

**EXPLORING THE CLINICAL ROLES OF NURSES IN THE
REHABILITATION OF ACUTE STROKE PATIENTS AT PRIVATE
HOSPITALS IN CAPE TOWN, SOUTH AFRICA**

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DECLARATION

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ABSTRACT

Background: Stroke rehabilitation is the key component in the management of stroke patients. Although nurses working at private hospitals in the Cape Metropolitan area were actively involved in the care of stroke patients, their role in rehabilitation seemed unclear. This study aimed at exploring the clinical roles of nurses in the rehabilitation of hospitalised acute stroke patients.

Methods: A qualitative exploratory descriptive research design was used for this study. A purposive sampling method was used for selecting fifteen participants who took part in the study. A semi-structured face-to-face interview method was used for data collection. Data collected was transcribed verbatim and analysed according to the research objectives. Permission to conduct this research was granted by Stellenbosch University's Human Research Ethics Committee (Ref: S17/04/077).

Results: Based on the findings, the main roles of nurses that were identified were the provision of clinical care services, emotional support, and rehabilitation services. This included mobilisation of patients, therapeutic positioning, exercises, and the teaching of basic self-care and communication skills. The study identified various critical challenges in engaging nurses in the rehabilitation of stroke patients. These challenges include workload as well as a lack of resources and knowledge regarding stroke rehabilitation. The study has provided some suggestions about how to overcome these challenges in order to engage nurses in the rehabilitation process.

Conclusion: This study unveiled some of the critical challenges that impact nurses' engagement with the rehabilitation of stroke patients. Addressing these challenges will have an important influence on the positive outcomes of the rehabilitation process.

Recommendation: Training with regard to rehabilitation should be incorporated in the nursing training programmes. Continuous professional development of qualified nurses working with stroke patients in regard to rehabilitation is recommended. Establishing specialised stroke units or wards for the care of patients who suffered a stroke in order to improve the outcome of rehabilitation, is highly recommended.

Key words: Stroke, Rehabilitation, Nursing Roles, Multidisciplinary Team.

OPSOMMING

Agtergrond: Beroerte rehabilitasie is die belangrikste komponent in die behandeling van beroerte-pasiënte. Alhoewel verpleegpersoneel, wat by privaathospitale in die Kaapse Metropolitaanse gebied werk, aktief betrokke was by die versorging van beroerte pasiënte, was hul rol tydens rehabilitasie onduidelik. Hierdie studie is gemik daarop om die kliniese rolle van verpleegpersoneel tydens die rehabilitasie van gehospitaliseerde akute beroerte pasiënte te ondersoek.

Metodes: 'n Kwalitatiewe verkennende navorsingsmetode is vir hierdie studie gebruik. 'n Doelgerigte metode is gebruik om vyftien deelnemers, wie aan die studie deelgeneem het, te kies. 'n Semi-gestruktureerde aangesig-tot-aangesig onderhoudmetode was vir data insameling gebruik. Data insameling was verbatim getranskribeer en ontleed volgens die navorsingsdoelstellings. Toestemming om hierdie navorsing te doen, was verleen deur die Universiteit van Stellenbosch se Etiese Navorsingskomitee (Verw:S17/04/077).

Resultate: Op grond van die bevindings, was die belangrikste rolle van verpleegpersoneel geïdentifiseer as sorg, kliniese sorgdienste, emosionele ondersteuning en rehabilitasie dienste. Dit het die mobilisasie van pasiënte, terapeutiese posisionering, oefeninge en die onderrig van basiese selfversorgings- en kommunikasievaardighede ingesluit. Die studie het verskeie kritiese uitdagings vir verpleegsters betrokke by die rehabilitasie van beroerte-pasiënte geïdentifiseer. Hierdie uitdagings sluit werkslading asook die gebrek aan hulpbronne en kennis rakende beroerte rehabilitasie in. Die studie het sekere middele om hierdie uitdagings te oorkom voorsien, ten einde verpleegpersoneel in die rehabilitasie proses te betrek.

Gevolgtrekking: Hierdie studie onthul sommige van die kritieke uitdagings wat 'n impak op die betrokkenheid van verpleegpersoneel by die rehabilitasie van beroerte pasiënte het. Die aanspreek van hierdie uitdagings sal 'n belangrike invloed hê op die positiewe uitkoms van die rehabilitasie proses.

Aanbeveling: Opleiding ten opsigte van rehabilitasie moet geïnkorporeer word in die verpleging-opleidingsprogramme. Deurlopende professionele ontwikkeling van gekwalifiseerde verpleegpersoneel wat met beroerte pasiënte werk ten opsigte van rehabilitasie word aanbeveel. Die vestiging van gespesialiseerde beroerte eenhede of sale vir die versorging van pasiënte wat aan beroerte gely het, ten einde die uitkoms van rehabilitasie te verbeter, word hoogs aanbeveel.

Sleutelwoorde: Beroerte, Rehabilitasie, Verpleegrolle, Multidissiplinêre Span.

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ABBREVIATIONS

ADL	Activities of Daily Living
AHA	American Heart Association
AHSA	American Heart and Stroke Association
ANHMRC	Australian National Health and Medical Research Council
CT	Computed Tomography
DoH	Department of Health
ICU	Intensive Care Unit
MDT	Multidisciplinary Team
MRI	Magnetic Resonance Imaging
RN	Registered Nurse
SANC	South African Nursing Council
SIGN	Scottish Intercollegiate Guidelines Network
TIA	Transient ischaemic attack
WCRC	Western Cape Rehabilitation Centre
WHO	World Health Organisation

CHAPTER 1: FOUNDATION OF THE STUDY

1.1 INTRODUCTION

Stroke rehabilitation is one of the key components in the management of stroke patients (Dewey, Sherry & Collier, 2007:192). It is often carried out by members of the multidisciplinary team, which includes nurses (Clarke, 2013b:5). Although nurses working at private hospitals in the Cape Metropolitan area are actively involved in the care of stroke patients, their role in rehabilitation is unclear. This study aimed at exploring the clinical roles of nurses in the rehabilitation of hospitalised acute stroke patients.

This chapter provides the background information for this research, the aim of the study, and the chapter outline of the study.

1.2 SIGNIFICANCE OF THE STUDY

Stroke is believed to be the leading cause of death and disability in the world (Aadal, Angel, Dreyer, Langhorn & Pedersen, 2013:158) and it remains one of the main causes of death and disability in South Africa (Bryer, Connor, Haug, Cheyip, Staub, Tipping, Duim & Pinkney-Atkinson, 2010:747). According to Statistics South Africa (2011), stroke was rated the third most extensive cause of death in South Africa.

Stroke is either caused by an interruption of blood supply to the brain, resulting from a blockage in blood vessels, or by cerebral haemorrhage (Kerr, 2012:35). Stroke affects all age groups from less than 20 years up to more than 65 years (Miller, Murry, Richard, Richards, Bakas, Clark & Billinger, 2010:2403). The main types of stroke include ischaemic stroke, haemorrhagic stroke, and transient ischaemic attack (TIA) (American Heart Association Provider Manual, 2016:74; Bryer et al., 2010:755). The ischaemic type of stroke accounts for 85% of strokes, often in the age group 35 to 54 years, while haemorrhagic stroke accounts for 15% of strokes in South Africa (Bryer et al., 2010:755).

Stroke patients admitted to healthcare facilities should be treated in such a manner that they are able to receive urgent medical attention as recommended by the American Heart and Stroke Association (AHSA, 2016:74). This include early diagnosis and initiation of treatment plans to reduce the mortality rate of stroke patients (AHA, 2016:74).

In most private hospitals around the Metropolitan area, including the private hospitals under study, patients brought to the various emergency centres are initially seen by the emergency physicians before being referred to a clinical neurologist. The role of the neurologists thereafter includes conducting a clinical examination and deciding upon the radiographic imaging obtained to confirm the diagnosis of a stroke. Initial imaging procedures of Computed Tomography (CT) scan or a Magnetic Resonance Imaging (MRI) is performed within one hour

after the initial assessment. This follows an immediate interpretation of the CT scan or the MRI results. Depending on the results, the neurologist then decides upon the treatment plans based on the type of stroke that the patient suffered.

It is recommended that thrombolytic treatment should be given to patients with a confirmed ischaemic stroke that is caused by a blood clot that is obstructing the cerebral blood flow, as indicated by the American Heart Association (AHA, 2016:74). The AHA maintains that this treatment should be given within three hours after the onset of symptoms, or up to four-and-a-half hours in some selected patients, to improve the outcome of such treatment (AHA, 2016:74). Due to the availability of imaging equipment in these healthcare facilities used for this study, most stroke patients admitted to the facilities are able to receive treatment within the stipulated time frame.

In addition to the thrombolytic treatment, there are also thrombectomy procedures performed on some stroke patients with large blood clots, which may require surgical removal (AHA, 2016). This procedure may be performed either at the initial hospital of admission or in other hospitals within the region.

The initial treatment of all stroke patients is usually carried out in the Intensive Care Units (ICU) of the relevant hospitals. These units provide a 24-hour intensive care service to critically ill patients. While in these specialised units, patients are continuously monitored and assessed with regard to their neurological functioning. These patients remain in the ICUs until their condition stabilises before they are transferred to a general ward.

During hospitalisation, stroke patients are continuously assessed to determine the after effects of a stroke. The most common observed effects of a stroke are dysphasia, dyspraxia, hemiplegia, incontinence, and immobility. In addition, stroke patients are also continuously assessed for their physical needs such as hygiene, communication, nutrition, bowel and bladder functions, safety, and psychological needs.

Treatment planned for patients is commonly based on the individual person's physical needs. Early rehabilitation is one treatment aspect that is provided to stroke patients admitted to these facilities. Rehabilitation activities usually commence while a patient is still in ICU and it is continued in the general wards until patients are discharged from the facilities or transferred to either the Life Rehabilitation Centre, Intercare Rehabilitation Centre or the Western Cape Rehabilitation Centre situated in the Cape Metropolitan area.

The most common effects of stroke include an inability to communicate, mobilise, and perform activities for daily living (Scottish Intercollegiate Guidelines Network, 2010:11).

To improve the quality of life of individuals who have suffered a stroke, effective rehabilitation is believed to be a key aspect of the management of such patients (Dewey, Sherry & Collier, 2007:192). Rehabilitation is performed by healthcare professionals including doctors, nurses, speech and language therapists, occupational therapists, physiotherapists, dieticians, and social workers (Clarke, 2013b:5). The roles of each of these members need to be efficiently coordinated to ensure an effective outcome of the care of stroke patients (Gibbon, Gibson, Lightbody & Radford, 2012:12).

Nurses are the frontline healthcare providers and are believed to be key to the effective management of stroke patients considering the amount of time they spend with hospitalised stroke patients (Clarke, 2013a:1202). They play an important role in providing and coordinating patients' care with other members of the multidisciplinary team in the rehabilitation process (Miller, Murry, Richard, Richards, Bakas, Clark & Billinger, 2010:2426).

The researcher, during clinical practice in a private healthcare facility, noted that nurses were not actively involved in the rehabilitation process that was carried out by other members of healthcare professionals. This limited participation of nurses in the rehabilitation of stroke patients and affected the continuity of care by nurses in the absence of the other rehabilitation team members.

This study aimed at exploring the potential roles of nurses in the rehabilitation of stroke patients in an attempt to engage nurses in this process and to ensure the continuity of the rehabilitation of stroke patients.

1.3 RATIONALE

It is estimated that 700,000 people are diagnosed with stroke annually in the United States of America (Aadal et al., 2013:158) and there are about 240 people diagnosed with stroke every day in South Africa (Heart and Stroke Foundation of South Africa, 2017).

The AHSA (2016) described hypertension, high cholesterol, physical inactivity, and obesity, excessive alcohol and drug abuse, heart diseases, diabetes, ageing and certain blood disorders as some of the risk factors for developing stroke in both men and women. According to Bryer et al. (2010:747) the burden of stroke in South Africa was predicted to rise due to similar risk factors described by the AHSA (2016) among the South African population.

There was a noticeable increase in the number of acute stroke patients admitted at a specific private hospital under study. There were approximately 54 patients admitted in 2014 and about 66 patients in 2015. An increase in the number of admissions for newly diagnosed stroke patients, prompted the researcher to re-examine the care provided for stroke patients admitted

to the hospital. This care included rehabilitation that aimed at promoting physical independency for stroke patients (Scottish Intercollegiate Guidelines Network, 2010:11).

According to Dewey et al. (2007:192) early in-hospital rehabilitation, provided within the first week after suffering a stroke, is one of the key aspects in the recovery of stroke patients. The rehabilitation of stroke patients, at the healthcare facility under study, commences as soon as patients are able to tolerate physical strain, as recommended by the Australian National Health and Medical Research Council (ANHMRC, 2010:79). This is done by a team of healthcare professionals, including occupational therapists, physiotherapists, speech and language therapists, dieticians, and social workers. In-hospital rehabilitation continues until patients are referred for advanced care to rehabilitation centres situated in the Cape Metropolitan area. These centres include the Life Rehabilitation Centre, Western Cape Rehabilitation Centre, and Intercare Rehabilitation Centre.

Due to limited spaces in the rehabilitation centres, stroke patients may remain in hospital for more than three weeks before such transfers take place, despite recommendations for early referrals for advanced rehabilitation, as highlighted by the Scottish Intercollegiate Guidelines Network (SIGN, 2010:8). In the interim, patients diagnosed with a stroke rely on rehabilitation services provided by healthcare professionals at hospitals.

According to Miller et al. (2010:2406) in a report written on behalf of the American Heart Association on Cardiovascular Nursing and the Stroke Council, stroke patients require at least 3-5 hours of speech, occupational, and physical therapy a day to benefit from such treatment. Unfortunately, this is a challenge in the healthcare facilities being studied. Skilled healthcare professionals assigned for rehabilitation are not only responsible for rehabilitation of stroke patients, but are also involved in rehabilitation of other in-patients requiring such services. This was another reason that inspired the researcher to explore the role of nurses in the rehabilitation of stroke patients in order to engage nurses in this process.

