure sores, and the wounds can lead to so many complications”.*

P8 *“There is the risk of pressure sores”.*

This is evidence that participants understood that spinal injured patients are posed to the development of skin bedsores. The participants indicated that pressure sore develops from sitting or lying in one position for too long, and contractures may develop if the limbs are not mobilized regularly.

- **Subcategories:3.1.2 Elimination and sexual dysfunction challenges**

The subcategory of elimination and sexual dysfunction challenges is one of the physical challenges experienced by patients with spinal cord injuries. Participants expressed that due to spinal injuries, patients lead to sexual dysfunction life and the following was said:

P5 *“The other thing which is the challenge with both male and female is their sexual urge because of spinal cord injury most of the patients will lose rectal functioning or their sensation...”*

P11 *“Challenges about sexual needs. Most of the male patients' main concern is their sexual needs and worry a lot about how they will manage in this condition”.*

P2 *“It is different when you commence the bladder programme others have supra pubic catheters, we do only catheter care, and for others, we must train them in self-catheterization. Self-catheterisation is a challenge, especially for female patients. They have to know how to put the catheter into the urethra to drain out the urine. If the patient is obese, it is difficult to do self-catheterisation”.*

In support, other participants added that:

P1 *"The challenge is when they get discharged, ...problem would be the embracement, but physiologically they would be constipated. There would be faecal impaction they would constantly have recurrent infections because of this excrement that needs to be excreted. ...if it's not excreted sufficiently, it causes problems because we know that any waste from a human body, such as the faeces, should be removed to avoid such infection and faecal impaction?"*

P5 *"Some of the challenges when they get discharged, ...there would be faecal impaction. They would constantly have recurrent infections because of this excrement that needs to be excreted but not being excreted".*

Participants also expressed bladder and bowel challenges experienced by patients.

P5 *"...and with the bladder, the patient will use the urinary catheter. So, as they progress, the catheter will be removed. However, patients would not be able to pass urine because..., remember..., there is a break in communication from the brain to the extremities or other parts of the body... So, the patient with a spinal cord injury needs to void the tone of the bladder muscles as they are not effective. They cannot contract to push the urine out, so the urinary catheter helps".*

Spinal cord injury patients on discharge experience constipation and faecal impaction, and the following was said:

P8 *"Patient discharge becomes a problem as some stop to follow the program that they were trained in the hospital leading to complication like faecal impaction, sometimes which can cause death if not managed properly".*

Based on the quotes, physical challenges affecting spinal cord injury patients lead to constipation and faecal impaction. It also involves their sexual needs and sometimes the elimination of the need as indicated in the quotes above. The recovery of the SCI needs to include regaining function on all the complications that are associated with the care.

3.6.2 Category 3.2 Psychological challenges

Psychological challenges affecting spinal cord injury patients may lead to depression and changing their lifestyle. It sometimes affects their sexual needs and eliminates the need leading to divorces. Participants highlighted the psychological challenges affecting spinal cord injury patients and commented as follows:

P7 *"Most of the challenges that affect the patient recovery are some don't accept the condition. In most cases, it becomes a sudden trauma as patients' lifestyle changes after the spinal injury.*

Responsibilities become a challenge, the way they used to function before the injury..., it is difficult to adapt in their new lifestyle".

Spinal cord injury also affects patients psychologically and causes trauma to some of the patients, and this was said:

P4 *"According to my observation, the spinal injury is traumatic, making it difficult for patients to accept the situation. To realise that they cannot walk by themselves anymore, they cannot control their elimination..."*

Spinal cord injury condition can cause patients to be suicidal even when they do get family support. The challenge is when they do not accept their condition, and participants echoed the following:

P5 *"...the other being psychological, they are not psychologically prepared as such some of them can commit suicide ...there are so many risks involve with poor management of spinal injury patient".*

Supported by

P9 *"In general, these patients when they come here, they are very depressed. They first struggle to accept what they are going through and the grieving stage because it takes a long and ...takes time. I'm seeing this mostly in young patients".*

The participants recommended additional psychological support for the patients:

P12 *"Young people sometimes think of committing suicide. For example, there was one young patient who had all the support from the family. The young man was between the ages of 18 and 20 and had some comorbidities. ...even though he had all the support, he failed to accept the condition. The therapy team tried their best, sometimes even giving him days off from therapy. The family was involved, psychologists were involved a social worker was involved, but everything didn't work because he said I'm still young. Why this situation happened to me, and then after discharge, the patient did not survive. This proves that spinal cord injury patients can even be motivated to commit suicide".*

The spinal cord injury condition can also affect patients psychologically. The discussions show that patients change behavior due to the traumatic situation and experience problems with mobility and other needs.

3.6.3 Category .3:3 Social challenges

The third category that emerged from the study is the "social challenges". It is evident that the effects of spinal cord injury cause complications in patients' lives. Spinal cord injury conditions affect families who are caring for their loved ones, and the following was expressed:

Subcategory: 3.3.1 Caregiver and family related challenges

Participants expressed a shortage of caregivers as a challenge for patients with SCI. To the extent that some patients prefer not to be discharged due to the caregiver challenges at home, and the following was expressed by.

P12 “...patients realise the significant problems as the care they get in the hospital would not be the same as what they will get at home. Some of the challenges come when the patient realises that there's no support at home and prefers to stay in the rehabilitation until further notice or when they get a carer who will look after them on discharge”.

Some of the family challenges faced by spinal cord injury patients while still in the hospital concern their livelihood and jobs for men. At the same time, women are worried about their children, and the following was said:

P9 “If you are male and no longer working, you get frustrated about the situation at home and the condition everyone is facing. If you are female, you are worried about the children, maybe they are with the father or relatives, and you are not sure if they are treated the way you like. For some fathers, it is difficult to take care of children when the mother is not around”.

The results of this study confirm that the shortage of caregivers and support affects the patient's progress.

- **Subcategory: 3.3.2 financial and community challenges**

Due to financial challenges, some patients delay their discharge while they are waiting for the equipment and help in cases of caregivers and the following statements were made:

P5 “So, because of the type of injury and other technicalities involved, especially with the Road accident Fund (RAF), patients will need equipment before going home. So, if the patient's process with RAF is incomplete, patients cannot have the equipment before going home, so the patient remains hospitalised”.

P12 “Challenges..., oh yeah..., challenges in terms of discharge planning obviously medical aid give patients a limited amount of time, and there are also challenges of equipment. Sometimes you find people who cannot afford to buy equipment. Yes, some people can afford to buy it comfortably, and the patient can go home”.

Some patients are afraid to be discharged because they are worried about how the community is going to treat them and this was said:

P2 *“...some patients towards discharge change condition due to fear that now they’re going to face the public. Thinking people would laugh at them, especially those who lost their jobs”.*

P1 *“...obviously it will depend on if the particular patient. Some actual have the means and come to rehab. However, for most, costs are a factor because, without the financial means, rehab is not attainable as it is very expensive”.*

Participants indicated another possible explanation for patients’ delay in discharge could be financial challenges. Patients extend their stay because they are waiting for equipment, particularly those processed by the RAF and medical aids. Registered nurses also indicated that some patients are unable to afford caregivers.

3.7 THEME 4: NURSES' COMPETENCIES TO CARE FOR SPINAL CORD INJURY PATIENTS

The fourth theme identified was the nurse’s competencies required to care for spinal cord injury patients. Findings in this study revealed that there are categories: which are psychomotor competences and psychological competencies. The nurses indicated that they received additional training on the care of rehab patients, as it was initially not in the scope of practice. the following comments were made Participants indicated that in-house services training plays an essential role in a rehabilitation unit to promote patient safety.

3.7.1 Categories 4.1: Psychomotor competencies

All the different categories of nurses received training on safety and hygiene, but the nurses do not have the competencies to offer psychomotor support and the following was said in support:

P1 *“...training making sure of safety because, we yeah..., we have different categories of nurses so with the junior staff it's more of transfer and turning and with the general staff such as bathing”.*

Supported by

P3 *“I received a lot since I worked in rehab, transferring the patient from bed to wheelchair safely. ...mmm feeding spinal injury patient, bladder and bowel training”.*

Another participant commented on pain management and said:

P9 *“We received training about bladder and bowel programme, turning the patient to prevent more injury or pressure sore, feeding the patient to prevent aspiration, transferring the patient from the bed to the wheelchair, transferring the patient from the wheelchair to the toilet seat. Pain management of the spinal cord injured patients. We also have our clinical training specialist”.*

Pain management, bladder and bowel management, pressure care, prevent spinal cord injury patients’ complications were some of the trainings that registered nurses received.

3.7.2 Categories 4.2: Psychological competencies

Spinal cord injury conditions are traumatic, and even the nurses get affected. Therefore, psychological assistance is necessary to address such situations, and this was expressed as follows:

P4 *"...as I said, this is a traumatic situation. During nursing care, you have to put yourself in their situation. You need to be sensitive because if you are not sensitive, it looks like you don't sympathise with what they are going through".*

And

P4 again said *"Yes, when you are nursing spinal cord injury patients, you need to have a strong heart to help them and show empathy".*

Another participant compared the care of spinal cord injury patients to the care of children and said:

P6 *"On the care, I would like to say the care of spinal cord injury patients is very daunting. It requires a lot of commitment. I wanted to add that I would love to summarise like the care of a young child who cannot do anything for themselves, but you know you're dealing with an individual or adult person in most cases they need your total assistance".*

Spinal cord injury patients lose their identity because they are no longer independent, and the following was said in this regard:

P10 *"Caring for spinal cord injury is not an easy thing because patients are frustrated about the condition. They lose their identity because they are no longer independent. It is very sensitive to care for spinal cord injury patients because their lives suddenly change due to their condition. You must be friendly and patient when nursing spinal cord injury patients".*

Another participant stated that the management of spinal cord injury patients affected junior nurses' physical and senior nurses' mental wellbeing and said:

p12. *"You have to be a person that loves being a nurse, and sometimes you might not be a good candidate to work in rehab or the spinal cord unit, your personality. ...physically for junior staff and senior nurses, it affects them mentally because of complaints and things..."*

Management of spinal cord injury patients' needs dedication and determination this was said by.

P10 *"To nurse a spinal cord injury patient, needs dedication and determination to achieve some set goals, to nurse spinal cord injury patient it needs a contribution to a specific patient who cannot be able to help himself, for example, some of them they cannot be able to reach where there is a tap water, they need help from the nurse."*

According to participants, nurses must also be sensitive and show empathy when caring for spinal cord injury patients.