Nurses form the backbone of healthcare facilities and are continuously involved in the care of stroke patients from admission until patients are discharged (Clarke & Holt 2015:1870). There were on average about eight registered nurses, in one of the hospital's general medical wards, responsible for the clinical nursing care of stroke patients. The care includes assessing, diagnosing, planning, and implementing nursing interventions that aim to ensure adequate nutritional intake, normal bladder and bowel functioning, pain management, prevention of falls, maintaining skin integrity, and the prevention of deep vein thrombosis, all of which are vital for stroke patients (Winstein, Stein, Arena, Bates, Cherney et al., 2010: e7-e15). In addition, there were eight staff nurses and eight auxiliary nurses working directly or indirectly under the supervision of the professional nurses, assisting in the care of stroke patients admitted to the

medical ward. Despite their complex contributions to the nursing care of stroke patients, their roles in rehabilitation remain unclear (Aadal et al., 2013:158).

To achieve effective in-hospital stroke rehabilitation, there should be a continuity of care between nursing staff and other members of healthcare professionals responsible for rehabilitation (Dewey et al., 2007:192). Nurses should be familiar with the variety of services provided by other healthcare professionals in order to engage themselves in the rehabilitation procedures (Poslawski, Schuurmans, Lindeman & Hafsteinsdottir, 2009). Poslawski et al. (2009) recommended that nurses should continue with the rehabilitation of patients in the absence of other members of the multidisciplinary team, in order to maximise therapy outcomes for stroke patients.

Exploring the roles of nurses in the rehabilitation of patients suffering from a stroke is intended to add scientific value to current available knowledge regarding the nursing care of hospitalised stroke patients and to the rehabilitation of stroke patients.

1.4 RESEARCH PROBLEM

Despite nurses' central role in providing clinical care to hospitalised stroke patients, which contributes to the physical and psychological recovery of such patients (Kirkevold, 2010: E27) little is known about their role in the rehabilitation of stroke patients. Their limited participation in the rehabilitation of stroke patients may impact the quality of the rehabilitation process.

Therefore, the research question that focuses on nurses' role in the rehabilitation of hospitalised stroke patients need to be addressed in detail.

1.5 RESEARCH QUESTION

The research question in this study is: What is the clinical role of nurses with regard to the rehabilitation of acute stroke patients admitted to private hospitals in Cape Town, South Africa?

1.6 RESEARCH AIM

The aim of this study was to explore the clinical roles of nurses in the rehabilitation of acute stroke patients in private hospitals situated in Cape Town, South Africa.

1.7 RESEARCH OBJECTIVES

The objectives of this study are to:

1. Explore how nurses perceived their clinical roles in the rehabilitation of hospitalised acute stroke patients.
2. Identify possible barriers to nurses' engagement in the rehabilitation of hospitalised stroke patients.

3. Explore possible means of overcoming barriers to nurses' engagement in the rehabilitation of hospitalised stroke patients.
4. Identify a means of engaging nurses in the rehabilitation of hospitalised stroke patients in order to ensure continuity in the rehabilitation of such patients.

1. 8 RESEARCH METHODOLOGY

A broad description of the methodology used in this study is provided in chapter 3 and it includes the aspects listed below.

1.8.1 Research design

A qualitative exploratory descriptive research design was used to explore the clinical roles of nurses in the rehabilitation of acute stroke patients.

1.8.2. Study setting

This study was conducted at three private hospitals situated in the Cape Metropolitan area, South Africa.

1.8.3. Population and sampling

A team of nurses working in the private hospitals under study were identified as the research participants. A purposive sampling method was used for selecting participants. This method of sampling was specifically chosen to try to select nurses who were able to provide the type of information needed for this particular study.

1.8.3.1. Inclusion criteria

All registered nurses, staff nurses, and auxiliary nurses meeting the stipulated requirements for participation in the study, provided in chapter 3, were included.

1.8.3.2. Exclusion criteria

There were no specific exclusion criteria for the study.

1.8.4. Data collection tool

An interview guide, provided in Appendix 4, was used for data collection. The interviews were audio recorded and transcribed verbatim as a means for data processing (Burns and Grove, 2011:93).

1.8.5 Trustworthiness

Trustworthiness in this research project was maintained by ensuring credibility, dependability, confirmability, and transferability of the research findings as described by Lincoln and Guba (1985:304).

1.8.6 Data collection

Semi-structured face-to-face interviews of participants was used for data collection. All interviews were audio recorded and transcribed verbatim. Transcripts and field notes were stored in a lockable storage cabinet.

1.8.7 Data analysis

All steps described by Terre Blanche, Durrheim and Painter (2006:320-325) were followed for data analysis. This included familiarisation with the collected data, creating themes, coding, as well as interpretation and verification of the data.

1.9 ETHICAL CONSIDERATIONS

Approval for this research was obtained from Stellenbosch University's Human Research Ethics Committee (Ref. No. 517/04/077). The additional ethics clearance for this study was obtained from the relevant private hospitals situated in the Cape Metropolitan area.

Regarding autonomy, the research participants were reminded of their right to decide whether or not to take part in the study after they were provided with information about the study (Brink, 2006:32). The information in the provided leaflet included the aim of the research and the reasons for their participation in the study. Only the participants who agreed to take part in the study were included and interviewed. Informed written consent was obtained for participation in the interview as well as the recording thereof.

Justice in this research was ensured by selecting participants who were able to provide information regarding the nursing care and rehabilitation of stroke patients, which were required for the purpose of this study (Brink, 2006:33).

During the interviews, privacy and confidentiality were ensured. Any confidential information given to the researcher during the interviews was not shared with anyone without the consent of the participants. Participants were allowed to review transcripts relevant to their specific interviews, to verify the accuracy of the documents.

Prior to the interviews, participants were informed that all information collected was treated as confidential. Interview recordings, field notes, and transcripts will be stored in a lockable place for the duration of at least five years. The word documents will be electronically stored on a password-protected computer device only accessible to the researcher. A written informed consent form was obtained from each participant.

This study took some valuable time from the participants and the researcher tried to take the necessary steps to minimise time wastage. Research participants were also protected from psychological discomfort by conducting interviews at a time and place convenient to the participants (Brink, 2006:32). No participants experienced emotional distress during the

interview. However, counselling was made available for participants who might have experienced emotional distress during data collection. Participants were also provided with a telephone number to contact the researcher in an event where they had queries regarding the study.

1.10 DURATION OF THE STUDY

The research proposal for this study was finalised in March 2017 and the ethical approval was granted in May 2017. Data collection and analysis was done from July to October 2017. This thesis was finalised and ready for submission at the end of November 2017.

1.11 OPERATIONAL DEFINITIONS

Nurse: A nurse is a person registered as a nurse and midwife in terms of the Nursing Act, No. 33 of 2005.

Registered nurse: A registered nurse refers to the person registered as such in terms of section 31 of the Nursing Act, 2005 (Act No. 33 of 2005).

Staff nurse: A staff nurse is the person registered as such in terms of section 31 of the Nursing Act, 2005 (Act No. 33 of 2005).

Auxiliary nurse: An auxiliary nurse refers to the person registered as such in terms of section 31 of the Nursing Act, 2005 (Act No. 33 of 2005).

Multidisciplinary team: A multidisciplinary team consists of a team of healthcare professionals such as doctors, nurses, occupational therapists, physiotherapists, speech and language therapists, dieticians, and social workers working together in the rehabilitation of stroke patients (Clarke, 2013b:5).

Rehabilitation: Rehabilitation is defined as the process of restoring physical and psychological well-being for an individual who has become disabled as a result of an illness, in order to gain some functional independence (Dewey et al., 2007:192).

Stroke: A stroke occurs due to an interruption of blood supply to the brain resulting from a blockage in blood vessels or cerebral haemorrhage causing a neurological impairment with symptoms such as paralysis in the limbs or dysphagia (Kerr, 2012:35).

1.12 CHAPTER OUTLINE

The chapter outline for this study is provided below.

Chapter 1: Foundation of the study

This chapter outlines the foundation of the study and provides the study background and aims of the study.

Chapter 2: Literature review

This chapter provides an overview of what is known about rehabilitation for stroke patients by healthcare professionals with attention to the role nurses play in the rehabilitation process.

Chapter 3: Research methodology

Chapter 3 outlines the methodology used for this study.

Chapter 4: Results

In chapter 4 the results and the interpretation of research findings are presented.

Chapter 5: Discussion, conclusion and recommendation

In the final chapter, a discussion of the findings and recommendations related to the study are included.

1.13 SIGNIFICANCE OF THE STUDY

The impact of strokes on the healthcare system requires constantly seeking knowledge to improve the management of stroke survivors. Conducting research, as relevant to this study, is one way of acquiring knowledge vital for the nursing profession as it will facilitate the effective discharge process of patients who had suffered a stroke.

1.14 SUMMARY

Although it is recommended that stroke patients should have extensive rehabilitation therapy while in hospital, this seems to be unrealistic in most of the healthcare facilities. Increased numbers of hospitalised patients requiring rehabilitation, as well as a shortage of healthcare professionals responsible for providing rehabilitation to in-patients, are described as some of the challenges the healthcare facilities are facing.

In this chapter, it is recognised that nurses are the backbone of the healthcare profession who spend most of the time with hospitalised stroke patients. It is also pointed out that there is a need to involve nurses more in the rehabilitation of stroke patients in order to improve the outcome of rehabilitation.

Reviewing literature relating to stroke rehabilitation and the role nurses play therein was necessary for this research study.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The previous chapter provided information regarding the research background as well as the significance of the study. This chapter outlines the literature review relating to the rehabilitation of acute stroke patients by members of the multidisciplinary team with specific attention to the role nurses play in the rehabilitation process.

2.2 REVIEWING AND PRESENTING THE LITERATURE

Literature is a body of written information related to a specific topic of interest (Brink, 2006:67). The purpose of reviewing this literature was to gather information from publications to determine what is currently known about the clinical role of nurses in the rehabilitation of acute stroke patients (Burns & Grove, 2011:189). The literature relating to this study was obtained from electronic databases such as Science Direct, PubMed, Google Scholar as well as from textbooks. Articles published within the past ten years, were accessed and reviewed.

The following key words were used for the search of the relevant articles: Stroke, Rehabilitation, Multidisciplinary Team, and Nursing Roles.

The literature for the study is organised in the following groups:

- The effects of a stroke.
- Stroke rehabilitation.
- Factors influencing rehabilitation of stroke patients by the multidisciplinary team.
- The role of nursing in the clinical care of stroke patients.
- The role of nursing in stroke rehabilitation.
- Factors influencing the involvement of nurses in stroke rehabilitation.
- Barriers to engaging nurses in the rehabilitation of stroke patients.

2.3 THE EFFECTS OF STROKE

Stroke is a cerebral vascular condition that globally causes death and disability (Dreyer et al., 2016:11). The global healthcare system, whether in developed or developing countries, is facing challenges in the management of stroke as more young and elderly people are diagnosed with having suffered a stroke (Bryer et al., 2010:755).

It is estimated that there are more than 300,000 people living with disabilities after a stroke in Canada (Teasell, Meyer, Foley, Salter & Willems, 2009:11). These stroke patients tend to spend a considerable amount of time in hospitals due to the effects of the stroke (Teasell et al., 2009:13). It is acknowledged that this has a serious impact on the Canadian healthcare system (Teasell et al., 2009:13).

According to Aadal et al. (2013), over 700,000 people in the United States of America are annually affected by a stroke, which is an alarming figure for any country. Approximately 1,100 people are diagnosed with stroke in England every year and more than 300,000 are living with disability as a result (Gibbon, Gibson, Lightbody & Radford, 2012:12). It is reported that stroke is one of the main causes of death and disability in the sub-Saharan region of Africa (Bryer et al., 2011:349) and it is believed to be one of the main causes of death and disability in the Western Cape Province in South Africa (Cawood & Visagie, 2015:1).

Despite the best of efforts taken to prevent and treat patients who suffered a stroke, stroke survivors are likely to be forced to live with some form of disability after suffering a stroke (Teasell et al., 2009:11). The type of disabilities resulting from a stroke is either physical or psychological in nature (Dewey et al., 2007). The physical challenges include dysphagia, paralysis, loss of sensation, visual impairment, aphasia or dyspraxia of speech (ANHMRC, 2010). These physical challenges are not only detrimental to patients, but also to the people involved in their care (ANHMRC, 2010).

Due to the complexity of the disease, stroke survivors often face challenges in fulfilling activities of daily living such as mobilising, communicating, and grooming (Miller, et al., 2010:2403). These physical challenges have tremendous impacts on the quality of life for stroke victims (ANHMRC, 2010).

Stroke does not only affect the patients. It has a major impact on families and the healthcare system (Clarke, 2013b:5). Management of stroke patients aims at providing care strategies that enhance functional independency in stroke patients for the benefit of these patients, their families, and the healthcare system (Tyrrell, Levack, Ritchie & Keeling, 2012:246).

2.4 STROKE REHABILITATION

Rehabilitation is viewed as one of the care strategies that may improve the quality of life for stroke patients (Dewey et al., 2007:192) and it is described in the following paragraphs.

2.4.1 Meaning of stroke rehabilitation

According to the World Health Organisation (WHO, 2011), rehabilitation is a set of measures that are put in place to assist individuals who are disabled or likely to experience disability

after an illness. Stroke is one of the conditions that cause disability in patients and require patients to undergo extensive rehabilitation (Miller et al., 2010:2402).

Dewey et al. (2007:192) describe stroke rehabilitation as the process of assisting persons who have become disabled as a result of a stroke to return to an optimal level of health and to be able to participate in activities of daily living despite the challenges of a stroke. It is a goal-oriented process that aims at obtaining maximum functioning of these patients (Bryer et al., 2010:352).

Stroke rehabilitation is achieved by implementing a series of rehabilitation strategies that aim to promote physical and cognitive functioning in stroke patients (Miller et al., 2010). According to Dewey et al. (2007:191), there are different approaches to stroke rehabilitation. These include the functional approach, which is used for stimulating some activities in patients like mobilisation, and the activity approach, which is used to promote activities of daily living (ADL). Both approaches maximise the rehabilitation outcomes (Dewey et al., 2007:192).