3.8 THEMES 5: NURSES' RECOMMENDATIONS WHEN CARING FOR SPINAL CORD INJURY PATIENTS

The last theme that emerged from the study is the nurses' recommendations when caring for spinal cord injury patients. They are two categories that was identified in this study which are recommendation for the health care system, recommendation for patients. Nurse development is also needed for rehab staff. Registered nurses recommended that permanent staff members and agency staff need proper training.

3.8.1 Categories 5.1: Recommendations for the healthcare system

The healthcare system needs to train and employ more registered nurses in rehab care facilities. Rehab facilities need to employ more registered nurses to improve the quality of care rendered to SCI patients.

P1 *"...we have more junior staff and less senior staff. It would be nice to have three registered nurses because our understanding and our knowledge are at the same level unlike junior staff I need to educate and ask if they are still comfortable".*

P1 *"...we do have education from time to time, so it is very important since we are here. Yes, we have permanent people who are constantly here, but we also have agency staff who, when you book somebody and find out that they are not familiar with the work, you have to educate them."*

The rehab process should commence while the patient is still in acute care to prevent complications, and the following was said:

P5 *"... from my experience caring for spinal cord injury patients, treatment does not need to start at rehab. It needs to start when the patient is in the acute hospital because like any treatment, the most important thing with any (any) disease or any illness, so early treatment is vital".*

Colleges and universities need to include spinal cord injury courses in their programmes, and the following was said:

P11 *"At college, I read about spinal cord injury patients like the condition... I never received the special training I received in our rehabilitation about managing the spinal cord injury patient, so I wish the spinal cord injury patient management to be considered vital in the college".*

P12 *"...of course, I think it is very important that colleges or universities include the program of spinal cord injury patients and under training as the speciality because there is a need".*

Staff also need consistent in-service training for the management of spinal cord injury patients, and this was said:

P7 *“...training is more vital for us nurses, and we need to change with the times. Everything changes, so things need to be reinforced. We need to improve our knowledge and enhance our skills. We need to get the training now and then to remind us of the purpose and the reason why we have to do things the way we do”.*

P9 *“We need to improve spinal cord injury patients’ management training. We are trained but didn’t do specific causes in spinal cord injuries. If possible, we need to have more in-service training about spinal cord injuries”.*

There is a necessity the nursing colleges and universities to have courses on spinal cord injuries so that nurses are equipped the better knowledge on how to handle the condition and prevent complications. Indeed, agency staff need enough time to be oriented and should complete competency assessments. Also, caregiver training must be done before the patient is discharged.

3.8.2 Categories 5.2: Recommendations for patients

Patients care training needs to continue and be consistent while the patient is in rehab to promote better care after discharge. The registered nurses recommended that more support needs to be provided to the family members that have to receive the SCI back in the household. Also the community needs to be supportive of the SCI patient and lastly the workplace should also accommodate the patients to fully recover.

- **Subcategories:5.2.1 Family and caregiver support**

Family support plays a vital role for spinal cord injury patients, and the following was said:

P2 *“Partners and other family members need to support the patient. Due to their condition, spinal patients are very emotional and easily get offended and blame their condition for any bad treatment they may receive”.*

The community also needs health education about the management of spinal cord injury patients, and the following was said:

P3 *“Communities need health education about the care of the spine to prevent injury to patients. They need to understand that the spine is a vital organ. We can educate family via social media or using pamphlets”.*

The family needs to be trained to prevent complications after the discharge, and this was said:

P7 *“I think if the family can come once a week to participate during the nursing care before patients are discharged, it will also help them to understand the condition better”.*

P10 *“...train family how to prevent contractures, managing skin problems, medication and why they are used, management of pain medication that can also cause constipation, training to the family about the risk of aspiration...”*

P12 *“In rehab, we need to involve the family training in time before they decide so that they can be able to understand the condition of the patient and the challenge that might happen”.*

The social worker and psychologist need to assist spinal cord injury patients with relationship issues, and the following was said:

P10 *“The social worker and the psychologists need to assist in the family issues most especially relationship because some of the patients and their partners tend to be divorced while the patient is in hospital”.*

Some of the participants indicated that they family are not getting enough training. The community needs health education about the care of spinal injury patients to ensure that patients are integrated into society.

- **Subcategories:5.2.2 Social support**

Spinal cord injury patient needs group support in the community. This was said:

P2 *“Recommend that the society needs community support groups to support SCI patients on discharge”.*

This was also shared:

P6 *“My recommendation... I would say yes. It is that the community play a part. We can have organisations that can teach the members about SCI and SCI patients...”*

Community training was also recommended, and the following was said:

P12 *“First of all, we need community training about spinal cord injury patients. We also need to involve the religious people and the family to give proper support after patient discharge. We need to create the sports in the communities that are also involved with the spinal cord injury patients...”*

Another participant commented about having community institutions that help the spinal cord injury patient and said:

P6 *"I would think of community involvement and suggest other institutions besides our facility where rehabilitation can continue for our patients after they've left us".*

This was also shared:

P9 *"We need people to be trained about spinal cord injury patients in our communities because sometimes community members are afraid of and to help people sitting in a wheelchair because they don't understand the condition. We also need pamphlets about managing spinal cord injuries at home".*

P11 *"We need training to the community and the campaign to improve the management of spinal injury patients on discharge to prevent complications".*

Participants indicated the need to have community campaigns for spinal cord injury management. This would help the community to know and understand spinal injury patients. Registered nurses also stated a need for programmes on spinal cord injury on TV and radio.

- **Subcategories:5.2.3 Occupational and recreational support**

Occupational support after rehab for patients that can work, and the following was said:

P2 *"Companies need to give the spinal cord injury patients jobs".*

This was also shared:

P4 *"Those who can afford to return to work should be allowed to resume work".*

Another participant stated that government needs to assist spinal cord injury patients with jobs and said:

P6 *"I would also recommend that government lobby big companies to employ patients as some of them lose their jobs".*

Spinal cord injury patient needs to be involved in community sports, and this was said:

P8 *"They must continue to play the games. As such, communities should also reconsider that because it relieves their stress levels. Also, patients should be encouraged to participate in sporting activities".*

This was also shared:

P2 *"Community needs to involve the spinal injury patients in sporting activities to prevent boredom or loneliness. Patients need to participate in community activities".*

Participants indicated that government could lobby the private sector to create jobs for SCI patients. Also, the government can create a conducive environment for SCI patients to work and operate their

businesses. Communities must involve spinal injury patients in sports and other initiatives to prevent boredom.

3.9 CONCLUSION

This chapter presented themes, categories and sub-categories that emerged from the data collected. Overall the chapter presented the various care provided by registered nurses to SCI patient which is holistic taking care of the physical, social and physiological aspects. The results also highlight the challenges experienced by both the nurses and the patients in the journey of rehabilitation. The nurses also identified areas in their care, where they require more competencies to be able to provide quality care and ensure recovery of the patient. The nurses do not work alone in the care of spinal cord injury patient, they receive assistant from a multidisciplinary team which includes physiotherapist, doctors, social worker, occupational therapist and dietician. Lastly the nurses provided recommendation or strategy that may be implemented to improve the care provided to the patients, by recommending to the health department, community and occupational support measures to be put in place in the care of the SCI patients. The next chapter 4 deals with the study's data analysis and discussions.

CHAPTER 4: DISCUSSION OF THE FINDINGS

4.1 INTRODUCTION

Chapter 3 focused on the research findings of the data obtained from registered nurses caring for spinal cord injury patients in a private rehabilitation hospital in the Gauteng Province. This chapter 4 discusses the phenomena encountered in operationalizing the research interviews, the research results and the literature control. The data derived from the views expressed by participants in this chapter is arranged into themes categories and sub-categories after the data analysis.

Data collection involves gathering information that addresses the research question (Polit & Beck, 2017:725). Data was gathered using Semi-structured interviews. A total number of twelve (12) registered nurses working in private rehabilitation were interviewed, five (5) males and seven (7) females. The education qualifications included diplomas and general nursing courses. The researcher listened to the audio recorder and read the filed notes, data was transcribed verbatim following Tesch's method for qualitative data analysis. The research findings were based on open-ended questions posed to the registered nurse during the semi-structured interviews. *What are the views of nurses caring for spinal cord injury patients in a private rehabilitation hospital in Gauteng?* The data material belonging to each category was put together in one place, and preliminary analysis was performed. Recording of the data was done.

4.2 DISCUSSION OF THE FINDINGS

In this study participants verbalised that spinal cord injured patients experienced physical challenges, social challenges, registered nurses needs more Inservice training to improve the care of spinal cord injury patient and that was confirmed by the following five themes, which emanated: from the data., Nurses views on the care for spinal cord injury patients, Nurses' challenges when caring for spinal cord injury patients, Challenges faced by spinal cord injury patients, Nurses' competencies to care for spinal cord injury patients, Roles of nurses caring for spinal cord injury patients and Nurses' recommendations when caring for spinal cord injury patients.

4.3 THEME 1. NURSES VIEW ON THE CARE FOR SPINAL CORD INJURY PATIENT

The overall findings of this study showed that nurses caring for spinal cord injury patients must provide care that is multifaceted to meet their basic needs, physiological functions and provide psychological and social care. The care provided by a nurse to a SCI should be holistic that targets the physical, psychological, emotional and social dimensions of an individual. A systematic review confirms that a more holistically approach toward the care of patient with spinal cord injury allows for the nurses to comprehensive and care for patient in way that improve patient outcomes (Fernandes, Pessoa & Nogueira, 2022:1). This is supported a study done in the United Kingdom by (Rodger and Bench, 2019:379) which indicates that the role of the registered nurse is to support patients and also the nurses have an opportunity to also provide health education to the client on various needs identified such bladder and bowel management. The findings of the study are further explored in the following categories indicated below.

4.4.1 Category 1.1: Provision of care to meet basic needs.

The category that emerged during the data analysis was providing care to meet basic needs which includes elimination needs and bladder and bowel management. The role of the nurses is to manage the bladder and bowel to prevent complications. This is supported by (Rodger and Bench, 2019:378) that nurses should priorities educating patients about bladder and bowel management. To address bowel problems of individuals with SCI, international guidelines were developed by the Consortium for Spinal(Campoy, Rabeh, Castro, Nogueira and Terçariol, 2018:2377). Other basic needs included maintaining nutritional needs to ensure that patients eat three balanced meals per day. A therapeutic diet high in fiber promotes bowel action and must be encouraged for SCI patients (Pryor, Haylen & Fischer, 2021:1633). Management of the central nervous system includes care of the feet, as such, nurses should elevate the lower limb to promote circulation, using elastic stockings to improve blood circulation to prevent swelling (Rodger and Bench, 2019:378).

4.4.2 Category 1.2 Maintain physiological functions.

The findings of the study also raised a concern about maintaining the physiological of SCI patients which includes care to ensure skin integrity, care to ensure homeostasis, two-hourly pressure care and pressure relief to prevent pressure sore and promote their blood circulation. This is supported by the study by (Mourino-Alvarez, Corbacho-Alonso, Sastre-Oliva and Barderas, 2022:1)pressure ulcers are common in spinal cord injury patients. And a study by Rodger et al., maintain that to improve skin condition patients need to follow a balanced diet rich in fiber and vitamin and proteins which help to control weight. A study done by (Clares, Guedes and Freitas, 2020:2) confirms that spinal cord injury is a disabling neurological syndrome with physiological, emotional and social dimensions that need complex and a diverse rehabilitation programme. The nurses which form part of multidisciplinary team are tasked to restore the physiological functioning of the individual which

includes doing activities such as back and pressure part care to prevent pressure ulcers, doing active range of movement exercises with the patient and ensuring the care doesn't cause musculoskeletal deformity. Furthermore, it is evident from the study that participants are concerned about the management of homeostasis by performing those activities such as frequent turnings of the patient and allowing ambulation as well.

4.4.3 Category:1.3 Provision of psychological care

The category that emerged from the study is the provision of psychological care, which includes provision for educational needs, emotional needs, and psychological needs. The findings demonstrated that Spinal cord injury patients (SCI) need psychological support to be able to cope with this sudden change in their lives. A study conducted in Australia by (Bryant, Aplin and Setchell, 2022:1) supports the assertion that SCI patients were concerned about their sexuality after the injury, which were one of the complications of the injury which lead to them being depressed most of the times. The findings indicate that nurses should assist patients in overcoming the psychological burdens (Wang et al., 2022:6). Another study done in UK further adds that even the nurses that are providing the care to SCI patients also do need psychological support, stress sharing and confidence building strategies catered for them for handling such stressful situations. The World Health Organization further adds that the person with spinal injury also reflects on their lives and psychology and quality of life, the World Health Organization (WHO) defined quality of life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. In most cases the clients are unprepared, shock or in despair of how their lives will be, thus need a nurse to also provide counselling to them targeting the quality of life they will have after the SCI (Wang et al., 2022:6).

4.4.4 Category:1.4 Provision of social care

The findings show that the provision of social care is challenging and should be included in the care. Spinal cord injury patients (SCI) need both family and caregiver support. The findings indicate that after admission the social workers start to plan that involves the multidisciplinary team and the family. This finding is supported by Kriel (2019:1) that SCI patients need physical, psychological, emotional, social and economic support. In most of the instances, there is experience of physiological and psychological burden that is experienced by a client with SCI thus there is a need for the primary care givers to play an important role towards the recovery of the patient. Another study confirms that the family or support systems are central and core members of the interdisciplinary team who are to be involved in all the decision-making processes (Emerich, Kenneth, Parsons & Stein, 2012:151). It is also very important to understand the SCI rehabilitation program needs to include the psychological and social impacts of the injury on the individual, family and the community. This there is a need to include psychologist and social workers in the care, to contribute by providing specialized

clinical skills that can help to achieve functioning. Both these health professionals can provide interventions such as behaviour management, couple counselling, family therapy, skills on how to cope with the condition and stress management techniques (Lavis & Goetz, 2019: 57).

4.5.5 Category:1.5 Provision of patient-centred care

The findings of the study indicated the importance of providing patient-centered care. Care that is tailored in accordance with patients' identified needs. The participants reported that they use a pain management scale to assess patient pain to avoid giving analgesia when it is not necessary. According to (Burke, Lennon, Blake, Nolan, Barry, Smith, Maye, Lynch, O'Connor, Maume, Cheyne, Ní Ghiollain and Fullen, 2019:1), chronic pain is common in SCI patients and nurses must ensure that appropriate medication is provided. The findings of the study also commented on the importance of daily routines like attending therapy. SCI patients need to gain strength as such nurses should work with the therapist to achieve rehab goals. It is evident from this study that spinal injury patients need pain management assessment and that they should be given analgesia according to the pain scale to minimize the risk of constipation and also, they should also be encouraged to drink enough fluids.

4.6.6 Category:1.6 Interprofessional care

Another finding from the study was interprofessional care. Participants reported that the multidisciplinary team plays a crucial role in rehab settings, for example, social workers, psychologists, doctors, therapists, dieticians and nurses. Dieticians ensure that patients get the right diet that is in line with the patient's condition. This finding is supported by Rodger et al. (2019:378) that staff working in rehabilitation qualified nurses working 24 hours, occupational therapists and physiotherapists provide care and informal education to SCI patients. Wang et al. (2022:2) state that nursing professionals form part of a multidisciplinary team. A study done in Indonesia confirmed that the most debilitating complication of SCI is paralysis, thus there is a need for a multidisciplinary team to be formed as part of the rehabilitation programme. The interdisciplinary team should address the medical, physiological, functional, psychological and social issues associated with the injury. All the team members are required to offer comprehensive care that will maximize the patient outcomes (Emerich, Kenneth, Parsons & Stein, 2012:150). One of the important aspects that need to be done is stability of the spinal cord and that requires the physiotherapist to be part of the care providers (Mufidah & Kusumawardani, 2019: 227). Furthermore, the care from physiotherapist is tailored towards treating respiratory complications and preventing secondary musculoskeletal problems to prolonged bed rest. Which was also evident in this study, that the physiotherapist was involved in the care of the patients to do the active and passive mobility activities. Other health professionals that work together with the rehabilitation units include psychiatrist and other allied health

professionals. The aim of the team collaboration is to improve the quality of life and ensure optimal recovery, by also implementing the International standards for Neurological Classification of Spinal cord injury (ISNCSCI).

4.2 THEME 2 NURSES' CHALLENGES WHEN CARING FOR SPINAL CORD INJURY PATIENTS

The second theme that emerged during the data analysis was nurses' challenges when caring for spinal cord injury patients. In this theme, the following categories emerged Patient related challenges, for example, non-compliance with bladder and bowel programme leading to urinary tract infection. This is supported by the study by (Wang et al., 2022:3). The incidence of urinary tract infection due to long-term indwelling urinary catheters was also reported. The participants reported resource related challenges like a shortage of staff and equipment.

4.2.1 Category 2.1: Patient related challenges

The findings of this study show that patient-related challenges can affect the patient's progress in rehabilitation programme. These include patients not complying with the bladder and bowel programme, patients being confused, slips, and falls and non-compliance with rehab programmes. This finding is supported by study done in the United states by (Hall et al., 2019:97) that not complying with the bladder and bowel programme causes pressure sores in spinal cord injury patients. (Rodger and Bench, 2019:378) indicate an additional challenge of bladder and bowel management. Another study adds that patient who experienced traumatic SCI become more vulnerable and are susceptible to develop more complications such as pneumonia, deep vein thrombosis (DVT) and pressure ulceration (Emerich, Kenneth, Parsons & Stein, 2012:150). It has been added that the SCI experience these complications as a result of the quality care provided at the rehabilitation centre. It is therefore crucial for the attending physician and other members of the interdisciplinary team direct their rehabilitation program towards prevent common medical conditions.

4.2.2 Category 2.2: Resource related challenges

The current study showed that one of the major challenges when caring for spinal cord injury patients is resource related challenges including inadequate equipment and human resources. Some patients cannot afford to buy equipment, wheelchairs, and transfer boards for post rehabilitation. A study by Mohammadi et al. (2021:1) confirms that resource related challenges can be in the form of a lack of money and social support. (Hall et al., 2019:96) spoke about the ppsychosocial and economic functioning which carries an increased risk for SCI patients. In other settings there is a barrier of inaccessible medical practices that exist which poses a risk to the environment.

4.3 THEME 3: CHALLENGES FACED BY SPINAL CORD INJURY PATIENTS

In this study, participants were concerned about the challenges faced by spinal cord injury patients during the rehabilitation process and after discharge. The challenges raised by participants include physical, psychological, and social difficulties. A study done in Iran confirms that patients with spinal cord injuries face various issues, including emotional shock, loss of dignity and depression (Rodger Mohammadi, Oshvandi, Bijani, Borzou, Khodaveisi and Masoumi, 2022:377). This is the evidence from the following such as categories that emerged, discussed below.

4.3.1 Category 3.1: Physical challenges

The findings of the study showed that spinal cord injury patients end up with complications like pressure sores due to prolonged sitting in a wheelchair, and they develop septic wounds, contractures, septicemia, chest infection and immobility. The inability to control elimination, like control of the bowel and bladder, is the major challenge. The study conducted in Iran concurs those physical challenges, such as sexual dysfunction, are also experienced by patients (Mohammadi et al., 2022:1). Physical disability is one of the significant challenges in people with spinal cord injuries. Hence, the need for the community and families to assist healthcare providers with the rehabilitation of patients. Thus, suggestion is made that each rehabilitation program needs to provide competent urological evaluation and management. The physician needs to perform the bladder evaluation and structure the care according to the individual needs. The urologist needs to set program to meet the goals of spinal cord injury patient, there is a need to develop bladder management programs, educate on sexuality and fertility issues as well (Emerich, Kenneth, Parsons & Stein, 2012:152). The urologist is known to conduct renal scans, abdominal scans and kidney functions test as methods of diagnosis of any renal problems.

4.3.2 Category 3.2: Psychological challenges

The findings reveal that patients who experience trauma and psychological difficulties are usually shown in extreme moods change and depression. Persistent depressive disorder is also confirmed in the study conducted in Iran by Mohammadi et al. (2022:1). Similarly, the study by Jeyathan, Cameron, Craven, Munce and Jaglal (2019:1) confirms that psychological challenges affect spinal cord injury patients. The authors also add that these challenges affect patients' families. The participants in this study concur that the patients with spinal cord injury and their families are psychologically affected.

4.3.3 Category 3.3: Social challenges

The third category that emerged from the study was social challenges. It is evident from the study that patients with spinal injuries do experience social challenges. Also, Mohammadi et al.'s (2022:2) study reveals that patients lack social and financial support. In this study, participants showed that

lack of financial resources such as medical aids remains challenging for most patients. Participants of this study also indicated that RAF processes take longer and delay the purchasing of self-care equipment. Loss of income, employment and fear of what people will say are some of the challenges raised by participants of this study.