SIGN (2010:12) recommends early mobilisation, therapeutic positioning, and speech and language therapy as primary approaches to stroke rehabilitation.

There is evidence that stroke rehabilitation interventions have a positive effect on the life of stroke survivors, if well executed by members of the multidisciplinary team who are considered to be the key players in the rehabilitation processes (Dewey et al., 2007:191).

2.4.2 The role players in stroke rehabilitation

There are several role players in the healthcare systems who are involved in the management of stroke patients (Clarke, 2013:5). According to Clarke (2013:5), stroke rehabilitation is often carried out by members of the multidisciplinary team for the physical and psychological rehabilitation of stroke patients.

A multidisciplinary team is characterised by a close relationship between members from different professions who share common goals with patients and their families (Aadal et al., 2013:159). Their goal is to assist stroke survivors to regain their normal physical and psychological functioning (Aadal et al., 2013:159).

The role of healthcare providers in psychological rehabilitation include providing emotional support to stroke survivors by encouraging these patients to take part in the rehabilitation processes (Kumerenzi, Goliath, Mji, Mlenzana, Joseph, Stathum & Rhoda, 2015:4). This is achieved by encouraging patients to set their own rehabilitation goals, which will enable them to overcome the psychological effects of a stroke (Kumerenzi et al., 2015:5).

The American Heart and Stroke Foundation Guidelines for stroke rehabilitation (2016: e4) recommend a team approach and coordinated efforts of the members of healthcare professions with regard to stroke care. To succeed in stroke rehabilitation, members of the healthcare profession should jointly work together and share knowledge that will benefit stroke patients (Dewey et al., 2007:191).

In South African public healthcare facilities, stroke rehabilitation is jointly initiated and coordinated by a team of healthcare professionals working in public hospitals (Bryer et al., 2011:352). These include doctors, nurses, physiotherapists, speech therapists, occupational therapists, dieticians, and social workers (Bryer et al., 2011:352). In South African private healthcare facilities, rehabilitation is done slightly differently in the sense that it is provided by individual service providers; in this case the physiotherapists, occupational therapists, speech therapists, social workers, and dieticians (Visagie & Swartz, 2016:1). Nurses assigned to care for patients are either working with the private healthcare organisations or through a nursing agency (Visagie & Swartz, 2016:1).

Whether in private or public sectors, rehabilitation services in South Africa are greatly affected by the shortage of healthcare professionals in the rehabilitation sectors (Visagie & Swartz, 2016:1). The South African guidelines for stroke rehabilitation recommend that rehabilitation should be carried out by healthcare professionals experienced in stroke rehabilitation in order to achieve better outcomes of therapy (Bryer, 2011:352). In addition, rehabilitation should be carried out in an environment that is conducive to the rehabilitation purpose, in either in stroke units or neuro-rehabilitation centres (Winstein et al., 2016: e4).

The Department of Health (DoH) in the Western Cape (2016) recommends that patients requiring rehabilitation should be transferred to rehabilitation facilities that are allocated in either the Western Cape or anywhere else in the country. These healthcare facilities provide specialised and high intensity rehabilitation programmes to people who have become disabled after an injury or illness like stroke. The Western Cape Rehabilitation Centre, Booth Memorial Hospital, Life Care in Pinelands, and the Intercare Rehabilitation Centre make provision for rehabilitation facilities and step-down care for stroke patients in Cape Town.

The DoH in the Western Cape (2016) also recommend that in-patient rehabilitation should be initiated at the hospital where the initial diagnosis of stroke is made while patients wait for referrals to the mentioned rehabilitation centres.

2.4.3 The rehabilitation process

SIGN (2010:13-14) recommends that stroke patients should be admitted to a stroke unit staffed with healthcare professionals with a special interest in stroke care. This is due to the fact that stroke units provide a suitable environment for stroke rehabilitation (Dewey et al.,

2007; Seneviratne et al., 2009:1873). Where there are no stroke units, general wards can be used for stroke rehabilitation while patients wait for referrals to neuro-rehabilitation centres (SIGN, 2010:13-14). Rehabilitation of stroke patients in recommended environments is a challenge to most of the healthcare organisations (Bryer et al., 2011:349).

For instance, in Canada, only up to 50% of stroke patients are able to be admitted to specialised stroke units while the remaining 50% are admitted to general rehabilitation wards (Teasell et al., 2009:12). In Hong Kong, after the acute phase of a stroke, patients are transferred to the general wards of Hong Kong sub-acute hospitals (Woo et al., 2008:6). These sub-acute hospitals provide rehabilitation programmes that aim to reduce the length of hospitalisation for stroke patients. During the hospitalisation, rehabilitation within the wards is encouraged and nursing staff, personal care workers as well as relatives are urged to take part in the rehabilitation of stroke patients (Woo et al., 2008:6). In South Africa, stroke units are not well established and the rehabilitation of stroke patients is normally carried out in hospital general wards (Bryer et al., 2011:349:359).

Advantages of in-hospital rehabilitation include preventing complications of hospitalisation, improving patients' morale, and providing rehabilitation in a more relevant environment (Mas & Inzitari, 2015:5). To achieve positive results, rehabilitation should commence as early as possible and should include task repetitions by patients themselves together with healthcare professionals (Clarke, 2013:6). Commencing rehabilitation within hours of a stroke attack may be beneficial to the recovery of the stroke patients (ANHMRC, 2010:80).

Rehabilitation should include assessing and planning activities for patients by members of the multidisciplinary team (ANHMRC, 2010). It is advisable that this process should involve patients, caregivers, and members of the multidisciplinary team (Bryer et al., 2011:352). The aim for early rehabilitation is to prevent deep vein thrombosis, skin break down, falls, contractures, depression, and to improve the quality of life of stroke patients (SIGN, 2010: 13).

The South African guidelines for stroke rehabilitation recommend that rehabilitation should continue until patients are discharged from hospital or referred to neuro-rehabilitation centres (Bryer et al., 2010:778). Whether in stroke units or hospital settings, it is recommended that stroke patients should receive at least more than three hours of therapy sessions per day in order to benefit from such services (Miller et al., 2010:2404). According to Kumerenzi et al. (2015:6), the lack of enough rehabilitation healthcare professionals is believed to be a barrier to attaining that goal in the Western Cape.

Stroke rehabilitation is believed to improve the quality of life of stroke survivors if it is well executed by members of the multidisciplinary team (Clarke, 2013b:6).

2.5 FACTORS INFLUENCING THE REHABILITATION OF STROKE PATIENTS BY MEMBERS OF THE MULTIDISCIPLINARY TEAM

There are numerous factors that influence the outcomes of stroke rehabilitation promoted by members of the multidisciplinary team. The outcome of rehabilitation may be influenced by factors such as collaboration, teamwork, communication, knowledge and skills as well as the type of leadership given (McCallin & McCallin, 2009:62-64).

2.5.1 Collaboration

In the multidisciplinary team, collaboration is seen as the key to achieve quality care for patients who are admitted to healthcare institutions (Struwe et al., 2013:146). Healthcare professionals, with specialised skills, should collaboratively share knowledge and expertise with other members of the multidisciplinary team for the benefit of patients (Clarke, 2013b:7). Sharing of knowledge and skills can be achieved where there is mutual respect, a trusting relationship, and team interaction (Barrecca & Wilkins, 2008:42).

Studies have shown that stroke patients are better managed in an environment that promotes team interaction (Barrecca and Wilkins, 2008:42) and where each team member understands and respects the roles of other team members in the rehabilitation process (Byrne and Pettigrew, 2010:510). Stroke units or designated stroke areas provide an organised and goal-focused environment for the care of stroke patients by the multidisciplinary team (Seneviratne et al., 2009:1873). This adds to the eventual success of the rehabilitation process (Dewey et al., 2007:191). Unfortunately, stroke units are not readily available in most healthcare settings, especially in the developing countries (Bryer et al., 2010:775).

In a limited resource environment with unestablished stroke units, team collaboration has been proven to achieve effective rehabilitation results for stroke patients (De Villiers, Kalula & Burch, 2009:89-93). With regard to multidisciplinary team collaboration, it is also crucial that individual healthcare professionals play independent roles in the rehabilitation process of stroke patients (Clarke, 2013a:5). The team members should also be actively involved in assessing, planning, and treating stroke patients (Bamford, Rothwell, Tyrell & Boaden, 2013:555). Each member should aim at achieving optimal utilisation of available in-hospital resources for the benefit of stroke patients (Haynes, Sheppard, Drake & Ritter, 2015:559-560). Optimal utilisation of resources is achieved through collaborative teamwork and effective communication among members of the multidisciplinary team responsible for the care of stroke patients (Jesus & Silva, 2015:31).

2.5.2 Teamwork

Teamwork is important to the stroke rehabilitation process (Atwal & Caldwell, 2006:359) because it provides a platform for exchanging ideas from different groups of healthcare professionals involved in the management of stroke patients (Byrne & Pettigrew, 2010:514).

According to Atwal and Caldwell (2006:360), teamwork improves the planning of patient care. It provides an effective and focused service because it prevents work fragmentation and duplication of services provided to the patients. By working in the team, there is work satisfaction among healthcare providers who share a common interest in the well-being of their patients (Atwal & Caldwell, 2006:360).

There are several factors influencing teamwork among the members of the multidisciplinary team responsible for the rehabilitation of stroke patients (McCallin & McCallin, 2009:62-64). Different levels of competence among the team members, attitudes of members towards each other, and the types of leadership styles all influence teamwork (McCallin & McCallin, 2009:62-64). In stroke rehabilitation, it is vitally important to have a team in which each member of the team respects the efforts and knowledge that is contributed by other members of the multidisciplinary team towards the recovery of patients (Byrne & Pettigrew, 2010:510).

Although teamwork and collaboration are believed to contribute to a positive outcome in the rehabilitation of stroke patients, there are limited references to nurses working with or collaborating with other members in the multidisciplinary team and patients to achieve rehabilitation goals (Clarke, 2013a:1220).

2.5.3 Communication

Communication is the act of exchanging thoughts, opinions or information by use of speech, writing or signs (Online Dictionary.com). In a multidisciplinary team, communication is one of the key elements in the care of all patients especially stroke survivors (Byrne & Pettigrew, 2010:514). To achieve better outcomes for stroke rehabilitation, there must be communication strategies to ensure that each member of the multidisciplinary team is able to share knowledge and expertise with other members of the team (Jesus & Silva, 2015:31).

To ensure the continuity of care for patients who require a combination of acute care and rehabilitation care, communication is an important component in the management of such patients (Woo et al., 2008:1). Stroke survivors require an effective form of communication among the members of the multidisciplinary team involved in their care (Woo et al., 2008:1).

The use of medical records, bedside notices and formal meetings as a form of communication, provide a platform for sharing professional expertise and knowledge in a multidisciplinary team (Burton, Fisher & Green, 2009:92). This is easily coordinated in an organised nursing unit where each member of the multidisciplinary team shares a common interest in the outcomes of the treatment of stroke patients (Struwe, Baernholdt, Noerholm & Lind, 2013:141).

It is evident that communication, therefore, plays an important role in the building of a skilled healthcare team responsible for the management stroke survivors.

2.5.4 Knowledge and skills

A skilled workforce is described as the cornerstone for quality stroke services (Miller et al., 2010). It comprises individuals with a special interest in the care of stroke patients (Bryer et al., 2010). To have a skilled workforce requires that each member of the team is committed to evidence-based practice through education and training (Dewey et al., 2007:191-200). According to Clarke (2013b:1216), this is achieved by having skilled leaders who are able to build a skilled workforce.

Building a skilled workforce in the management of stroke patients requires the fostering of interdisciplinary collaboration, supporting continued care, and promoting the sharing of knowledge among members of the multidisciplinary team (McCallin & McCallin, 2009:6).

All the above-mentioned factors contribute to the successful rehabilitation of stroke patients. Despite information that describes nurses as members of the multidisciplinary team, it is difficult to describe the role nurses play in the rehabilitation compared to other healthcare professionals (Tyrell et al., 2012:2471). Although the role of nurses in stroke rehabilitation is undefined, their involvement in rehabilitation processes impacts extensively on the outcomes of such activities (Miller et al., 2010:2404).

2.6 THE ROLE OF NURSING IN THE CLINICAL CARE OF STROKE PATIENTS

Research studies have provided information relating to the role played by nurses in the management of stroke patients admitted to the healthcare facilities. Nurses, as members of the multidisciplinary team, play an important role in the management of stroke patients admitted to healthcare facilities (Miller et al., 2010:2404). Nurses are actively involved in the care of stroke patients throughout their hospital stay (Barreca & Wilkins, 2008). According to Kerkvold (2010: E40) nurses are responsible for providing nursing care, care coordination, and giving emotional support to hospitalised stroke patients. These roles are briefly described below.

2.6.1 Nursing care

Nursing care is defined as all activities performed by nurses that aim to promote health, prevent complications, and promote functional independency in patients (Miller et al., 2010:2403). According to Miller et al. (2010:2404), patient care often lies in the hands of nurses who are usually in closer contact with hospitalised patients as compared to the other members of the multidisciplinary team who are involved with the care of the stroke patients.

Due to the complexity of the disease, stroke patients often face challenges such as the inability to fulfil normal functions for daily living such as mobilisation, grooming, and nutritional intake (Miller et al., 2010:2404). As a result, stroke patients often require a considerable amount of nursing care in order to meet these basic needs (Seneviratne et al., 2009:1876; Barreca &

Wilkins, 2008:42). The nursing care involved for stroke patients include maintaining personal hygiene, supervising nutritional intake and elimination, maintaining skin integrity, and preventing injuries resulting from the effects of a stroke (Kirkevold, 2010: E28; Miller et al., 2010:2404).

Regulation R786, relating to the scope of practice for nurses and midwives registered under the Nursing Act, 2005 (Act No. 33 of 2005) section 4.3, stipulates that the clinical practice of a professional nurse is to provide comprehensive nursing treatment and rehabilitation for all health problems of individuals in their care. This can be achieved by providing care that requires the integration of knowledge and skills acquired from other members of the multidisciplinary team who are involved in the care of stroke patients regarding their routine care (Struwe et al., 2013:142).