4.4 THEME 4: NURSES' COMPETENCIES TO CARE FOR SPINAL CORD INJURY PATIENTS

The fourth theme that emerged from the study was the nurses' competencies to care for spinal cord injured patients. The theme was further divided into two categories: Psychomotor competencies and psychological competencies. The scope of practice for registered nurses does not include the competencies for managing SCI patients. However, nurses receive in-service training on managing spinal cord injuries including caring for SCI patients. No additional competencies or educational training is received from formalized nursing institutions (NEI).

4.4.1 Category 4.1 Psychomotor competencies

The findings shared in this study are that there is a need for nurses to have psychomotor competencies. Registered nurses indicated the importance of maintaining the safety of SCI patients, Psychomotor skills are crucial to assist patients, i.e., making their beds, helping them exercise and teaching them safety measures. Participants shared their experiences of how to assist SCI patients, and the sentiments are shared by a study by (Wang et al., 2022:6). In countries such as the United Kingdom they offer training and specialization into being a rehabilitative nurse with 2 years of practice who is responsible for working collaboratively with the whole rehabilitation team, unlike in South Africa. The rehabilitative nurses are certified rehabilitation nurses (CRRN) that are responsible for adhering to the philosophy of care that considers the holistic approach. The nurses offer support to restore the patients psychomotor functioning, emotional, medical, vocational and spiritual needs of the patient as cited by (Emerich, Kenneth, Parsons & Stein, 2012:152). The nurse helps the SCI patient to adapt to altered lifestyle and implement practice related to self-care.

4.4.2 Category 4.2: Psychological competencies

The finding of this study indicates that nurses' competencies when caring for SCI patients must include psychological competencies. Participants revealed that registered nurses should demonstrate empathy and have a strong heart and the will to help. This finding is supported by (Wang et al., 2022:9) in the study where it is argued that nurses should know how to assist patients in overcoming the psychological impact of the condition. Rodger et al. (2019:377) further argues that psychological support for spinal cord injury patients includes innovation capacity, information, and education. Another study added that the physician and nurses offering the care to SCI patients need competency in identifying and performing neurological assessment using the International standards for Neurological Classification of Spinal cord injury (ISNCSCI) and predict neurological outcomes based on the assessment (Emerich, Kenneth, Parsons & Stein, 2012:151).

4.5 THEME 5 NURSES' RECOMMENDATIONS WHEN CARING FOR SPINAL CORD INJURY PATIENTS

The last finding from the study was nurses' recommendations about caring for spinal cord injury patients. The recommendations include a recommendation for the healthcare system - in-service training, recommendations for the patients - family and caregiver support and recommendations for social and occupational support.

4.5.1 Category 5.1: Recommendations for the healthcare system

The findings in this study pointed out recommendations for the healthcare system. Participants recommended that rehabilitation units should improve in-service training, health education for spinal cord injury patients, orientation for agency staff and shortage of staff and courses at colleges and universities. The findings showed that nurses need psychological support because working in rehabilitation units is demanding and stressful.

4.5.2 Category 5.2: Recommendations for patients

It is recommended that families should be equipped with information. Caregiver training is a very crucial aspect when dealing with SCI patients and should be conducted often as there is a shortage. This finding is supported by Rodger et al. (2019:377) that training staff caring for SCI patients is very crucial and necessary. (Wang et al., 2022:1) make recommendations regarding a patient's and their family's post-injury adaption process and the training thereof. Another study recommended that pastoral care can also be added on the rehabilitation program. SCI is known to cause disruption to the emotional, spiritual and religious aspect of the patient. The pastoral caregiver can actively collaborate with the treatment team and provide pastoral interventions depending on the belief system of the individual (Emerich, Kenneth, Parsons & Stein, 2012:156, Lavis & Goetz, 2019: 56).

4.6 CONCLUSION

This chapter discussed the findings of the study and literature control. The aim of the study was achieved through conducting interview with the registered nurses who are dealing with the spinal cord injury patients. Overall the literature suggests that SCI patients must have access to specialised and competent rehabilitative care for them to receive optimal health and functional outcomes. In the next chapter 5, the recommendation and conclusion are discussed.

CHAPTER 5: SUMMARY, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

The results of the research findings and literature control were presented in chapter 4 as themes, categories and sub-categories. This chapter presents the summary, limitations, recommendations, and conclusions of the study. The summary is guided by the themes identified in chapter 3.

5.2 SUMMARY OF THE STUDY

The aim of the study was to explore and describe the views of the registered nurses caring for spinal cord injury patients in a private rehabilitation hospital in Gauteng.

The subsequent findings of the study confirm that the aim of the study was achieved. The following five themes emanated from the study.

- Nurses' views on the care for spinal cord injury patients.
- Nurses' challenges when caring for spinal cord injury patients.
- Challenges faced by spinal cord injury patients.
- Nurses' competencies to care for spinal cord injury patients.
- Nurses' recommendations when caring for spinal cord injury patients.

5.3 THEME 1. NURSES VIEW ON THE CARE FOR SPINAL CORD INJURY PATIENTS

Five categories emerged from the theme roles of nurses caring for spinal cord injury patients namely, provision of care to meet basic needs, maintaining the physiological function, provision of psychological care, provision of social care and provision of patient centered care.

5.3.1 Category 1.1 Provision of care to meet basic needs.

The subcategory of the provision of care to meet basic needs presents the care that registered nurses render including care of nutritional, and hygiene needs, care of safety needs, care of elimination needs and the establishment of a program that patients will follow after discharged.

5.3.2 Category 1.2 maintaining physiological function.

This study showed two subcategories supporting maintaining physiological function which are cared to ensure skin integrity and care to ensure homeostasis. The study showed that spinal cord injury patients spend a lot of time sitting in a wheelchair and or bed as such, they need pressure relief to prevent pressure sores. Air mattresses are also used to prevent pressure sores. This study also

revealed that care is necessary to prevent dislocation and further complications. Furthermore, nurses also need training on how to transfer the spinal cord injury patient to prevent worsening the injury.

5.3.3 Category 1.3 Provision of psychological care

The findings of this study indicate that the provision of psychological care involves taking care of care of patients' emotional and educational needs. This study has proven that health education is important for patients to understand their condition. It has also been proven that patients need to be mentally prepared to prevent depression. Participants stated that emotional support can be done through group therapy and involving post discharged patients.

5.3.4 Category 1.4 Provision of social care

The finding of this study indicates one subcategory that supports the provision of social care which is the care of family and caregivers' needs. Participants maintained that it is important to involve the family. It was also proven that families and caregivers need training in managing SCI patients.

5.3.5 Category 1.5 Provision of patient centered care.

The provision of patient centered care resulted in three sub-categories, namely, care in accordance with the level of dependence, care in accordance with identified needs and care in accordance with the rehabilitation needs.

The study found that after admission patients meet with the social worker and a meeting is arranged with the family meeting to give the family feedback on the level of Injury. Patients' needs are also identified to ensure that the family are aware. Health education and counselling are also done during the family meeting.

5.3.6 Category 1.6 interprofessional care

Two sub-categories were identified under interprofessional care. The study revealed that rehabilitation units need a multidisciplinary team to work towards achieving patients' rehab goals. Furthermore, the multidisciplinary team plans for a safe discharge which includes the family. The other subcategories are collaboration with the psychologist and social workers as part of the multidisciplinary team.

5.4 THEME 2: NURSES' CHALLENGES WHEN CARING FOR SPINAL CORD INJURY PATIENTS

Two categories emerged from the theme of nurses' challenges when caring for spinal cord injury patients namely, patient related challenges and resource related challenges were discussed.

5.4.1 Patient related challenges

Patient related challenges were mentioned as one of the challenges nurses' experiences when caring for spinal cord injury patients. The findings contain three sub-categories which are multiple and complicated care needs, psychological challenges, and non-compliance. The registered nurse

in this study pointed out that spinal cord injury patients sometimes are admitted with chronic conditions. The challenge is also to make sure that nurses have to take care the chronic medical problems. Another challenge is that quadriplegic patients need total nursing care and most of the time these patients get frustrated quickly if they don't get a care. The other concern is due to hospital institutionalisation. Patients start influencing each other not to comply with rehab programmes. Another concern was the confusion experienced by Spinal cord injury (SCI) patients in the beginning. Participants indicated that some patients seemed not to comprehend what was happening and this creates a challenge as it delays rehab programme plans.

5.4.2 Resource related challenges

The resource related challenges experienced by the nurses include inadequate equipment and staff shortages. Participants pointed out that the shortage of equipment is a challenge, and it impacts the quality of care. They also indicated that there is a need for more specialised or experienced nurses to care for SCI patients.

5.5THEME 3: CHALLENGES FACED BY SPINAL CORD INJURY PATIENTS

The following three categories were developed from the theme, physical challenges, psychological challenges, and social challenges. The categories and sub-categories identified were discussed.

5.5.1 Category 3.1 Physical challenges

Two sub-categories that arose as challenges facing SCI were elimination and sexual challenges and complications. Another concern that participants expressed was that patients are at a high risk of developing pressure sores if two hourly pressure care is not done. Participants were also concerned about patients with a high lesion, as they often develop a chest infection due to their abdominal and respiratory muscles not functioning normally. These patients sometimes experience a drop in their blood pressure and swelling of the feet due to poor circulation and compromised muscle function.

Participants also pointed out that the psychical challenges experienced by SCI patients including faecal impaction, hardened stool stuck in the rectum or large colon are due to constipation. However, there are so many complications that can happen when the patient is not motivated. For example, a patient who does not comply with the bladder and bowel programme can develop complications like constipation which can lead to death if not resolved properly or timeously. Participants also reported the challenge of sexuality because most patients lose rectal functioning and their sensation. However, most of the time, patients' lost erection is psychological.

5.5.2 Category 3.2 Psychological challenges

The finding contained one sub-category which is the psychological challenges faced by patients with SCI. Participants stated that according to their observation spinal injury is very traumatic. In most cases, it is difficult for patients to accept the condition and this challenge affects their recovery.

5.5.3 Category 3.3 Social challenges

The findings in this study revealed two sub-categories that affect SCI patients which are caregiver and family related challenges and financial and community challenges. Participants in this study pointed out that most caregivers need to learn about spinal cord injuries and the management of SCI patients. The other concern participants expressed was that family members do not get adequate training. Even though the family are not physically affected, they are emotionally affected. Participants commented on the distance and financial constraints that SCI and their families experience. For most families staying in other provinces, it was always challenging to be around to attend training and support the patient. Financial challenges also affect discharge planning.

5.6 THEME 4: NURSES' COMPETENCIES TO CARE FOR SPINAL CORD INJURY PATIENTS

Two categories emerged from the theme of nurses' competencies to care for spinal cord injury patients, are psychomotor competencies and psychological competencies.

5.6.1 Category 4.1 Psychomotor competencies

The findings of the study revealed that psychomotor competencies are a challenge and necessary. Participants stated that the courses are only offered in practice. They commented that they receive in-house and although they are sometimes sent to attend short courses and certificate programmes, this affects their work and scheduling as there are not enough nurses who can take care of SCI patients.

5.6.2 Category 4.2 Psychological competencies

Participants indicated that psychological competencies are essential when caring for SCI patients. They indicated that caring for SCI patients requires nurses with strong hearts who can show empathy and the work requires much commitment.

5.7THEME 5: NURSES' RECOMMENDATION WHEN CARING FOR SPINAL CORD INJURY PATIENTS

Two categories were identified under the theme of nurses' recommendations when caring for spinal cord injury patients which are recommendations for the healthcare system and recommendations for patients.

5.7.1 Category 5.1 Recommendation for the healthcare system

This study revealed that some healthcare workers do not have knowledge of managing SCI patients, for example, agency staff. The study also showed that universities and colleges should offer programmes or courses on SCI. The findings of the study also showed that there is a shortage of senior nurses in rehab. Patients' rehab goals should start at acute hospitals.

5.7.2 Category 5.1 Recommendation for patients

The findings of this study show three subcategories supporting recommendations for patience which are family and caregiver support, social support, and occupational and recreational support. This study showed that primary caregivers play an important role in caring for spinal cord injury patients.

The findings show that social workers and psychologists need to assist patients with social and financial issues before they are discharged. Social workers need to do home visits to check if the patient is coping. The community needs to involve SCI patients in sports and other social activities. Community training on understanding and managing spinal injury patients is crucial and necessary.

5.8 RECOMMENDATIONS OF THE STUDY

Based on the findings of this study, the researcher realized that registered nurses in rehabilitation hospitals face challenges when caring for spinal cord injury patients. The challenges addressed by the following themes that was emerged from the study, nurses' views on the care for spinal cord injury patients, nurses' challenges when caring for spinal cord injury patients, challenges faced by spinal cord injury patients, nurses' competencies to care for spinal cord injury patients, recommendations are made based on the findings of the study. Further recommendations are made based on the findings of the study.

5.8.1 Rehabilitation practice

- In-service education regarding the nursing care of spinal cord injury patients should be conducted regularly to ensure that healthcare providers are abreast with the latest developments.
- Enough senior nurses with skills and expertise should be recruited.
- Rehabilitation programs and guidelines need to be developed to address the management and care of spinal cord injury patients as targeting category 4 of the study to ensure competence of the registered nurse.
- The nursing management at the rehab unit to assist with the challenges identified in the care of patients including the patient-related and resource-related challenges.
- The rehabilitation program should be tailored towards helping SCI to full function and activities of daily living.

5.8.2 Nursing Education

- Continuous comprehensive in-service programmes relating to the management of spinal cord injury patients are crucial.
- Programs should be established to assist clinical facilitators and Nurse educators in providing quality clinical training that integrates theory and practice.
- The study findings may be included in different publications and presented at various conferences in the country or abroad.
- The Nursing education programme should be developed to assist more on clear scope and role of registered nurses towards care of SCI in rehab.

5.8.3 Nursing regulatory body

- The study recommends that there should be a clear scope of practice of a registered nurse working in rehabilitation centers. As the findings of the study highlighted that nurses provide care that is multifaceted. In order to reduce complications, there is need for policies to be developed in the work environment on how to care for spinal cord injury patients.

5.8.4 Registered nurses

- The registered nurses should continue providing holistic care to the patient according to the identified needs
- The nurses should seek continuing professional development on other rehab programme strategies to ensure optimal outcomes.
- Psychological support should also be offered to the registered nurses as their dealing with stressful events
- Nurses should be competent as they spend most hours with the patient than other members of the multidisciplinary team
- Nurses to identify the individualized needs of the patient and refer to other members of the interprofessional team including physician, psychologist, social worker, physiotherapist, occupational therapist and dietician.

5.8.5 Families and community members

- There is a need to for support groups to be created within the very community to raise awareness on spinal cord injury and how the patients can be supported to fully recover when their sent back to the community.
- Recreational programmes needs to be formulated to support and ensuring recovery of SCI patients

5.8.6 Further Research

- The study was confined to one private rehabilitation in the Gauteng Province, it is therefore recommended that the study should be replicated in other provinces of South Africa including government rehabilitation centers.
- The study had a limited number of registered nurses, and the researcher recommends that the study be replicated using registered nurses working in different rehabilitation centers in South Africa.
- The researchers recommend that future studies be conducted in the following areas, the allied health professionals' view in caring for spinal cord injury patients and challenges faced by the spinal cord injury patient after discharge.

5.9 LIMITATIONS OF THE STUDY

The study was limited to registered nurses, and other disciplines were not represented. The results of this study are limited to only one private rehabilitation hospital in the Gauteng Province thus the findings may not be generalized.

5.10 CONTRIBUTION TO BODY OF KNOWLEDGE

Paucity in literature was identified relating to the nurses view on care provided to spinal cord injury, thus led to the researcher exploring this area of interest. The study may contribute to the new body of knowledge indicating the new to have scope of practice and clear roles for nurses working in rehabilitation centers in South Africa. The study also highlighted that nurses are an important health professional towards the care of patient with spinal cord injury. The quality of care provided to the SCI patient during their stay in rehabilitation units has the ability to minimize and prevent further complications and leading to optimal patient outcomes.

5.11 FINAL CONCLUSION

The purpose of the study was to explore the views of registered nurses caring for spinal cord injury patients at a private rehabilitation hospital in Gauteng, and this aim was achieved. Based on the findings of the study, it is concluded that the objectives of the study have been attained. Recommendations were made to improve the management of spinal cord injury patients in

rehabilitation hospitals. Registered nurses indicated that challenges faced when caring for spinal cord injury patients are high risk for pressure sore, bladder and bowel management, patient risk of aspiration, reluctance to follow the rehabilitation programme, patients' social and financial challenges, family and caregivers' training and patient institutional hospitalization. It was strongly emphasized that the care towards the SCI patient is multifaceted and requires a team approach from all members of the multidisciplinary team to ensure good patient outcomes and recovery.

REFERENCES

- Al-Ababneh, M.M. 2020. Linking ontology, epistemology and research methodology. *Science & Philosophy*. 8(1):75-91.
- Alizadeh, A., Dyck, S.M., Karimi-Abdolrezaee, S. 2019. Traumatic spinal cord injury: An overview of pathophysiology, models and acute injury mechanisms. *Frontiers in neurology*. 10282.
- Babamohamadi, H., Negarandeh, R., Dehghan Nayeri, N. 2020. Important coping strategies used by individuals with spinal cord injury: A qualitative study. *Journal of Qualitative Research in Health Sciences*. 2(1):90-100.
- Baloyi, L.F. 2019. Cultural practices and beliefs affecting hiv and aids management among tsonga people in bushbuckridge.
- Bárbara-Bataller, E., Méndez-Suárez, J.L., Alemán-Sánchez, C., Ramírez-Lorenzo, T., Sosa-Henríquez, M. 2017. Epidemiology of traumatic spinal cord injury in gran canaria. *Neurocirugía (English Edition)*. 28(1):15-21.
- Barratt, M.J., Ferris, J.A., Lenton, S. 2015. Hidden populations, online purposive sampling, and external validity: Taking off the blindfold. *Field methods*. 27(1):3-21.
- Bellon, K., Kolakowsky-Hayner, S., Chen, D., Mcdowell, S., Bitterman, B., Klaas, S. 2013. Evidence-based practice in primary prevention of spinal cord injury. *Topics in spinal cord injury rehabilitation*. 19(1):25-30.
- Bibi, S., Rasmussen, P., Mcliesh, P. 2018. The lived experience: Nurses' experience of caring for patients with a traumatic spinal cord injury. *International journal of orthopaedic and trauma nursing*. 3031-8.
- Bickenbach, J., Sabariego, C., Stucki, G. 2021. Beneficiaries of rehabilitation. *Archives of Physical Medicine and Rehabilitation*. 102(3):543-8.
- Bryant, C., Aplin, T., Setchell, J. 2022. Sexuality support after spinal cord injury: What is provided in australian practice settings? *Sexuality support after spinal cord injury. Sexuality and Disability : A Journal Devoted to the Psychological and Medical Aspects of Sexuality in Rehabilitation and Community Settings*. 40(3):409-23.
- Burke, D., Lennon, O., Blake, C., Nolan, M., Barry, S., Smith, E., et al. 2019. An internet-delivered cognitive behavioural therapy pain management programme for spinal cord injury pain: A randomized controlled trial. *European Journal of Pain*. 23(7):1264-82.
- Buschle, C., Reiter, H., Bethmann, A. 2022. The qualitative pretest interview for questionnaire development: Outline of programme and practice. *Quality & Quantity*. 56(2):823-42.
- Campoy, L.T., Rabeh, S.a.N., Castro, F.F.S., Nogueira, P.C., Terçariol, C.a.S. 2018. Bowel rehabilitation of individuals with spinal cord injury: Video production. *Revista Brasileira de Enfermagem*. 712376-82.
- Cedraschi, C., Nordin, M., Haldeman, S., Randhawa, K., Kopansky-Giles, D., Johnson, C.D., et al. 2018. The global spine care initiative: A narrative review of psychological and social issues in back pain in low- and middle-income communities. *European Spine Journal*. 27(6):828-37.
- Chaffey, L., Bigby, C. 2018. Health education by peers with spinal cord injury: A scoping review. *Journal of Developmental and Physical Disabilities*. 30(1):141-54.
- Chan, C.W., Eng, J.J., Tator, C.H., Krassioukov, A., Team, S.C.I.R.E. 2016. Epidemiology of sport-related spinal cord injuries: A systematic review. *The journal of spinal cord medicine*. 39(3):255-64.
- Chang, M.-Y., Chen, H.-Y., Cheng, M.-L., Liu, H.-Y. 2017. Rebuilding life: Investigating the long-term homecare needs of clients with spinal cord injuries. *Journal of Nursing Research*. 25(4):276-82.