In addition to care integration, Tyrrell et al. (2012:2471) and Barreca and Wilkins (2008:41) recommended that nurses should provide, in their routine nursing care, ongoing patient education that promote self-care. Although this seems ideal, promoting self-care is often challenged by the amount of workload experienced in the nursing of stroke patients (Barreca & Wilkins, 2008:41). Nurses are often reluctant to allow patients to carry out such activities that promote self-care due to workload and time constraints (Barreca & Wilkins, 2008:41).

With regard to the nurses who are aware of what is expected of them in the rehabilitation process, it is noted that they are often prevented from doing so because of a lack of time that hinders them from participating in stroke rehabilitation (Seneviratne et al., 2009:1873).

It is pointed out that nurses should accept rehabilitation as a normal part of nursing care by not only focusing on the provision of nutrition and hygiene, but also promoting mobility and exercises in their routine nursing care (Seneviratne et al., 2009:1873). According to Seneviratne et al. (2009:1873), optimal stroke care requires engaging nurses in the rehabilitation processes.

In situations where nursing actions create favourable conditions for patients who are receiving rehabilitation therapy, the outcomes of rehabilitation provided by other members of the multidisciplinary team is improved (Miller et al., 2010; Seneviratne et al., 2009).

To improve the outcome of stroke rehabilitation in the multidisciplinary team, care coordination should be the focus for all members of the multidisciplinary team (Seneviratne et al., 2009).

2.6.2 Care coordination

According to Seneviratne et al. (2009:1872) and Tyrrell et al. (2012:2467), nurses play an important role in coordinating care with other members of the multidisciplinary team responsible for the rehabilitation of stroke patients. Nurses are able to share information on a

patient's condition with other members of the multidisciplinary team and this is seen as crucial to the rehabilitation process (McGilton, Peters, Sidani, Boscart, Fox & Rochon, 2012).

McGilton et al. (2012) believe that nurses have the ability to communicate information regarding a patient's condition to other members of the multidisciplinary team, including whether patients are able to receive therapy or not. Communicating such information to other disciplines ensures that patients receive the best possible care at the most favourable time. This role is often delegated to a senior nurse who is believed to be skilled and experienced in the care of stroke patients (McCallin & McCallin, 2009:64). Coordination of care promotes the continuity of a patient's care (Struwe et al., 2013:140).

To maintain the continuity of care for stroke patients, it is important to assign patients to nurses who are able to coordinate care with other members of the multidisciplinary team (Struwe et al., 2013:140). Coordinated team-based stroke care is, therefore, believed to result in patients more likely to survive the stroke and regain independence in the activities of daily living (Byrne & Pettigrew, 2010:517).

Coordination of patient care is important within the South African healthcare setting (Nursing Act, 2005). According to Regulation R767, relating to the Acts or Omissions, the South African Nursing Council (SANC) may take disciplinary actions against nurses who fail to carry out nursing actions stipulated in their scope of practice. Such omissions include the failure to coordinate the care of the patients in their care. According to Miller et al. (2010:2404), nurses play an important role in coordinating patient care during the rehabilitation process.

In addition to the provision of nursing care to stroke patients and the coordination of care, nurses also play a role in providing emotional support to stroke patients and their caregivers (Kirkevold, 2010: E29).

2.6.3 Emotional support

The clinical care for stroke patients require a holistic approach, which includes the provision of physical and psychological care in order to improve the quality of lives for the stroke survivors (SIGN, 2010:56). Stroke has a profound psychological impact on the patients and their families (Clarke, 2013:5). As a result, stroke patients often require emotional support from healthcare professionals, especially in the early days of the diagnosis (Winstein et al., 2016: e40).

According to Gillham, Clark, Blake, Hewitt, Holden, House et al. (2011:59), a patients' response to rehabilitation therapy is unlikely to be successful if the patients' state of mind is not stable. Therefore, it is recommended that healthcare providers should be able to assess and determine the emotional status of their patients before imposing intended treatment on

these patients (Kirkevold, 2010: E29). Nurses, through their constant contact with stroke patients, are able to recognise the psychological status of the patients, which is crucial to the patients' recovery process (Gillham et al., 2011:26).

According to Aadal et al. (2013:169), rehabilitation of stroke patients should be seen as a personal journey for stroke patients themselves. Stroke patients are required to develop a positive attitude towards the outcomes of rehabilitation based on trust and hope. However, healthcare professionals are urged to facilitate the process of recovery by supporting a patients' own efforts in regaining functional independency and by providing them with necessary information (Aadal et al., 2013:169).

Nurses play an important role in assisting patients and their families to understand the diagnosis and treatment plans proposed by the healthcare professionals (Kirkevold, 2010: E29). They assist patients and families to develop strategies of coping with the disability (Burton, Fisher & Green, 2009:88). These strategies include incorporating the newly learned techniques taught in therapy sessions into their daily living activities (Kirkevold, 2010: E29).

Although several researchers provided insights into how nurses are involved in the care of stroke survivors, it is still unclear how nurses are actually engaged in the rehabilitation of stroke patients (Aadal et al., 2013:158).

According to Aadal et al. (2013:167), the role of nursing in the rehabilitation process seems to be the one that relates to providing a conducive environment for the patients who are receiving rehabilitation. The role and functions of nurses regarding in-patient rehabilitation should be changing more towards rehabilitation than to providing basic care (Aadal et al., 2013:159).

Kirkevold (2010) recommends that nurses should be encouraged to move beyond task-oriented rehabilitation to physical rehabilitation for the benefit of stroke survivors. It is stressed that nurses should take up a leadership role as rehabilitation practitioners (Seneviratne et al., 2009:1879).

2.7 THE ROLE OF NURSING IN THE REHABILITATION OF STROKE PATIENTS

Nurses appear to play numerous roles in the management of stroke patients (Kirkevold, 2010:E29). These roles include providing nursing care, giving emotional support, and coaching stroke patients to be independent (Tyrell et al., 2012:2471-2472). In addition, nurses are involved in communicating information between patients and other healthcare professionals regarding teaching, coordinating, and supervising the patients' care (Aadal et al., 2013:158). These roles seem to be adequate, but the patients who need in-hospital rehabilitation have increased, adding further stress to the healthcare team (Aadal et al., 2013:159).

Changes in patients physical and psychological capabilities following a stroke, limit stroke survivors' confidence to take responsibility for their physical care (Eng, Brauer, Kuys, Lord & Hayward, 2014:2). These patients are often reluctant to take steps in self-care due to the support given by members of the multidisciplinary team during their hospital stay (Eng et al., 2014:6).

Unfortunately, patient contact with these members of the multidisciplinary team is usually limited due to the need to provide therapy to a lot of patients requiring such services, which in the long run, affects the quality of rehabilitation provided to these patients (Gillham et al., 2011). According to Aadal et al. (2013:168) it is recommended that the role of nurses, in this regard, should be to encourage patients to take charge of their recovery process by involving these patients in the development of rehabilitation plans and strategies proposed by healthcare professionals.

Aadal et al. (2013:159) recommend that nurses' roles and functions during in-patient rehabilitation should be changing more towards rehabilitation than providing basic care. Burton et al. (2009) emphasise that the focus of nurses in the rehabilitation process should be on promoting self-care through patient education, guidance, and giving emotional support.

Barrecca and Wilkins (2008) have suggested that nurses should assist in training or teaching patients to learn how to dress themselves, bath, and transfer themselves from bed to chair and back as a means of assisting with the rehabilitation of stroke patients. Nurses are expected not only to supervise treatment and care provided by other members of the multidisciplinary team but also to be actively involved in the related activities (Aadal et al., 2013:167).

Seneviratne et al. (2009:1873) point out that nurses should accept rehabilitation as a normal part of nursing and that they should not only provide nutrition and hygiene but also promote mobility and exercise therapies. Seneviratne et al. (2009:1873) add that to optimise stroke care, it requires the engagement of nurses in the rehabilitation process by increasing training in this regard.

Plant et al. (2016) believe that the success of stroke rehabilitation is partially influenced by the efforts of nurses as members of the multidisciplinary team. Plant et al. (2017) point out that, in the multidisciplinary team, the attention should be focused on providing information or training nurses so that they can be engaged in the rehabilitation process. Miller et al. (2010:2402) also believe that involving nurses in the rehabilitation process is associated with improved patient treatment.

Despite these recommendations, the role of nurses in the rehabilitation of stroke patients is not clearly defined (Clarke, 2013:1202; Aadal et al., 2013:158).

Although Barrecca and Wilkins (2008:39) have indicated that nurses are able to integrate rehabilitation skills in their normal nursing practice when the wards are adequately staffed, no evidence of therapy integration occurred during the nursing care of stroke patients (Clarke, 2013:1223). Therefore, this role still needs to be explored more extensively by the researcher.

2.8 FACTORS INFLUENCING NURSES' INVOLVEMENT IN STROKE REHABILITATION

There are several factors that are believed to influence the nurses' involvement in stroke rehabilitation. The involvement of nurses in rehabilitation is believed to be based on adequate time available (Gache, Leslea, Nitenberg, Woimant, Ferrua & Minvielle, 2014:4). This is due to the fact that patients who have suffered a stroke require a considerable amount of time for nursing care (Senevitne et al., 2009:1875). Senevitne et al. (2009:1875) add that, for the nurses who are aware of what is expected of them, a lack of time is one of the reasons that prevents them from participating in the rehabilitation process.

In some hospital settings, nurses find themselves stretched between fulfilling their role of providing nursing care for individuals with medical diagnoses and, at the same time, participating in the rehabilitation processes (Barrecca & Wilkins, 2008:41). An attempt to promote self-care is often in conflict with the nursing values of assisting those who are unable to do it for themselves (Barrecca & Wilkins, 2008:41). In rehabilitation, it is advisable that nurses work closely with other members of the multidisciplinary team to promote self-care of patients.

Besides the time factor, nurses' involvement in rehabilitation is based on the amount of nursing staff allocated for the unit (Plant et al., 2013:928). According to Foley, Meyer, Salter, Bayley, Ying, Willems and McClure, 2013:928), integrating rehabilitation skills into nursing care is based on adequate staffing of the unit in which the patients are nursed. Gache et al. (2014:4) have stated that, in the healthcare settings where there are inadequate resources, the healthcare organisation should work towards recognising their challenges and finding solutions that will benefit healthcare users.

2.9 BARRIERS TO ENGAGING NURSES IN THE REHABILITATION OF STROKE PATIENTS

Knowledge regarding stroke rehabilitation is the key to the successful outcomes of stroke rehabilitation (Struwe et al., 2013:148). To achieve better rehabilitation outcomes, it is expected that each member of the team has knowledge and skills in the rehabilitation of stroke patients (Baartiema, Otim, Mntzaganian, De-Graff Aikins, Coombes & Somerset, 2017:14). According to Plant, Tyson, Kirk and Parson (2016:928) a lack of

knowledge and skills with regard to stroke rehabilitation are barriers to engaging nurses in the rehabilitation strategies that are designed to improve the outcome of stroke rehabilitation. Developing the knowledge and skills of nurses working with stroke patients is the key to overcome this barrier (Struwe et al., 2013:148).

According to Gache et al. (2014:4), a lack of medical resources designed for rehabilitation of stroke patients further adds to the barriers to engaging nurses in the rehabilitation process. To improve nurses' participation in stroke rehabilitation, healthcare organisations are required to find means of removing barriers that prevent nurses' involvement in the rehabilitation of stroke patients (Plant et al., 2016:928). Improving the knowledge and skills regarding stroke rehabilitation among nurses and providing necessary rehabilitation tools can promote the effective utilisation of individuals involved in the care of stroke patients (Baatiema et al., 2017:10).

According to Barreca and Wilkins (2008:39), workload is one of the barriers to the engagement of nurses in the rehabilitation of stroke patients. Although it is recommended that nurses should take part in the rehabilitation of stroke patients, the amount of work required in the nursing care of stroke patients provide challenges for participating in rehabilitation (Barrecca & Wilkins, 2008:41). The provision of adequate nursing staff in the workplace is key to overcome this barrier (Plant et al., 2016:928).

Considering the literature reviewed, there is still a gap in available knowledge regarding the role nurses play in the rehabilitation of acute stroke patients who are admitted to private hospitals in South Africa.

2.10 SUMMARY

This chapter discussed available literature regarding stroke rehabilitation and factors influencing the promotion of rehabilitation of stroke patients by members of the multidisciplinary team. The role of nursing in the care of stroke patients and factors influencing the involvement of nurses in the rehabilitation processes are also addressed in this chapter.

The literature reviewed still presents a gap that needs to be explored regarding the knowledge related to the role of nurses in the rehabilitation of acute stroke patients. The process of acquiring such information is described in the methodology provided in the next chapter.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter provides detailed information relating to methods used to acquire information for this study. It includes the research design, population and sampling process, methods for data collection, and the data analysis. It also describes methods used to ensure the trustworthiness of the research study.

3.2 RESEARCH DESIGN

Available information indicates clearly the need to update knowledge with regard to the role nurses play in the rehabilitation of stroke patients admitted to private hospitals in Cape Town. As supported by Burns and Grove (2011:20), a qualitative exploratory descriptive research design provided appropriate means of obtaining, organising and analysing information obtained for this study.

The research design is the cornerstone for a research study as it gives a guideline for how data should be collected and analysed (Brink, 2006:92). Data collected by using a qualitative exploratory descriptive research design, allows a researcher to gather information from the individuals directly involved in a particular situation (Le Roux, 2005:3). This information can be either an opinion, experience or a perception regarding a phenomenon (Le Roux, 2005:3).

In this study, the aim was to gather information regarding the clinical role of nurses in the rehabilitation of acute stroke patients. In the view of the researcher, this information could be well provided by nurses themselves, as they are members of the multidisciplinary team actively involved in the care of stroke patients.

By using a qualitative exploratory design, the researcher was able to find out how nurses perceived their role in the rehabilitation of stroke patients. In addition, the researcher was able to identify ways of engaging these nurses in the rehabilitation processes and managed to identify barriers that prevented them from engaging in the rehabilitation activities.