- Chen, Y., He, Y., Devivo, M.J. 2016. Changing demographics and injury profile of new traumatic spinal cord injuries in the united states, 1972–2014. *Archives of physical medicine and rehabilitation*. 97(10):1610-9.
- Creswell, J.W., Poth, C.N. 2014. *Qualitative inquiry and research design: Choosing among five approaches*, Sage publications.
- Divanoglou, A., Trok, K., Jörgensen, S., Hultling, C., Sekakela, K., Tasiemski, T. 2019. Active rehabilitation for persons with spinal cord injury in botswana—effects of a community peer-based programme. *Spinal Cord*. 57(10):897-905.
- Doyle, L., McCabe, C., Keogh, B., Brady, A., Mccann, M. 2020. An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing*. 25(5):443-55.
- Emerich, L., Parsons, K.C., Stein, A. 2012. Competent care for persons with spinal cord injury and dysfunction in acute inpatient rehabilitation. *Topics in spinal cord injury rehabilitation*. 18(2):149.
- Flick, U. 2018. *Designing qualitative research*, Los Angeles, Sage.
- Geldenhuys, M.J., Downing, C. 2020. Evidence-based nursing care for spinal nursing immobilization: A systematic review. *Journal of Emergency Nursing*. 46(3):318-37.
- Gleave, R. 2019. Value ontology and the assumption of non-assessment in postclassical shīʿī legal theory. *Philosophy and Jurisprudence in the Islamic World*. 169.
- Gray, J.R., Grove, S.K., Sutherland, S. 2017. *Burns and grove's the practice of nursing research-e-book: Appraisal, synthesis, and generation of evidence*, Elsevier Health Sciences.
- Grove, S.K., Gray, J.R. 2018. *Understanding nursing research e-book: Building an evidence-based practice*, Elsevier Health Sciences.
- Hachem, L.D., Ahuja, C.S., Fehlings, M.G. 2017. Assessment and management of acute spinal cord injury: From point of injury to rehabilitation. *The journal of spinal cord medicine*. 40(6):665-75.
- Hall, O.T., Mcgrath, R.P., Peterson, M.D., Chadd, E.H., Devivo, M.J., Heinemann, A.W., et al. 2019. The burden of traumatic spinal cord injury in the united states: Disability-adjusted life years. *Archives of Physical Medicine and Rehabilitation*. 100(1):95-100.
- Harvey, L.A. 2016. Physiotherapy rehabilitation for people with spinal cord injuries. *Journal of physiotherapy*. 62(1):4-11.
- Hedimbi, T., Amakali-Nauseb, T., Niikondo, H. 2019. Experience of spinal cord injury patients during rehabilitation process at 7 west windhoek central hospital, khomas region, namibia. *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*. 8(6):78-84.
- Herzer, K.R., Chen, Y., Heinemann, A.W., González-Fernández, M. 2016. Association between time to rehabilitation and outcomes after traumatic spinal cord injury. *Archives of physical medicine and rehabilitation*. 97(10):1620-7. e4.
- Hobyane, A.V. 2022. *Lived experiences of psychiatric nurses caring for mental healthcare users with a comorbid disorder at a psychiatric hospital in limpopo province, University of Johannesburg (South Africa)*.
- Ilter, I. 2017. Improving the reading comprehension of primary-school students at frustration-level reading through the paraphrasing strategy training: A multiple-probe design study. *International Electronic Journal of Elementary Education*. 10(1):147-61.
- James, S.L., Lucchesi, L.R., Bisignano, C., Castle, C.D., Dingels, Z.V., Fox, J.T., et al. 2020. Morbidity and mortality from road injuries: Results from the global burden of disease study 2017. *Injury Prevention*.

- Johnson, C.D., Haldeman, S., Chou, R., Nordin, M., Green, B.N., Côté, P., et al. 2018. The global spine care initiative: Model of care and implementation. *European Spine Journal*. 27(6):925-45.
- Joseph, C., Scriba, E., Wilson, V., Mothabeng, J., Theron, F. 2017. People with spinal cord injury in republic of south africa. *American journal of physical medicine & rehabilitation*. 96(2):S109-S111.
- Joseph, C., Delcarme, A., Vlok, I., Wahman, K., Phillips, J., Wikmar, L.N. 2015. Incidence and aetiology of traumatic spinal cord injury in cape town, south africa: A prospective, population-based study. *Spinal Cord*. 53(9):692-6.
- Kang, Y., Ding, H., Zhou, H., Wei, Z., Liu, L., Pan, D., Feng, S. 2018. Epidemiology of worldwide spinal cord injury: A literature review. *Journal of Neurorestoratology*. 6(1):1-9.
- Korstjens, I., Moser, A. 2018. Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*. 24(1):120-4.
- Kraus, S., Kanbach, D.K., Krysta, P.M., Steinhoff, M.M., Tomini, N. 2022. Facebook and the creation of the metaverse: Radical business model innovation or incremental transformation? *International Journal of Entrepreneurial Behavior & Research*.
- Lee, B., Cripps, R.A., Fitzharris, M., Wing, P. 2014. The global map for traumatic spinal cord injury epidemiology: Update 2011, global incidence rate. *Spinal Cord*. 52(2):110-6.
- Miyakoshi, N., Suda, K., Kudo, D., Sakai, H., Nakagawa, Y., Mikami, Y., et al. 2021. A nationwide survey on the incidence and characteristics of traumatic spinal cord injury in japan in 2018. *Spinal Cord*. 59(6):626-34.
- Mohammadi, F., Oshvandi, K., Bijani, M., Borzou, S.R., Khodaveisi, M., Masoumi, S.Z. 2022. Perception of facing life's challenges in patients with spinal cord injury in iran: A qualitative study. *BMC Psychology*.
- Moser, A., Korstjens, I. 2018. Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *European journal of general practice*. 24(1):9-18.
- Mourino-Alvarez, L., Corbacho-Alonso, N., Sastre-Oliva, T., Barderas, M. 2022. Proteomics of pressure ulcers in spinal cord injury. Cellular, molecular, physiological, and behavioral aspects of spinal cord injury. Elsevier.
- Ndawo, G. 2021. Facilitation of emotional intelligence for the purpose of decision-making and problem-solving among nursing students in an authentic learning environment: A qualitative study. *International Journal of Africa Nursing Sciences*. 15100375.
- Pefile, N., Mothabeng, J.D., Naidoo, S. 2019. Profile of patients with spinal cord injuries in kwazulu-natal, south africa: Implications for vocational rehabilitation. *The journal of spinal cord medicine*. 42(6):709-18.
- Pilusa, S., Myezwa, H., Potterton, J. 2022. Views of health care users and providers: Solutions to improve the prevention of secondary health conditions among people with spinal cord injury, south africa. *Spinal cord series and cases*. 8(1):67.
- Polit, D., Beck, C. 2017. *Nursing research: Generating and assessing evidence for nursing practice*
- Polit, D., Beck, C. 2022. *Essentials of nursing research: Appraising evidence for nursing practice*, Lippincott Williams & Wilkins.
- Raifman, S., Devost, M.A., Digitale, J.C., Chen, Y.-H., Morris, M.D. 2022. Respondent-driven sampling: A sampling method for hard-to-reach populations and beyond. *Current Epidemiology Reports*. 9(1):38-47.
- Rashid, S.M., Jusabani, M.A., Mandari, F.N., Dekker, M.C.J. 2017. The characteristics of traumatic spinal cord injuries at a referral hospital in northern tanzania. *Spinal cord series and cases*. 3(1):1-4.

- Rodger, S., Bench, S. 2019. Education provision for patients following a spinal cord injury. *British Journal of Nursing*. 28(6):377-81.
- Sweis, R., Biller, J. 2017. Systemic complications of spinal cord injury. *Current neurology and neuroscience reports*. 17(1):1-8.
- Tang, F.W.K., Ling, G.C.C., Lai, A.S.F., Chair, S.Y., So, W.K.W. 2019. Four es of caring in contemporary nursing: Exploring novice to experienced nurses. *Nursing & Health Sciences*. 21(1):85-92.
- Tholl, A., Nitschke, R., Bellaguarda, M., Vieira, C., Silva, A., Busana, J. Nursing care in the daily rehabilitation of people with spinal injury and their families. *Rev nursing 2020*; 23 (270): 4836-60.
- Uddin, T., Shakoor, M., Rathore, F.A., Sakel, M. 2022. Ethical issues and dilemmas in spinal cord injury rehabilitation in the developing world: A mixed-method study. *Spinal Cord*. 60(10):882-7.
- Walter, E. 2008. *Cambridge advanced learner's dictionary*, Cambridge university press.
- Wang, S.-Y., Hong, S.-R., Tan, J.-Y. 2022. Five different lives after suffering from spinal cord injury: The experiences of nurses who take care of spinal cord injury patients. *International Journal of Environmental Research and Public Health*. 19(3):1058.
- Wein, A.J. 2016. Re: Traumatic spinal cord injury in the united states, 1993-2012. *The Journal of Urology*. 195(3):685-8.

ANNEXURES

ANNEXURE A: INFORMED CONSENT FORM

PARTICIPANT'S INFORMATION & INFORMED CONSENT DOCUMENT FOR AN INDIVIDUAL INTERVIEW RESEARCH STUDY

Study title: **EXPLORING THE VIEWS OF NURSES CARING FOR SPINAL CORD INJURY PATIENTS IN PRIVATE REHABILITATION HOSPITALS IN GAUTENG**

Principal Investigator: Calvin Livhuwani Netshiya: Email: calvin.netshiya@gmail.com

Supervisor: Dr M Musie: Email: maurine.musie@up.ac.za

Co-Supervisor: Dr Robert Lavhelani: Email: robert.lavhelani@up.ac.za

Institution: **University of Pretoria**

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime number/s: 0027(0) 737241490

After hour's number: 0027 (0) 640949363

DATE AND TIME OF FIRST INFORMED CONSENT DISCUSSION:

Date 2022

Month Year Time

Dear Prospective Participant

Dear Mr./Mrs.

1) INTRODUCTION

You are invited to volunteer for a research study. I am doing this research for master's degree purposes at the University of Pretoria. This document gives information about the study to help you decide if you would like to participate. Before you agree to participate in this study, you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the investigator. You should not agree to take part unless you are completely happy about what we will be discussing during the interview.

2) THE NATURE AND PURPOSE OF THIS STUDY

The purpose of the study is to explore the views of the registered nurses caring for patients with spinal cord injuries in Gauteng rehabilitation hospitals.

The researcher will conduct the interviews at the hospital. You will not be restricted to the place; hence you are open to suggest a place that is private and easy for you to reach.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM THE PARTICIPANTS

If you agree to participate, you will be asked to participate in an individual interview which will take about 60 minutes. The individual interview will be a face-to-face meeting between the two of us. I will ask you several questions about the research topic. This study involves answering questions such as 'What are your views on caring for patients with spinal cord injuries?' With your permission, the interview will be recorded on a recording device to ensure no information is missed.

4) WHAT RISKS AND DISCOMFORTS ARE INVOLVED?

Taking part in the study will not cause any physical or emotional discomfort or risk. During the interview you may find that some questions are sensitive; for instance, questions like "What are your views on caring for the patient with spinal cord injuries? This question may remind you of things that have happened to you in the past during your work and this may bring back sad or fearful memories. If you feel uncomfortable, you do not have to answer. If you need psychological support or counselling during or after the interview, I will be able to refer you to the relevant source.

5) POSSIBLE BENEFITS OF THE STUDY

You will not benefit directly from being part of this study. But your participation is important for us to understand better the challenges you face in providing care to patients with spinal cord injuries. The information you give may help the researcher to suggest recommendations to improve conditions of services and job satisfaction for registered nurses working with spinal cord injured patients.

6) COMPENSATION

You will not be paid to take part in the study. There are no costs involved for you to be part of the study.

7) VOLUNTARY PARTICIPATION

The decision to take part in the study is yours and yours alone. You do not have to take part if you do not want to. You can also stop at any time during the interview without giving a reason. If you refuse to take part in the study, this will not affect you in any way and you will not be punished.

8) ETHICAL APPROVAL

This study was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084/012 356 3085 and written approval has been given by that committee. The study will follow the Declaration of Helsinki (last update: October 2013), which guides doctors on how to do research on people. The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION ON WHOM TO CONTACT

If you have any questions about this study, you can contact the following people:

Principal Investigator: Calvin Livhuwani Netshiya: Email: calvin.netshiya@gmail.com

Supervisor: Dr M. Musie: Email: maurine.musie@up.ac.za

Co-Supervisor: Dr Robert Lavhelani: Email: robert.lavhelani@up.ac.za

10) CONFIDENTIALITY

We will not record your name anywhere, and no one will be able to connect you to the answers you give. Your answers will be linked to a fictitious code number or a pseudonym (another name), and we will refer to you in this way in the data, any publication, report, or other research output. All records from this study will be regarded as confidential. Results will be published in medical journals or presented at conferences in such a way that it will not be possible for people to know that you were part of the study. However, the records from your participation may be reviewed by people responsible for ensuring that research is done properly, including members of the Research Ethics Committee. All of these people are required to keep your identity confidential. Otherwise, records that identify you will be available only to people working on the study unless you give permission for other people to see the records. All hard copy information will be kept in a locked facility in the safe at the University of Pretoria for a minimum of 15 years and only the research team will have access to this information.

11) CONSENT TO PARTICIPATE IN THIS STUDY

I confirm that the person requesting my consent to participate in this study has told me about the nature and process, any risks or discomforts, and the benefits of the study. I have also received, read, and understood the above written information about the study. I had adequate time to ask questions and I have no objections to participating in this study. I am aware that the information obtained in the study, including personal details, will be anonymously processed, and presented in the reporting of results. I understand that I will not be penalised in any way should I wish to stop taking part in the study and my withdrawal will not affect my treatment and care. I am participating willingly.

I have received a signed copy of this informed consent agreement.

Participant Name:

Participant Signature:

Date:

Researcher's Name:

Researcher's Signature:

Date:

Witness Name:

Witness Signature:

Date:

ANNEXURE B: INTERVIEW GUIDE

RESEARCH QUESTION

Research question

Demographic

Age

Gender

Highest qualification

Years of experience

Training on spinal cord injury

Which training you have received?

1. The central question will be asked to gather the views of the participant on the topic under study as follows:

- *What are your views as a registered nurse caring for spinal cord injury patients in a rehabilitation hospital in Gauteng?*
- Describe the nursing care of spinal cord injury.
- What are your views as a registered nurse caring for spinal cord injury patients in a rehabilitation hospital in Gauteng?
- What is your experience caring for spinal cord injury patients?
- What are the needs of this client who has a spinal cord injury?

2. The researcher will ask probing questions based on the participants' responses in order to acquire more information on the selected topic.

- How long have you been working as a nurse dealing with spinal cord injury patients?
- What are some of the challenges you have encountered when nursing the spinal cord injury.
- What do you think can be done to improve the service that is being given to spinal cord injury patients?

ANNEXURE C: REQUESTING PERMISSION TO CONDUCT RESEARCH

22, Bradley Street
Naturena, 2095

25 November 2021

The hospital Manager
23, Roberts Avenue
Kensington, 2094

Dear Sir/Madam

Ref: Application for Permission to Conduct Research

I, the researcher, am currently pursuing a master's in nursing management degree at the University of Pretoria. I am hereby applying for permission to conduct a study at. The title of the study is.

Exploring the views of nurses caring for spinal cord injury patients in a private rehabilitation hospital in Gauteng.

The aim of the study is:

- **To explore and describe the views of the nurses caring for spinal cord injury patients in private rehabilitation hospitals in Gauteng.**

I look forward to your positive response in this regard.

Yours faithfully

Principal Investigator: Calvin Livhuwani Netshiya: Email: calvin.netshiya@gmail.com

Supervisor: Dr M. Musie: Email: maurine.musie@up.ac.za

Co-Supervisor: Dr Robert Lavhelani: Email: robert.lavhelani@up.ac.za

ANNEXURE D: PERMISSION LETTER



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

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

REF: **LHCHREC-PR-11022022/07**

Date: 10 March 2022

Dear Mr Netshiya

RE: APPLICATION TO CONDUCT RESEARCH

Title of study: Exploring the views of registered nurses caring for spinal cord injury patients in a private rehabilitation hospital in Gauteng

The Health Research Ethics Committee of Life Healthcare Group hereby grants permission for you to conduct your research at Life New Kensington Clinic.

Due to COVID-19, access to Life Healthcare hospitals, offices and staff may be restricted. Please contact the Hospital Manager at the facility/ facilities prior to beginning your research, and ensure that you have made appropriate arrangements to carry out your study in a manner which ensures your safety, that of your participants, and both Life Healthcare patients and staff. The Hospital Manager may refuse to allow your research to take place until the COVID-19 pandemic has resolved. Please pay careful attention to points 5, 6 and 7 below.

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

6. Life Healthcare will not be liable for any costs incurred during or related to this study.
7. In cases where a researcher is found to be guilty of misconduct, or in contravention of any national or international legislation or Life Healthcare policies or guidelines, permission to continue with the research will be withdrawn immediately pending investigation. In the case of student research, the higher education institution under which the researcher is registered will be notified. In the case of a clinical trial, The South African Health Products Regulatory Authority (SAHPRA) will be notified, as well as the trial sponsor and any other necessary parties.

Yours sincerely,



Dr Sharon Vasuthevan
Life Health Care HREC Chairperson



Prof Esmeralda Ricks
Research Associate

On behalf of the Life Healthcare
Health Research Ethics Committee

ANNEXURE E: ETHICAL CLEARANCE LETTER



Faculty of Health Sciences

Faculty of Health Sciences **Research Ethics Committee**

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 18 March 2022 and Expires 18 March 2027.
- IORG #: IORG0001762 OMB No. 0990-0278 Approved for use through August 31, 2023.

19 January 2023

Approval Certificate Annual Renewal

Dear Mr LC Netshiya,

Ethics Reference No.: 624/2021 – Line 1

Title: EXPLORING THE VIEWS OF REGISTERED NURSES CARING FOR SPINAL CORD INJURY PATIENTS IN A PRIVATE REHABILITATION HOSPITAL IN GAUTENG

The **Annual Renewal** as supported by documents received between 2022-12-02 and 2023-01-18 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2023-01-18 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Renewal of ethics approval is valid for 1 year, subsequent annual renewal will become due on 2024-01-19.
- Please remember to use your protocol number (624/2021) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely



On behalf of the FHS REC, Dr R Sommers

MBChB, MMed (Int), MPharmMed, PhD

Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

Research Ethics Committee
Room 4-60, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel +27 (0)12 356 3084
Email: deep.eka.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tsa Maphelo

ANNEXURE F: TRANSCRIPT EXAMPLE

DATA COLLECTION-SEMI STRUCTURED INTERVIEW PARTICIPANT NO 12

Date: 24 June 2022

Researcher: "My name is Calvin Netshiya on the 24th of June 2022 I'm with participant 12 how are you?"

Participant: "I'm fine thanks and you"

Researcher: " I'm fine you are welcome and may you kindly speak a little bit louder, my participants already signed the consent form thank you, and then the purpose of this study is to explore the views of the registered nurse caring for a spinal cord injury patient in a private rehabilitation hospital in Gauteng, as I did explain before to you all the information that you are going to share with me today on this interview they are going to be confidential and it going to be used by the university of Pretoria. I'm going to start to take a demographical profile?"

Participant: "yes, she shakes her head"

Researcher: "how old are you"

Participant: "I'm 64 years old"

The researcher observed gender female?"

participant: "yes"

Researcher: highest qualification?"

participant: "Diploma in nursing and midwifery

Researcher: "Years of experience in rehabilitation."

Participant: "40 years as a nurse 19 years as a registered nurse in rehab."

Researcher: "what are your views as a registered nurse caring for a spinal cord injury patient in rehabilitation?"

Participant: "...I started my nursing in ... in a government hospital, and I joined this clinic in 2003 to date. It is very emotional when we see the spinal cord in your patient when you see someone s/he depressed, and they already lost hope in their future when you rehabilitate the patient you have to motivate the patient no matter how the therapy can do if the patient is not motivated, they are not going to cooperate or focus on the rehab goal. Spinal cord injured patients need support from the family to minimise or reduce the level of stress; together with the family the patient can receive proper rehabilitation including the therapy social worker psychologist. From admission, the biggest challenge pat when you admit a spinal cord injury patient is to look at the private parts to assess if the patient is continent or incontinent. And the patient sometimes feels intimidated and feel embarrassed when you check their private parts, and the young people their main concern is sexuality, to improve their mental capacity we need to consider psychologists and the social worker to support the patient."