3.3 STUDY SETTING

This research was conducted at three private hospitals belonging to two private healthcare groups. These hospitals were identified based on the aim of the study, which is to explore the clinical roles of nurses in the rehabilitation of stroke patients admitted to private hospitals in Cape Town.

The selected private hospitals offer emergency, intensive, surgical, medical, obstetric, and paediatric care as well as supplementary services that include radiology, pathology, and rehabilitation for all patients admitted to these healthcare facilities.

Rehabilitation services at these healthcare facilities are provided by a team of independent rehabilitation practitioners who belong to different practice groups. In addition to the rehabilitation of stroke patients, these healthcare practitioners are also responsible for the rehabilitation of other patients with other medical or surgical conditions needing such service.

Although the three healthcare rehabilitation centres situated in the Cape Metropolitan area provide intensive rehabilitation services, referring patients to these centres seems to be a challenge to the healthcare facilities in the region. This is due to a high volume of patients who are referred to these centres.

Nurses are part of the healthcare professionals working in the healthcare facilities that are included for this study. They are involved in the initial assessment, diagnosis, treatment plan, and the rehabilitation of all stroke patients admitted to these facilities. Identifying the study population that would enable the researcher to explore the clinical role of nurses in the rehabilitation of stroke patients was the next step in the research process.

3.4 STUDY POPULATION

The study population is the group of individuals who are of interest to the researcher and should be included in the study (Brink, 2006:123; Burns & Groves, 2007:290). For the purpose of this study, the identified population is a group of registered nurses, staff nurses, and auxiliary nurses who are registered in terms of section 31 of the Nursing Act, No. 33 of 2005, and working in the private hospitals situated in the Cape Metropolitan area.

3.5 SAMPLING PROCESS

The sampling process relevant to this study took place from July 2017 to October 2017. A purposive sampling method was used to select a group of nurses who participated in this study (Burns and Groves, 2007:290). This method of sampling was specifically chosen to try to select nurses who were able to provide the type of information needed for this particular research study, as highlighted by Gentles, Charles, Ploeg and McKibbin (2015:1778).

A sample size of fifteen participants – of which nine were registered nurses, two enrolled nurses, three enrolled nurse auxiliaries and one neurologist – was used for this study. A neurologist was included in the study merely as a member of the multidisciplinary team involved in the management of stroke patients admitted to hospitals. The aim for the inclusion was to find out how other members of the multidisciplinary team perceived the role of nurses in the rehabilitation of stroke patients.

The sample size was based on the type of research design used. According to Gentles et al. (2015:1786), it is better to use smaller samples in qualitative research because the aim should be to acquire information that is useful for understanding the context surrounding a

phenomenon rather than to present a large population. Therefore, the focus was to obtain information from a team of nurses that would clarify the role nurses play in the rehabilitation of stroke patients admitted to hospitals.

The final number of participants was decided on when data saturation was achieved from interviewed participants. According to Gentles et al. (2015:1781), data saturation refers to reaching a point of information redundancy where additional data collection contributes little or nothing to the study. This was achieved when there was no new information provided by the last two participants who were added after interviewing the first thirteen participants.

All nurses, registered with the SANC and working in the private hospitals under study during data collection, were identified as potential research participants. However, for the purpose of this study, the selection of participants was based on the inclusion criteria presented in section 3.5.1.

3.5.1 Inclusion criteria

The following inclusion criteria were used for the purposive sampling of participants:

- Registered nurses, staff nurses, and auxiliary nurses working in private hospitals.
- Work experience of more than three years in the nursing care of stroke patients.
- Active involvement in the stroke rehabilitation process with other members of the multidisciplinary team.
- Willing to participate in the research study.

3.6 DATA COLLECTION TOOL

An interview guide, provided in Appendix 4, was used for data collection. This interview guide was divided into two sections. The first section of the interview guide contained questions pertaining to the demographic information of the participants. This information included gender, age, rank, qualifications as well as work experience.

The second section of the interview guide contained the research questions used during the interviews. These questions were formulated in such a way that they were in line with the research objectives.

Each participant was asked questions as per the interview guide provided. No fixed sequence of questions was followed.

3.7 PRE-TEST

A pre-test was conducted by interviewing two participants who were known to the researcher. The participants, a registered nurse and an auxiliary nurse, both consented to take part in the study.

The purpose of the pre-test was to check whether the questions in the interview guide were clearly defined to provide the information that was required for the purpose of the study.

These interviews were recorded and transcribed. All information gathered was checked by the supervisor. According to the results of the pre-test, no amendment to the data collection tool was required.

3.8 DATA COLLECTION PROCESS

On the day of the meeting, semi-structured face-to-face interviews were conducted by the researcher who trained at Stellenbosch University to develop interviewing skills. These interviews were conducted in English at the healthcare institutions identified for this study at a time and place convenient for the participants. These places included the unit manager's office and session rooms situated away from the ward.

Prior to starting the interviews, participants were given an information leaflet. The information leaflet included the aim of the research project and the reasons for the participation of the identified participants. Only the participants who willingly agreed to take part in the study were interviewed. Informed written consent was given by each participant prior to interviews.

Open-ended questions were asked, allowing a free flow of conversation with detailed exploration of provided clues, questions, opinions and, when necessary, using interview question probes. In this case, probes are referred to as queries (Burns & Grove, 2011:85). The most common probes used in the interview included advocacy, caregiver, coordinator, facilitator, rehabilitation, and protector.

During the interviews, audio recordings were done and field notes were taken as a back-up of the information collected. These interviews were later transcribed verbatim as described by Burns and Grove (2011:93). Transcription of recordings were done by the researcher herself with the assistance of a qualified audio transcriber. The transcripts received from the transcriber were carefully checked for accuracy by the researcher and the supervisor.

3.9 DATA MANAGEMENT AND ANALYSIS

After verifying the transcripts received from the transcriber, data analysis was done. Data analysis is the process of examining gathered information in trying to understand the meaning of a particular phenomenon (Mabuza, Govender, Oyunbarijo & Mash, 2014:1). The data that was analysed included the audio recordings, transcripts, and field notes. According to Terre

Blanche, Durrheim and Painter (2006:325), there are several steps in data analysis that can be followed in a research study. These steps include familiarisation, inducing themes, coding, elaboration, interpretation, and checking. These steps were followed by the researcher (Terre Blanche et al., 2006:320-326). These processes are described in the following sections.

3.9.1 Step 1: Familiarisation

Familiarisation is the first step in data analysis, which involves the process of trying to become acquainted with the collected data (Terre Blanche et al., 2006:326). The process of familiarisation with the data collected for this study, started with listening to the audio recordings as well as reading the transcripts and field notes. This process was followed by the induction of themes.

3.9.2 Step 2: Inducing themes

The induction of themes was the next step after the familiarisation process. This process involved creating themes from the answers provided by the research participants for the research questions, as recommended by Terre Blanche et al. (2006:326). During the induction process, the frequently mentioned themes were noted and highlighted as they emerged for the coding purposes, as recommended by Mabuza et al. (2014:1).

3.9.3 Step 3: Coding

Coding occurs when similar pieces of information or phrases related to the identified themes are tagged and grouped into different categories for comparison (Terre Blanche et al., 2006:326). Coding of information for this research was initially done in such a way that each phrase was tagged and grouped with particular research objectives, as recommended by Mabuza et al. (2014:2). The next step was to organise themes that were highlighted in the transcripts and attach them to the relevant codes for elaboration at a later stage.

3.9.4 Step 4: Elaboration

The process of elaboration allowed the researcher to explore and clarify the themes in more detail, as recommended by Terre Blanche et al. (2006:326). This step included a critical analysis of the themes identified from the collected data. The analysis of the themes included the actual comparison of sections of the text that appeared to belong together, checking and rechecking these texts, and excluding information that was insignificant, before the actual interpretation of the data was done.

3.9.5 Step 5: Interpretation and checking

This process involved the rechecking of the themes to verify its accuracy, done by the researcher and the supervisor, just before the interpretation of the data. After the verifications, the interpretation of data was done by giving detailed meaning to the themes, as suggested

by Terre Blanche et al. (2006:326). The accuracy of this data analysis was verified against the findings of other research studies, as recommended by Mabuza et al. (2014:3).

3.10 TRUSTWORTHINESS OF THE RESEARCH STUDY

Shenton (2004:69) has stated that it is important to maintain trustworthiness in qualitative research projects by ensuring credibility, dependability, confirmability, and transferability of research findings.

Credibility is a way of ensuring confidence in the truth value of findings generated from the study (Lincoln & Guba, 1985:304). This was achieved by the researcher's sampling of willing and credible participants. The study qualification of participants and their work experience were a deciding factor for the selection criteria.

The recording of the interviews and verbatim transcription, as well as the taking of field notes during the interviews and proper documentation, was another way of ensuring credibility.

Lincoln and Guba (1985) described dependability as a way of ensuring reliability of data over a period of time. Accurate documentation, editing, and debriefing with the supervisor was done throughout the study.

According to Lincoln and Guba (1985) confirmability is the process of ensuring that collected data represents the information provided by the participants. This was ensured by audio recording and transcribing interviews, developing codes, and thereafter interpreting the data, as well as frequent debriefings between the researcher and supervisor, member checking, and an external editor editing the documents.

Lincoln and Guba (1985) described transferability in research as a way of ensuring that research findings are applicable in other settings if similar research would be replicated. Therefore, the study description for sampling, as well as the method of data collection and analysis were provided in detail to allow the reader to understand the phenomena under study.

The research findings were then interpreted by the researcher in order to draw conclusions, and make recommendations.

3.11 SUMMARY

This chapter has provided a description of the methodology used in this research study. The information provided includes a description of the research design, the method used for data collection and analysis, as well as population and sampling methods. The means of ensuring trustworthiness of the study is described in detail. The findings of this research study are provided in the next chapter.

CHAPTER 4: DATA ANALYSIS AND INTERPRETATIONS

4.1 INTRODUCTION

The previous chapter provided information relating to the methods used for sampling, data collection and analysis. This chapter provides the findings and the interpretations of the analysed data.

4.2 PRESENTING THE STUDY FINDINGS

The findings for this study is presented in two sections. The first section provides the biographical information of the participants who took part in the study. This information includes the participants' ages, gender, and years of work experience.

The themes and sub-themes generated from the findings and the interpretations of such themes are presented thereafter.

4.3 BIOGRAPHICAL INFORMATION OF PARTICIPANTS

The biographical information provided was obtained from fifteen (n=15) participants who took part in the study. Among the participants nine (n=9) were registered nurses, two (n=2) were enrolled nurses, three (n=3) were nurse auxiliaries, and one (n=1) was a neurologist. The neurologist was included as a member of the multidisciplinary team responsible for the management of stroke patients.

4.3.1 Age

The age of the participants ranged from 25 to more than 50 years. Among them, five participants were less than 30 years and ten participants were more than 30 years of age.

4.3.2 Gender

There was a total of fourteen (n=14) female participants and one (n=1) male participant who took part in the study.

4.3.3 Work experience

The interviewed participants' years of experience ranged from 3 to more than 40 years. The results showed that five participants were newly qualified and had work experience ranging from 3 to 5 years. The rest of the participants had work experience ranging from 6 up to more than 40 years.

4.4 THEMES AND SUB-THEMES GENERATED FROM THE STUDY

During the semi-structured interviews conducted by the researcher, several themes and sub-themes emerged from the data provided by the research participants. The research questions in an interview guide, provided in Appendix 4, was used to find out:

- What the participants perceived to be their clinical role in the rehabilitation of stroke patients.
- What the participants perceived as barriers to the engagement of nurses in the rehabilitation processes.
- What the participants perceived as means of engaging nurses in the rehabilitation of stroke patients.

The themes and sub-themes that emerged from the data analysis are presented in the table 1.

Table 1: Themes and Sub-themes

THEMES	SUB-THEMES
1. Clinical care service	No sub-themes
2. Emotional support	No sub-themes
3. Rehabilitation care service	<ul style="list-style-type: none"> • Mobilisation • Exercises • Therapeutic positioning • Teaching basic skills of self-care and communication
4. Unconducive environment	No sub-themes
5. Workload	<ul style="list-style-type: none"> • Increased workload due to the patient mix • Workload due to the shortage of staff
6. Time constraints	No sub-themes
7. Knowledge deficit	No sub-themes
8. Training	No sub-themes
9. Special ward for stroke patients	No sub-themes

4.5 INTERPRETATION OF THEMES AND SUB-THEMES

The interpretation of the themes listed above are described under the identified roles of nurses in the rehabilitation of stroke patients, the barriers that exist to engaging nurses in the rehabilitation of stroke patients, and the means of engaging nurses in the rehabilitation of stroke patients. These themes are in line with the research objectives provided in Chapter 1.

The following sections provide a detailed interpretation of the themes. Comments provided by participants in this study are provided word for word in italicised lettering and are then discussed by the researcher.

4.5.1 Perceived clinical roles of nurses in the rehabilitation of stroke patients

The themes describing the role of nurses in the rehabilitation process include clinical care services that they provided, emotional support, and rehabilitation.

4.5.1.1 Clinical care services

Clinical care services are one of the identified themes regarding the role of nurses in the rehabilitation of stroke patients. The clinical care services provided by nurses include care facilitation and coordination of nursing, as well as rehabilitation care for stroke patients.

The interviewed registered nurses perceived their primary role in the care of stroke patients as being the facilitators and coordinators of the clinical and rehabilitation services provided to stroke patients.

P1: "I would be more than just a facilitator, making sure that we are getting the occupational therapists involved, phoning them, making sure that they are there to see patients timelessly. Making sure that the physiotherapist knows if it is twice or once a day. Make sure the physiotherapy is ordered, the same as speech therapy. Overseeing all that needs to be done, so that all the categories of nurses know where they fit into the role of washing, turning, observation. So, as registered nurse I would be the primary overseer of all that."

Providing basic nursing care to stroke patients was one of the roles nurses perceived as important in the care of stroke patients admitted to the hospital. According to the nurses, clinical care included the assessment of patients' vital signs, as well as their physical and neurological functioning. This was seen as an important role for the nurses as it allowed them to establish the kind of care required for stroke patients.

P7: "When the patient comes to the ward, we do a proper assessment. We check vital signs, and neurological observation, and then we make the care plan. We see the patient's disability and what he is able to do or not to do."

Based on the outcome of the assessment, nurses are able to provide individualised care to stroke patients admitted to the ward. This care includes hygiene, pressure care, grooming, and feeding the patients based on the dietary requirements proposed by the dieticians.

P4: "We provide pressure part care, mouth care, turning and feeding patients as recommended by dieticians."

The care also included the provision of safety measures to prevent falls and any other related injuries to stroke patients.

P7: "We do our risk assessment to see if the patient is a fall risk. If the stroke patient is a fall risk, we put a yellow fall risk identification band on the patient's arm, a fall risk poster at their head board and a yellow sticker on the daily care plan, so that it is highlighted. They get non-slippery socks that they put on. We have carers and the ENAs who assist with feeding the patients so that they don't have to stretch and try to get to the food."

Nurses are also involved in providing health education to stroke patients. This health education includes providing information regarding life style modifications aimed at the prevention of reoccurring strokes, which involves the management of blood pressure, cholesterol, and related risk factors. Providing health education to stroke patients is perceived as an important role in the clinical care of stroke patients as indicated by various participants, including the one referred to below.

P13: "We are quite involved in giving advice, in terms of the discharge advice on risk factor modification. So, we look at hypertension, diabetes, cholesterol, smoking. Those are the main risk factors we are focusing on."

4.5.1.2 Emotional support

Emotional support is an important theme that was identified, describing the role of nurses in the rehabilitation of stroke patients. Nurses play an important role in the provision of emotional support to stroke patients and their families. Nurses also provide information regarding treatment plans, as well as motivate and reassure patients as a means of alleviating fear and anxiety in stroke patients.

P8: "If it is the first time for the patient to have a stroke, they will be very upset, wondering if they are going to walk again. Then you try to calm them down. You try to make the patient feel at ease, telling him that it's going to take time to get better and it will be a long process. But he is going to have people like a physiotherapist that will come and give him exercises in the bed and everything. We try to put their mind-set right, not to be negative because there is still hope for them to recover."

The participating nurses further described their involvement in providing emotional support to the families of stroke patients. In that regard, the nurses made sure that the families were included in the decisions or treatment plans proposed by the healthcare professionals. They believed that they were the advocates of the patients and families, and that they were there to protect them.

P13: "We make sure that doctors sit down and talk to them and get consent, especially for thrombectomy procedures or endo-vascular interventions. Doctors counsel them, talk about the risks and benefits, and the complications relating to surgery. We ensure that they are part of the treatment process from day one."

P7: "We keep the family informed of the patient's condition and what has happened. We inform them about the treatment. We also encourage the doctor to speak to the family because as nurses, we are only allowed to relay a certain amount of information. So, the doctor would be the primary person to speak to the family and patient regarding the diagnosis and treatment."

4.5.1.3 Rehabilitation care service

Rehabilitation care service was another identified theme. It was clear that the nurses who participated in this survey understood the importance of rehabilitation to stroke patients and working together with other members of the multidisciplinary team. They expressed the view that the rehabilitation of stroke patients was a team effort and that each one of them needed to take part to the benefit of the patient.

P6: "As soon as you can, you have to try and get the patient to do as much as we can to help them because as soon as you start with rehabilitation, patients gain some of their strength back and their movement back. So, rehabilitation isn't something you leave for the physios and the speech therapist and whoever. We take part. We help them [physiotherapists] to put a patient out in a chair, put the patient back, and try and help the patient to mobilise. We are all working together. It is an integrated part. We can't work separately."

P14: "We are more with the patient than the doctors, the physio or anybody else. So, if we aren't involved in the rehabilitation and we can't help the patient, it's going to take much longer for them to try and regain their strength and their mobility. We try to get them, you know, get them better before they go home."

It was observed that nurses were actively involved in the rehabilitation of stroke patients. According to the nurses, they were involved in the mobilisation of patients, providing exercises, positioning and teaching basic living skills that included self-care and communication.

4.5.1.3.1 Mobilisation of stroke patients

Mobilisation of patients was viewed as important rehabilitation activities provided by nurses. Participants were involved in the mobilisation of stroke patients by either assisting other members of the multidisciplinary team or doing so independently. According to the nurses, mobilising patients was viewed as a means of assisting patients to regain their strength after suffering a stroke. Mobilisation of stroke patients included getting them in and out of the bed, mobilising them to sit in a chair, moving down the passages, and even moving to the toilet and

back. These types of activities were perceived by nurses as being very important in the rehabilitation of stroke patients.

P15: "Assisting with mobilisation, encouraging them [patients] to mobilise so that they can get stronger. We walk with the patient down the passage and encourage them to sit out on to the chair."

Based on the information obtained from the participants, mobilisation of the patients is initially provided by the physiotherapist and thereafter by the nurses, in line with the instructions provided by the physiotherapist.

P13: "The physiotherapist will do the assessment of the patient, then teach the nurses how to mobilise the patient, showing them what there is to work with in terms of getting the patients in and out of the bed. So, we work hand in hand with the therapy team so to actually get this patient to continue with therapy while the therapist is not there to help the patients."

P10: "Beside the physiotherapist, we also put the patients out into the chair daily in between, because they can only come to the patient once a day. So, we do that. We put out the patient in the chair at meals times, and take them to the toilet."

In situations where the patients were stable enough to move on their own, and where there was no physiotherapist around to assist with mobilisation, nurses continued to mobilise these patients whenever possible.

4.5.1.3.2 Exercises

According to the nurses, carrying out passive exercises with stroke patients was perceived as another way of strengthening weak muscles that had been affected by a stroke. The nurses believed that by encouraging patients to squeeze a ball provided by the physiotherapist, massaging the paralysed limbs, and encouraging them to hold a pen would strengthen the affected muscles.

P15: "We do a little bit of physiotherapy and occupational therapy. When we sit with a patient, we do massaging of the patient. Also encourage the patient to take that hand which is working and rub the hand which is not working. Also, there are some balls that they are given by the physios for squeezing, that we can use for exercises. We also encourage them to write words on a piece of paper. You write a word for them and you encourage them to write the word as well."

Participants mentioned that the physiotherapist provided most of the extensive exercises to patients, which were directed towards the maintenance of joint mobility, muscle relaxation, and mobilising lung secretions in patients with chest infection resulting from aspiration.

P5: "Physiotherapists play a role in joint mobility, because patients have tight muscles and joints. They also help the patient with coughing and breathing exercises. But usually time is limited."

Participants also indicated that they were engaged in providing passive exercises to stroke patients as this was perceived to be meaningful to the patients.

P6: "When we are at the patient's bedside, we do passive exercises with them, helping the arms to move. The physiotherapists also come to do it but while we are there with the patients, we do a bit of passive exercises with them to help them."

4.5.1.3.3 Therapeutic positioning

According to the collected data, it appears nurses believe that positioning of a stroke patient is an important component in the recovery process of the patient. Nurses believe that stroke patients should be nursed in a position where there is constant stimulation of the side affected by a stroke. As outlined in the following comments by participants in this study, nurses also indicated that they believed that the correct position in which a patient lay would stimulate the movement of the affected side of the body.

P9: "The positioning of the patient depends on which side the stroke occurred. If the patient had a stroke on the left side, then the face and everything will be drawn to the right side. Then we need to put things to the affected side so that the patient can turn the head and the neck in the right position."

P4: "We've got one occupational therapist who is very involved. She will actually come and speak to us on how to place the patients. You know, to put a locker on the affected side to encourage movement. Which is also a basic nursing care for stroke patients."

4.5.1.3.4 Teaching basic skills

The information collected also indicated that nurses seem to be aware of the challenges lying ahead for stroke patients. With this knowledge, nurses believe that stroke patients need to be taught basic skills of living with the disability. These include self-care and communication.

4.5.1.3.4.1 Self-care

The nurses who participated in this study stated that they believe that stroke patients need motivation and encouragement to learn ways of living with the disability. Encouraging patients to do things for themselves was seen as being important by the nurses who were interviewed.

P6: "We try and encourage them to do things by themselves you know. If the patient can hold a glass, let them hold the glass, let them take a spoon. If you see it is becoming unsafe, then you can help or intervene. We try and let them dress as far as they can and when we see they are becoming frustrated or angry, then we intervene. Next time, we try all over again."

P3: "It is important that these patients try to help themselves. If they are washing, give them a towel and let them try to use it themselves, something like that."

4.5.1.3.4.2 Communication

Although the speech therapists were involved in teaching the patients how to speak after suffering a stroke, nurses believed that they also had an important role in teaching these patients skills of communication.

P4: "It is important if the patient is unable to speak, that we try to work out some communication that allows him to talk to us. We do rely on the speech therapist quite a bit with that."

P9: "It depends on how bad the stroke is. There are patients that will only blink their eyes when they are trying to say something. So, in this case, we have flash cards with pictures that we use for communicating with them."

4.5.2 Perceived barriers to engaging nurses in the rehabilitation of stroke patients

Although nurses believed that the rehabilitation of stroke patients was important and required their full participation, there were several challenges pointed out by the participants regarding their involvement in the rehabilitation of stroke patients. These challenges included the environment in which the stroke patients were nursed, as well as the workload and the knowledge deficit in the rehabilitation of stroke patients.

4.5.2.1 Unconducive environment

An unconducive environment in which stroke patients are cared for was identified as a theme reflecting some of the challenges in the rehabilitation of stroke patients. Nurses mentioned that stroke patients should be nursed in specialised units or wards with dedicated staff members who should provide them with specialised care. Nursing of stroke patients in a general medical ward was viewed as being challenging for all the participants. They described the general wards as being "too broad" for the patients who required specialised care. The participants seemed to have an understanding that stroke was a complicated condition that required a specialised kind of care that cannot be provided in a general ward filled by patients with different diagnoses.

P4: "For stroke patients to get the best care is the same as getting a psychiatric patient into a psychiatric unit where there are staff who are specifically trained to nurse that discipline. Whereas here, stroke patients are pumped in the general which is too broad. It is difficult to nurse them [stroke patients] in a general ward. For instance, you would have a person who had a stroke lying there and you would have someone who can't breathe. I mean the emphasis will be on the crisis which is what the medical nursing is about."

Participants also voiced their concern with regard to the physical environment in which stroke patients were nursed. Participants mentioned that there was not enough space in the ward for the rehabilitation of stroke patients.

P6: "I think we, as the hospital, are not geared for the stroke rehabilitation as per se, you know. It's the physical building, the beds, the chairs all those stuff which is not optimal for stroke patients. The rooms are very small, there is not enough space for them."

4.5.2.2 Workload

Workload was another identified theme describing the challenges in the rehabilitation process. Nurses described workload as one of the biggest challenges in the rehabilitation of stroke patients. They described several contributing factors that have an effect on the workload. The factors included are discussed below.

4.5.2.2.1 Increased workload due to the patient mix

Nurses mentioned that the type of patients admitted to the medical ward was a big challenge on its own. The amount of work required in the nursing of various types of medical patients contributed to the poor participation of nurses in the rehabilitation of stroke patients.

P6: "Stroke patients aren't the only type of patients in the medical ward as you will know. Um, you have your COBD patients, your cardiac failure patients, your kidney failure patients, your diabetics. So, all those patients need attention. In the medical ward, we have a medication list as long as both your arms to hand out and that is a lot of work on its own."

P4: "I think the workload is heavy on the girls working on the floor. Because with growing population of the elderly patients, we can have up to ten full care patients. So, these girls are running around in circles doing the very basic, cleaning and feeding and turning."

4.5.2.2.2 Workload due to the shortage of staff

The shortage of staff contributed to the workload experienced in the hospital wards where stroke patients were admitted. Nurses felt that they were unable to engage in the rehabilitation process due to the workload resulting from the shortage of staff.

P3: "I try to get involved in the mobilising of the patients, but seeing that per shift there is one nursing sister, sometimes there are two nursing sisters for the whole day. And then, we are now a 30-bedded ward and the demands on the work of the nursing sister is a lot. So, at the end of the day, you can only do so much."

Nurses mentioned that the shortage of staff was a result of inadequate staffing due to budget cuts. Nurses perceived that the budget cuts were a result of poor economic growth affecting the private healthcare industry.

P13: "The staffing is a challenge in terms of the way a private healthcare organisation is. It is a business. In terms of the numbers, number of staff to patient ratios is an issue and I am sure in all private hospital groups it is a challenge at the moment in terms of getting the patient ratios right."

4.5.2.2.3 Time constraint

Time constraint was another identified theme. According to the participants, time seemed to be the deciding factor for engaging nurses in the rehabilitation of stroke patients. Participants verbalised that they had a lot of work to do and there was not enough time to engage in the rehabilitation of stroke patients.

P13: "I think time is a challenge, in terms of the busyness and other tasks that is needed at the end of the day. Enough time, or adequate time, to spend doing certain things with patients I think is a challenge. Because you are running around answering the bells, you are doing medication, you are doing doctors' rounds and all that, it does get hectic and to take a little bit of time and spend with the patient doing rehabilitation is a challenge. That's definitely a challenge."

4.5.2.2.4 Knowledge deficit

Knowledge deficit was another factor describing the challenges in the rehabilitation process. Nurses perceived their inadequate knowledge and skills as a challenge in the rehabilitation of stroke patients. The high staff turnover and lack of training were perceived as contributory factors to the lack of knowledge and skills.

P13: "I think that skilled staff is the problem. We try to get more permanent staff through the agency but they are not able to supply the skilled staff that you need. So, it is a matter of to constantly change and to constantly teach."

P3: "Things like rehabilitation of stroke patients is my knowledge from school and may be with daily work experiences that just add on. Maybe if we can have a programme or in-service training that would boost up our knowledge in this regard, would be nice."

4.5.3 Perceived means of engaging nurses in the rehabilitation of stroke patients

When nurses were asked how they thought they could be engaged in the rehabilitation process, the majority of participants suggested the issues that are listed and discussed below.

4.5.3.1 Training

Training was one of the themes identified by the participants. They stated their inadequate knowledge with regard to the rehabilitation of stroke patients and suggested that there should be regular knowledge updates in stroke rehabilitation. This would be a means of engaging them effectively in the rehabilitation of stroke patients.