Researcher: “thank you very much for all your input may you kindly describe the nursing care of spinal cord injured patients?”

Participant: “the nursing care depends on the patient type of injury because we have paraplegic and quadriplegic, paraplegic the upper limb their functional and the quadriplegic need total nursing care.”

Researcher: “may you kindly add more about total nursing care of the quadriplegic patient?”

Participant: “first of all, quadriplegic patients need two hourly training to prevent pressure source you need to apply the creams, two hourly pressure relief on the bone prominence parts, and you need to explain to the patient the risk of a pressure source and also infection control. Chest infection patients with a high selection of often develop a chest infection due to their abdominal and respiratory muscles not being functional normally, Sometimes their blood pressure drops resulting from a change in position the person may feel faint, and swelling of the feet results from poor circulation due to compromised muscle function so nursing care we need to elevate the lower limb to promote circulation doctor order and elastic stocking to improve the return of blood to the heart, pulled the leg become solid and warm to the touch the leg should be checked urgently for a possible deep vein thrombosis, they quadriplegia also a higher risk for a bladder infection because sometimes they don't drink enough sometimes because they are using the urinal catheter, two prevent urinal tract infection you need to rehydrate the patient and ensure that you push enough fluids at least two litre in 24 hours. The doctor needs to commence the patient on a bowel programme, and you need to involve the dietitian to order the diet that is in line with the patient's condition to minimise the risk of Constipation or faecal impaction. what's that patient that we want outlook so obviously you do it according to not what you want but what the patient's lifestyle is at home. The main purpose is to rehabilitate the patient so that they can be able to go back to work if possible.

Researcher: “as you said earlier on that even if you do the rehab goal but the patient if they depressed or frustrated with the condition, they cannot be able to cooperate how do you encourage this type of a patient to cooperate with the rehab goal?”

Participant: “ make sure that what level of education patient has so he understands what is needed so once you look at your demographic of your patients you have to approach them so he's like I see beginning to explain to them and give you how things work and with the understanding and the reason why it will also help you to accept the situation and obviously if you can tell them about other patients life experiences that they're not the only one there's a lot of people going maybe worse things. We also involve psychologists and social worker to assist those patients who are not cooperating sometimes we also involve the patient that's or already discharged to come to explain the important of rehabilitation to the patient that are still in the hospital and motivate them.

Researcher: “yes you spoke about the family support how do you involve the family in your rehabilitation?”

Participant: “the process usually we admit the patient's family will be coming to visit his social worker is available and obviously we should we have our first family meeting and the family give more information about the patient and by finding the social workers job is to find out what it's like what's happening at home social issues can get someone that's coming from home it could be a problem for a patient also it could be coming from someone that is living in squatter camps it's a different scenario so obviously you can't leave by the patient it's in the squatter camps but you rehabilitating thinking is going to houses you know everything is perfect they would have seen things like that so you have to know the demographics of your patients before the discharge and my understanding is they will be rehabilitated according to where they are going to be discharged.

Researcher: “can you add more of the process of the bladder and bowel programme?”

Participant: “Initially you do your assessment you find out your tone and the patient obviously assessing sensation for both bladder and bowel can they feel sometimes the patient can feel, but they cannot hold the control, assess the patient lifestyle when they usually go to the toilets before you commencing the bowel program to prevent confusion, check how often the patient go to the toilet for bowel action because some they go twice in three days some alternative days. Set up a program that is appropriate for that type of patient. Also, find out the type of toilet that they're going to use when they discharge at home to prevent a risk whether they're using the toilet inside the house or outside the house. Assess the type of work that the patient is also doing where the patient will be going to get the toilet when he's going back to work. Usually, if it's the morning patient he gets the like that in the morning, and if we usually go to the toilet during the night, he gets Suppository during the night. But some patients find it difficult to adapt to the program. You need to know the type of food the patient eats, and we encourage a balanced diet, we also encourage the food that the patient will eat on discharge due to the lifestyle. You need to assess the type of food that the patient can be able to afford on discharge, and the patient should start to eat that type of food while he's still in rehabilitation this will be in line with the bowel programme, and it would be minimising their risk of Constipation on discharge.”

Researcher: “you mean that you also consider the staple food of the patient?”

Participant: “yes, we consider that because on discharge the patient is going to eat the same food because if you are going to give the patient food that they don't like it they're not going to follow those types of food or diet that you're going to give because they know very well that when they're discharged, they're not going to afford that type of food.”

Researcher: “which training have you received since you've been working here in a rehab for the past 20 years, for spinal cord injury patients?”

Participant: “in-house training bladder and bowel programme, feeding of the patient, two hourly turning or pressure care, slips and fall, transferring the patient from the bed to the wheelchair and the transferring the patient from the wheelchair to the toilet or to the commode, all this training I didn't

receive it from the college I only receive it when I come to the rehab except two-hourly turning procedure.”

Researcher: “as you said the training you receive in our rehabilitation you never received in the college do you think there is any necessity for the college or university to include them in spinal cord injury management undertraining?”

Participant: “of course, I think it's very important the college or the university include the program of a spinal cord injury patient and under training as the speciality because there is a need, and they need special care for this type of patient.”

Researcher: “yes thank you very much for all your inputs, what are some of the challenges you have encountered when you are nursing the spinal cord injured patient?”

Participant: “challenges for the patient also challenges for staff members you have to be a person that loves being a nurse, sometimes you might not be a good candidate to work in a rehab or in the spinal cord unit so your personality so you need quiet you know you go do this sometimes to the patient after 5 minutes later they call you again so it really frustrating for caregiver physically and senior nurse affecting the mental because of complaints and things and so he was seeing in this it's more mental for registered nurse.”

Researcher: “Yes, please can you add more challenges?”

Participant: “sometimes they refuse to be on bladder and bowel programme, and they pretend like their continent, other challenges is when the patient is not participating with the rehab goals, another challenge is patient that feels embarrassment when they cannot be able to control their bladder and bowel management. Patients also feel embarrassed if they are not coping with their bowel or bladder management and the other patient, if they are doing well, it's also leading to the patient being isolated and aggressive. Sometimes they don't want to be touched on the private parts.”

Researcher: “as you told some of the patients, they isolate themselves what do you think is the cause of isolation?”

Participant: “it is because the spinal cord injury patient in the young people it's more traumatic than the elderly patient so the young people due to depression stress of the future it's leading them to isolate themselves and then we also consider the psychologists and the social worker to help with the situation until when the patient accepts the condition. Young people sometimes also think of committing suicide. For example, there was one young patient who was a spinal cord injury patient, Having all the support from the family the young guy was between 18 to 20 years old and also had some comorbidities, even though he had all the support, he failed to accept the condition of being a spinal cord injured patient the therapy team they tried their level best sometimes they even give him the day off of not doing the therapy so that he can try to think what he can do better family were involved psychologists were involved social worker was involved, but on this patient, it didn't work because he said I'm still young why this situation happened to me and then after discharge, the patient did not survive he ended up died, this was proven that spinal cord injury patient even if you

motivate them but if they don't accept the condition they won't cooperate with the rehab goal, so it's very important to keep on motivating them even though they're frustrated and also having their depression.”

Researcher: “Yes, any other challenges if you want to add please?”

Participant: “ challenges Oh yeah these challenges in terms of discharge planning obviously medical aid will give the patient limited amount of time challenges of equipment, sometimes you find some of the people they cannot be able to buy equipment because the financial challenge, yes their people who can afford to buy comfortable it and the patient can go home, and it can help on the other hand those that cannot afford it that is the challenge for some other people, for those patients who cannot be able to buy them the equipment we also try to help them social and also check with the state if we can assist where it is possible. Sometimes you find that after rehabilitation, the patient refuses to go home because they know this situation that they are not staying in a conducive situation, more special young people it is leading them to depression during the discharge when they realise that they're going to face the reality of life. Because the spinal injured patients realise that they care that they're getting it in the hospital they are not going to get the same care at home. Some of the challenges is when the patient realises that there's no support at home they prefer to stay in rehabilitation until further notice or when they get a caregiver who will look after the patient on discharge.”

Researcher: “yes, you said all these challenges what you think can be done to improve the service that is being given to spinal cord injury patients?”

Participant: “first we need community training about the spinal cord injury patient on discharge. We also need to involve the religious people and the family to give proper support after patient discharge. We need to create spots in the community that are also involved with the spinal cord injury patient to prevent boredom among them. During this sports time, they should be involved in the community to be part of the community. In rehab, we need to involve the family in training in time before they decide so that they can be able to understand the condition of the patient and the challenge that they might have happened after the discharge. We need to order the patient's equipment in time so that on the day of discharge there will be no delay for the patient, And the patient needs to start to use the equipment while he's still in the hospital for safety purposes for example wheelchair, to prevent slips and falls. Proper education to the family about the complication of spinal cord injury patient, for example, chest infection, swelling of the feet, A balanced diet, management of pressure sores, the danger of alcohol abuse on discharge, Risk of dehydration urinary tract infection, Management of spasms, two hourly turning to prevent the contractures. Family also needs training about how to give the patient medications to prevent complications. And we need to have a Community Center where everyone can get information about spinal cord injury patients.

Researcher: “any other recommendations or inputs that can help us to improve the service for spinal cord injury patients?”

Participant: “ensure that the nurses are motivated and when their depressed they need to get counselling, encourage all the patients to get a good diet that is in line with their condition.in our rehab, if possible, we should have staff transport to motivate the staff. We should also employ one spinal cord injury patient after discharging it will also motivate other patients.”

Researcher: “anything you want to add pleases?”

Participant: “no thanks I think I said everything, thanks for being part of the research.”

Researcher: “thank you very much for all your input I really appreciate it our interview's going to stop now have a nice day, God bless you.”



ANNEXURE G: EDITING CERTIFICATE



Unit 3 West Square Business Park
407 West Avenue
Randburg
2194

23 January 2023

TO WHOM IT MAY CONCERN

This serves to confirm that I have edited and made the necessary corrections and emendations to the thesis:

EXPLORING THE VIEWS OF REGISTERED NURSES CARING FOR SPINAL CORD INJURY PATIENTS IN A PRIVATE REHABILITATION HOSPITAL IN GAUTENG

by

Calvin Livhuwani Netshiya.

Sincerely

A handwritten signature in black ink, appearing to read "J Musi".

J Musi
Publisher, editor and translator

Tel: +27 84 513 3707 • Fax: 086 532 6404 • e-mail: caption@webmail.co.za • P O Box 1550 • Honeydew • 2040