P3: "You do get information here and there as you go on with your profession. But there are a lot of updates that come as we do with CPR updates. We do that every year. Things like stroke rehabilitation is my knowledge from school and may be with daily work experiences, that just add on. Maybe if we can have a programme or in-service training, that would boost up our old knowledge with newer information, then you will be more eager to implement these new things and see results."

Some of the participants suggested that their training should include information regarding stroke as a medical condition and the management thereof. They thought that kind of knowledge was lacking among the nurses.

P7: "I don't think there is enough knowledge especially with regard to the medical part of a stroke, you know. The knowledge in regard to what exactly happened that the patient is disabled or is lacking in this function. So, I think it would be good if the nurses can have regular training and maybe asking questions about, how patients need to be cared for, what is the cause or why the patient is unable to speak or unable to move his arm. Um, I think a continuous update would be good for nurses to have."

It was suggested that nurses should closely interact with other members of the multidisciplinary team through interdisciplinary ward rounds that take place in some of the hospitals. This would provide them with an opportunity to learn more about strokes and stroke rehabilitation.

P5: "So, ideally the nursing sisters should attend combined ward rounds. So, if there is a treatment plan, then the nurses will know more or less what that treatment is about. For example, if the physiotherapist wants to work on sitting balance and so forth, then the nurses know more or less that type of decision."

P13: "Ideally, the nurses and the physiotherapist should work together and should be encouraged to attend interdisciplinary ward rounds which is used as teaching opportunities."

4.5.3.2 Special ward for stroke patients

The need for a special ward for stroke patients was another common theme that was identified. Nursing stroke patients in the medical ward seemed to be a factor in the lack of nurses' participation in the rehabilitation of these patients. Participants suggested that stroke patients should be nursed in a special ward with their own nurses allocated for their care. The participants suggested that these nurses should work closely with other members of the rehabilitation team, learning the skills required to nurse stroke patients and assisting with the rehabilitation of stroke patients. This was believed to be an effective means of engaging nurses in the rehabilitation of stroke patients.

P13: "So, a dedicated ward with dedicated staff that are there and are trained in terms of what acute rehabilitation of stroke patients entitles in terms of the speech, physio, occupational therapy, neur-physio and their role in terms of continuity with the therapy once the therapist leaves. I think that would definitely help. If you've got a dedicated ward which has a good complement of the staff that are in the ward all the time, you will be able to train them and give them skills that are needed to manage the stroke patients."

Participants mentioned that since there was no designated area for the nursing of stroke patients, and since they were nursed in the medical ward that was always busy, it would be helpful if there were nurses allocated to specifically assist with the rehabilitation of stroke patients.

P7: "You know, maybe if we can get staff just specifically to attend to their rehabilitation and their nursing care, that would help. Maybe just having two nurses allocated specifically for them that could be involved with the stroke rehabilitation."

It was pointed out by one of the unit managers that having a designated ward requires having dedicated staff who were willing to learn and participate in the rehabilitation process. Otherwise, it would be a fruitless process.

P13: "But you have to get your staffing mix right and then you choose or you get the people that are passionate about stroke patients and want to be able to assist, you know. People who are keen on getting the knowledge and the skills, otherwise it won't mean anything."

4.6 SUMMARY

This chapter reflected on the findings obtained for this research study. The clinical role and the rehabilitation care services provided by the nurses for stroke patients were described in

detail. The barriers to engaging nurses in the rehabilitation of stroke patients and the means of overcoming some of the barriers are also discussed in this chapter.

A summarised discussion of the findings, conclusions, and recommendations relevant to this study are presented in the following chapter.

CHAPTER 5: DISCUSSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This study aimed at investigating the clinical role of nurses in the rehabilitation of patients who suffered an acute stroke. Based on the findings, the main roles identified in the previous chapter, were the provision of clinical care services, emotional support and rehabilitation services. This included mobilisation of the patients, therapeutic positioning, exercises, and teaching basic self-care and communication skills. The means of engaging nurses in the rehabilitation of stroke patients, the barriers to the rehabilitation of stroke patients, and the means of overcoming some of the barriers were also identified in Chapter 4.

This chapter provides a detailed discussion of the findings, limitations, conclusion, and recommendations relevant to the study. The findings are discussed under the following research objectives:

- Explore how nurses perceived their clinical role in the rehabilitation of hospitalised acute stroke patients;
- Identify possible barriers to the engagement of nurses in the rehabilitation of acute stroke patients;
- Explore ways to overcome barriers; and
- Identify means of engaging nurses in the rehabilitation of acute stroke patients.

5.2 OBJECTIVE 1: PERCEIVED CLINICAL ROLES OF NURSES IN THE REHABILITATION OF HOSPITALISED ACUTE STROKE PATIENTS

The findings obtained from this study revealed that the management of stroke patients require both clinical and rehabilitation aspects of care. Therefore, it is important that the nurses play a role in both aspects of care when nursing stroke patients (Miller et al., 2010).

5.2.1 Clinical care service

The clinical care service, in this case, refers to all nursing care interventions pertaining to the actual examination and treatment of stroke patients admitted to healthcare facilities (Mash, Britz, Kitshoff & Naude, 2010). This study indicated that the main focus of the nursing care for stroke patients, as provided by the study participants, was directed towards the physical and psychological well-being of patients, specifically, through the provision of a series of nursing interventions, as highlighted by Gibbon et al. (2012).

In this study, registered nurses involved in the care of stroke patients were able to apply the unique scientific nursing process recommended by the SANC for the assessment, diagnosis, planning, and execution of required care interventions. These interventions are seen as necessary for patients receiving rehabilitation, as quoted below:

P7: "When the patient comes to the ward, we do a proper assessment. We check vital signs, and neurological observation, and then we make the care plan. We see the patient's disability and what he is able to do or not to do."

This scientific approach to nursing care of stroke patients is supported by Cavalcante, Moreira, Guedes, De Araujo, De Olivera Lopes et al. (2011). These researchers stated that the emphasis of the care for stroke patients should be on having the presence of nurses who are able clinically to assess the physical and psychological condition of patients. Nurses also have to provide the necessary nursing interventions to enhance patients' susceptibility to rehabilitation therapy, as indicated by Clarke (2013b).

In this study, it is clearly indicated that the central role of nurses working with stroke patients admitted to the hospital, is to provide comprehensive nursing care. Such care should be directed towards promoting recovery and prevention of stroke related complications through activities such as pressure care, hygiene, feeding, and monitoring vital signs, as quoted below:

P4: "We provide pressure part care, mouth care, turning and feeding patients as recommended....."

These roles are believed to be important as they help to improve the physical condition of the patients, and hence, the outcome of rehabilitation, as stated by Gibbon et al (2012). Miller et al. (2010) also emphasised the importance of the prevention of stroke related complications, as these complications are believed to hinder the effective outcome of rehabilitation.

According to Miller et al. (2010), the presence of nurses also allows for the early diagnosis of other stroke-related complications and the initiation of treatment by other members of healthcare professions involved in the care of stroke patients. The ability to assess, diagnose, and implement rehabilitation care interventions for stroke patients is seen as a critical role that nurses play in the rehabilitation of stroke patients.

The clinical care role of nurses, as identified in this study, is similar to the clinical role of nurses involved in the rehabilitation of stroke patients according to studies conducted by Kerr (2012) Gibbon et al. (2009), Clarke (2013b), and Aadal et al. (2016).

However, the interpretation of the clinical role of nurses, as identified in this study, may differ from other studies due to different care values directed at stroke patients in a general medical ward and a designated stroke unit.

5.2.2 Emotional support

In this study, it is revealed that nurses played an important role in identifying patients with emotional disorders resulting from a stroke and in providing emotional support for these

patients. Due to being closest to the patients, nurses are able to see the frustrations, anger, fear, and hopelessness in patients. Thus, nurses see the need to provide emotional support and also to motivate these patients, as indicated in the quotes below.

P6: "We are more with the patients than the doctors, the physio or anybody else..."

P8: "If it is the first time for the patient to have a stroke, they will be very afraid and upset, wondering if they are going to walk again. Then you try to calm them down. You try to make the patient feel at ease."

The Scottish Intercollegiate and Guidelines Network (SIGN, 2010) described depression, anxiety, and mood disturbances as common complications of a stroke. These psychological problems may interfere with the recovery of stroke patients due to the lack of motivation to participate in rehabilitation, according to Gibbon et al. (2012). Miller et al. (2010) recommended that nurses, being the central care providers, should take initial steps in assessing or identifying patients suffering from psychological disorders and assist other healthcare professionals in managing such patients. According to Kirkevold (2010), the ability to provide emotional support entails being able to acknowledge the emotional suffering of the affected individual and intervening to alleviate such fears and anxieties.

According to the findings of this study, motivation was one of the interventions that nurses constantly used to alleviate fear, and to instil hope for stroke patients, as quoted from one of the participants.

P8: "We tell them that is going to take time to get better and it will be a long process. But he going to get better, to try to put their mind-set right, not to be negative."

According to Gillham et al. (2011), motivation is important in the care of patients with emotional distress, since it is something that initiates, sustains, and directs thinking and behaviour in a person towards seeking help. In this case, it specifically refers to seeking help for recovery.

The findings also revealed that nurses are involved in providing emotional support to the families of stroke survivors. The emotional support included providing information regarding the condition of the patient. Nurses acknowledged that providing information regarding treatment was not entirely their responsibility, but they felt it was important for the patients and families to be aware of the proposed treatments provided by other healthcare professionals as portrayed in the following quotations.

P7: "We keep the family informed of the patient's condition and what has happened. We inform them about the treatment family and just giving them emotional support."

P13: "We make sure that doctors sit down and talk to them. We ensure that they are part of the treatment process from day one."

Providing emotional support to families during rehabilitation is viewed as important because families are seen as the pillar of strength for stroke survivors (Aadal et al., 2016). Providing information to patients and families enhances their understanding about the possibility of improvement or recovery after the occurrence of stroke, which in turn is an important element for the psychological well-being of patients receiving rehabilitation therapy (Cavalcante et al., 2011). This is supported by Clarke (2013) who stated that emotional support might not be seen as an act of physical rehabilitation, but recognised as an important intervention for creating a supportive environment in which rehabilitation can take place.

5.2.3 Rehabilitation service

Rehabilitation is described as the process of teaching a patient the way to cope with a disability caused by a stroke (Kerr, 2012). This process is carried out by healthcare professionals, including nurses (Clarke, 2013b). In this study, it was found that nurses understood the value of their input in rehabilitation care for stroke patients, as stated in the quotation below.

P6: "We are more with the patient than the doctors, the physio or anybody else. So, if we aren't involved in the rehabilitation and we can't help the patient, it's going to take much longer for them to try and regain their strength and their mobility."

Participants assumed different roles with regard to rehabilitation. These roles included facilitating, coordinating, and assisting with rehabilitation. This attitude portrayed by these nurses is supported by Gibbon et al. (2012) who believe that, in healthcare settings, all healthcare workers have a contribution to make towards the rehabilitation of stroke patients. According to Kerr (2012), nurses should be encouraged to incorporate nursing skills in the rehabilitation process and also to support other members of the rehabilitation team in order to achieve better outcomes of rehabilitation for stroke survivors.

Although there are several rehabilitation roles identified by nurses working in the United Kingdom (Kerr, 2012), this study has provided an insight into the relevance of the knowledge regarding some of the rehabilitation roles that are provided by nurses working in South African private healthcare facilities. These rehabilitation roles include mobilisation, exercises, therapeutic positioning, and teaching basic living skills, such as self-care and communication, which aim to promote recovery. According to Gibbon et al. (2012), these roles are supposed to be performed by either nurses or occupational therapists, speech therapists, and physiotherapists.

5.2.3.1 Mobilisation

This study has revealed that nurses are quite involved in the mobilisation of stroke patients as part of their nursing care. The feeling was that there is a need to mobilise patients as a means of facilitating recovery, as explained by one of the participants in the quotation provided below.

P15: "Assisting with mobilisation, encouraging them [patients] to mobilise so that they can get stronger. We walk with the patient down the passage and encourage them to sit out on to the chair."

According to Gibbon et al. (2012) and Theofanidas (2016), these types of activities are viewed as part of rehabilitation for stroke patients.

Mobilisation refers to the form of rehabilitation activities that involve the transfer of patients in and out of bed, done by therapists or nurses throughout a patients' hospital stay (Betnhardt, English, Johnson & Cumming, 2015). It is believed that mobilisation activities that include sitting, standing, and even walking accelerate the return of activity in daily living following a stroke, as it improves balance, muscle tone, and joint stability (Chippala & Sharma, 2016; Jette et al., 2009). For these reasons, early mobilisation is recommended for all stroke patients as it does not only improve mobility, but it also reduces medical related complications such as pneumonia, contractures, deep vein thrombosis, bed sores, and constipation that would possibly contribute to prolonged hospitalisation and would thereby affect the rehabilitation process (Chippala & Sharma, 2016; SIGN, 2010). Therefore, in order to facilitate early patient recovery, a specific nursing intervention, such as mobilisation, is crucial for the recovery of the stroke patient (Theofanidas, 2016).

5.2.3.2 Teaching basic skills of self-care and communication

This study has shown that the nurses were concerned about the long-term life challenges lying ahead of stroke patients. Promoting self-care was a shared concern among the nurses who took part in the study. Teaching basic skills such as transferring in and out of the bed, grooming, washing, eating or dressing was widely promoted for stroke patients in preparation for the long road to recovery, as quoted below:

P3: "It is important that these patients try to help themselves. If they are washing, give them a towel and let them try to use it themselves, something like that."

Training involving everyday activities is seen as part of the care and of creating hope for the new life situations with which stroke patients and their caregivers may have to cope (Dreyer et al., 2016).

Stroke is one of the most life altering conditions with physical limitations of activities such as communication, grooming, eating and drinking, mobility, and toileting (Wolf, Baum & Connor,

2009). Although discharging patients from the hospital settings has an additional advantage for these patients, it also means less contact with nursing and rehabilitation professionals (Dreyer et al., 2016). It is, therefore, important that patients are prepared for the eventualities of leaving the hospital and its associated support from these healthcare professionals by teaching them basic self-care skills while they are still in hospital (Dreyer et al., 2016). Therefore, promoting self-care, independence, and self-determination in stroke patients should be the focus of care being provided (Camicia et al., 2016).

In addition to physical limitations, communication deficit is another effect of a stroke (Dilworth, 2008). It is advisable that speech therapists, as well as nurses and other members of the multidisciplinary team, work together in assessing and managing communication disorders (Dilworth, 2008).

This study revealed that nurses were aware of the communication challenges with which stroke patients have to cope and they adopted several means of communicating with these patients as well as assisted patients with regaining their speech after stroke, as quoted below.

P4: "It is important if the patient is unable to speak, that we try to work out some communication that allows him to talk to us."

P13. "We encourage patients to read or sing."

According to Dilworth (2008), encouraging patients to read and sing can be an effective manner of speech therapy as it strengthens facial and tongue muscles.

5.2.3.3 Exercises

The findings of this study indicate that nurses are involved in providing exercises to stroke patients as a form of rehabilitation. These exercises include passive exercises, massaging, and positioning patients, which was perceived as important for the rehabilitation of stroke patients, as quoted below.

P6: "We do passive exercises with them, helping with the stretching of arms and legs, like that, to help them."

According to Jette et al. (2009), passive exercises are recommended for physiotherapy as these exercises increase muscular strength and flexibility or a range of movements that will improve posture and reduce pain. Regular stretching exercises are also effective for the treatment and prevention of contractures in a patient with neurological disorders, such as experienced by stroke patients (Katalinic, Harvey & Herbert, 2011).

5.2.3.4 Therapeutic positioning

The findings revealed that nurses were aware of the correct positioning of a patient who has suffered a stroke. The participants stated that correct positioning of patients should incorporate, where relevant, the hemiplegic side as a means of stimulating the neglected parts affected by the stroke, as explained by one of the participants.

P9: "The positioning of the patient depends on which side the stroke occurred. If the patient had a stroke on the left side, then the face and everything will be drawn to the right side. Then we need to put things to the affected side so that the patient can turn the head and the neck in the right position."

According to Kleim and Jones (2008), this type of positioning is ideal for effective rehabilitation as this stimulates the movement in the hemiplegic side of a stroke patient.

5.3 OBJECTIVES 2 AND 3: IDENTIFIED BARRIERS AND IDENTIFIED MEANS OF OVERCOMING BARRIERS TO ENGAGING NURSES IN THE REHABILITATION OF ACUTE STROKE PATIENTS

This study has identified various critical barriers to engaging nurses in the rehabilitation of stroke patients, which was pointed out by the participants. These barriers include an uncondusive environment in which stroke patients are cared for, workload, time constraints, and knowledge deficits. The participants also provided some suggestions of how some of these barriers can be overcome. These issues are discussed in the sections below.

5.3.1 Uncondusive environment

Nursing stroke patients in general medical wards were viewed as challenging for nurses who participated in this study. The medical ward was described as being "too broad" for the patients who required specialised care. Nursing stroke patients in a special stroke ward or unit, and doing so with specialised nursing staff, were some of the solutions given by the nurses who took part in the study, as quoted below.

P4: "Whereas here, stroke patients are pumped in the general which is too broad. It is difficult to nurse them [stroke patients] in a general ward. They need their own ward."

The use of stroke units or designated wards to improve the outcomes of stroke rehabilitation is supported by Seneviratne et al. (2009:1873). According to Seneviratne (2009:1873), stroke units provide a conducive environment for rehabilitation of stroke patients, consequently reducing the length of hospitalisation.

5.3.2 Workload

Nurses appear to be aware of the importance of the rehabilitation of patients. However, fulfilling this role seems to be a challenge. Nurses verbalised that the amount of work required

in managing a medical ward was excessive. Participants indicated that the workload, due to the shortage of staff, interfered with their participation in rehabilitation processes and suggested that the hospitals should provide skilled and adequate numbers of nursing staff to work with stroke patients.

P3: "I try to get involved in the mobilising of the patients but the demands on the work of the nursing sister is a lot. So, at the end of the day, you can only do so much."

P13: "The staffing is a challenge in, in terms of the numbers of staff and patient ratios is an issue in the hospital. You have to get your staffing mix right; you get people that are passionate about stroke patients."

The workload resulting from staff shortages are similar to challenges identified by Plant, Tyson, Kirk and Parson (2016:928). The idea of adequate staffing, as a means of engaging nurses in the rehabilitation process, is supported by Plant et al. (2016:928) and Gache et al. (2014:4).

5.3.3 Time constraints

The study revealed that a lack of time to complete daily nursing activities, prevented the participants from engaging in the rehabilitation of stroke patients. Participants stated that time would be better managed with adequate staffing, as stated in the quotes provided below.

P13: "I think time is a challenge in terms of busyness for completing other tasks that are needed at the end of the day."

P1: "We need more staff for all of this....."

Gache et al. (2014:4) supported the idea of adequate staffing as a means of engaging nurses in the rehabilitation process. This is contradictory to the position of Gibbon et al. (2012) on the rehabilitation of stroke patients and the role of nurses. Gibbon et al. (2012) pointed out that nurses should not only have a care-management role, but should also take responsibility for promoting recovery through rehabilitation activities while interacting with patients. This entails nurses applying techniques of physical and occupational therapy in the care of patients, without necessarily having additional resources (Kirkevold, 2010: E29).

5.3.4 Knowledge deficit

Lack of knowledge regarding the rehabilitation of stroke patients was also identified as a factor to the lack of participation of nurses in the rehabilitation of stroke patients. Participants pointed out that the lack of knowledge was mostly due to the lack of basic training with regard to rehabilitation. They also agreed that there is a need to re-examine how best to overcome these challenges, as stated in the quotes below.

P13: "I think that lack of skilled staff is the problem...."

P7: "So, I think it will be good if the nurses can have regular training or updates."

Knowledge is believed to be the cornerstone in the success of rehabilitation (Miller et al., 2010). Struwe et al. (2013) recommended a continuous upgrading of staff knowledge as the key to building competency levels in stroke rehabilitation. In addition to upgrading staff knowledge, it is suggested that attention should be focused on the educational preparation of nurses for their rehabilitation role in order to provide them with an alternative or more rehabilitative model of practice (Plant et al., 2016). It is acknowledged that the greater the understanding about stroke and rehabilitation, the more likely it would contribute to the rehabilitation process (Clarke, 2013a).

5.4 OBJECTIVE 4: IDENTIFIED MEANS OF ENGAGING NURSES IN THE REHABILITATION OF ACUTE STROKE PATIENTS

The study has also provided some means of overcoming these challenges in order to engage nurses in the rehabilitation process. These means include training nurses in the rehabilitation of stroke patients and having a special ward for stroke patients. Both issues are discussed in the sections below.

5.4.1 Training

Nurses who participated in this study suggested that there should be regular knowledge updates regarding stroke rehabilitation in their workplace. This was believed to be one of the means of engaging nurses in the rehabilitation of stroke patients admitted to hospitals. In-service training was highlighted by some participants as a means of boosting required knowledge, which will then allow the nurses to be engaged in the rehabilitation of stroke patients. (Refer to the quotation provided below.

P3: "Maybe if we can have a programme or in-service training that would boost up our old knowledge with newer information, then you will be more eager to implement these new things."

According to Struwe et al. (2013:147), to maintain and learn new competencies in the workplace, it is important to offer educational opportunities with regard to stroke care in order to further the knowledge of service providers regarding stroke care.

5.4.2 Special ward for stroke patients

The need for a special ward for stroke patients was identified by some of the participants to be an effective means of engaging nurses in the rehabilitation of stroke patients. This will allow the use of specialised nursing staff to work with patients. Participants mentioned that having a special ward for stroke patients would provide better opportunities of interacting with other

members of the multidisciplinary team involved in the care of stroke patients, as stated in the quotations below.

P4: "For stroke patients to get the best care is the same as getting a psychiatric patient into a psychiatric unit where there are staff who are specifically trained to nurse that discipline."

P5: "So if there is a treatment plan, then the nurses will know more or less what that treatment is about."

It is suggested that an interdisciplinary team approach can provide a good opportunity for exchanging knowledge and expertise in stroke rehabilitation, which may be beneficial for nurses (Clarke, 2013b:6).

5.5 LIMITATIONS

This study was not without limitations. The following issues need to be borne in mind:

- The study was done in private hospitals. Future research in public hospitals that explore the role of nurses in rehabilitation could be beneficial.
- The sample size of 15 was too small to represent the views of more than one-thousand nurses working in private hospitals.
- Insufficient time for conducting interviews was another limitation for this study.

5.6 RECOMMENDATIONS

Based on the outcome of this research the following are recommended for the improvement of the rehabilitation of stroke patients.

- The findings of the study indicate that there is a shortfall in the nurses' knowledge regarding the rehabilitation of stroke patients. Early training of nurses in their nursing programmes is considered the key to the success of stroke rehabilitation (Plant et al., 2016:929). The SANC, in Regulation No. 786 regarding the Scope of Practice for nurses and midwives (Nursing Act, 2005), recommends rehabilitation of patients as part of nursing care. However, there is a shortfall of knowledge in this regard. Therefore, it is recommended that intense training with regard to rehabilitation should be incorporated in the nursing training programmes in order to equip newly qualified nurses with the necessary knowledge regarding the rehabilitation of stroke patients.
- This study has also revealed that there is a need for continuous professional development of qualified nurses working with stroke patients with regard to rehabilitation. Studies conducted by Struwe et al. (2013:147) and Clarke (2013a:1202) have shown that competence in stroke rehabilitation is the key factor in the recovery

of stroke patients. This can be achieved by offering continuous in-service training on stroke rehabilitation for nurses working with stroke patients (Struwe et al., 2013:148). Therefore, it is recommended that healthcare institutions should support their nursing staff by providing refresher training sessions on mobilisation, exercises, therapeutic positioning or teaching basic self-care and communication skills, which might improve the outcomes of rehabilitation care of patients.

- This study also revealed that there is shortage of members of the multidisciplinary team responsible for the rehabilitation of stroke patients and that nurses are the healthcare professionals who are the most in contact with stroke patients. It is therefore recommended that nurses should work closely with other members of the rehabilitation team and learn rehabilitation skills that can be integrated into the routine care of stroke patients, as recommended by Clarke (2013a:1222). This knowledge can be acquired by adopting an interdisciplinary approach to stroke rehabilitation, as this approach promotes team interaction and sharing knowledge (Byrne & Pettigrew, 2010:517). Therefore, it is recommended that healthcare facilities adopt this interdisciplinary approach to stroke rehabilitation by establishing specialised stroke units or wards for the care of patients who suffered a stroke.
- This study also identified shortages of nursing staff and workload as some of the barriers that prevented the nurses from being actively involved in the rehabilitation of stroke patients. It is therefore recommended that healthcare organisations take responsibility for the adequate staffing in support of the rehabilitation of stroke patients admitted to hospitals.
- This research study was conducted at private hospitals and conducting a similar study in public healthcare settings is therefore recommended.
- Nursing stroke patients in specialised areas and training nurses in the care of stroke patients are highly recommended as a manner to contribute to the rehabilitation of stroke patients. The impact of this approach on the participation of nurses in the rehabilitation process warrants extensive exploration.

5.7 CONCLUSION

This study outlined the critical factors regarding nurses' roles in the rehabilitation care of stroke patients. The study also highlighted mobilisation, exercises, therapeutic positioning, and the teaching of basic self-care and communication skills. These aspects, if embraced by nurses in the process of caring for stroke patients, will enhance the general care outcomes of stroke patients and would be of value to the recovery of these patients.

This study has also unveiled some critical challenges such as workload, lack of resources, and the lack of knowledge regarding the rehabilitation of stroke patients. These challenges have an impact on the engagement of nurses in the rehabilitation of stroke patients. Addressing these challenges will definitely have an important influence on the positive outcomes of the rehabilitation process.

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APPENDICES

1. Approval Notice



UNIVERSITEIT STELLENBOSCH UNIVERSITY
jou kennisvenoot • your knowledge partner

Approval Notice
Response to Modifications- (New Application)

16-May-2017
Mhango, Ethel EC

Ethics Reference #: S17/04/077

Title: Exploring the clinical roles of nurses in the rehabilitation of acute stroke patients at a private hospital in Cape Town, South Africa.

Dear Mrs Ethel Mhango,

The **Response to Modifications - (New Application)** received on **12-May-2017**, was reviewed by members of **Health Research Ethics Committee 1** via Expedited review procedures on **15-May-2017** and was approved.
Please note the following information about your approved research protocol:

Protocol Approval Period: **16-May-2017 -15-May-2018**

Please remember to use your **protocol number (S17/04/077)** on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:
Please note a template of the progress report is obtainable on www.sun.ac.za/rds and should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.
Translation of the consent document to the language applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372
Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 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 2004 (Department of Health).

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Helene Visser at City Health (Helene.Visser@capetown.gov.za Tel:

+27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and documents please visit: www.sun.ac.za/rds

If you have any questions or need further assistance, please contact the HREC office at .

Included Documents:

CV LJ King.doc

20170512 MOD REQUEST FOR MODIFICATIONS LETTER.docx

Inform consent.pdf

CV Ethel Mhango.docx

EXProposal E Mhango.docx

20170512 MOD SYNOPSIS OF THE RESEARCH PROPOSAL.docx

cover letter.pdf

Declaration E Mhango.pdf

Invest declaration superv Prof King (2).docx

HREC Applic E Mhango.pdf

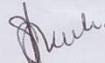
General Checklist(Eng)_V2.1 April 2016.doc

SYNOPSIS OF THE RESEARCH PROPOSAL.docx

20170512 MOD EXPLORING CLINICAL ROLES OF NURSES IN REHABILITATION OF ACUTE STROKE PATIENTS AT A PRIVATE HOSPITAL IN CAPE TOWN.docx

20170512 MOD Data Collection Tool.docx

Sincerely,



Franklin Weber
HREC Coordinator

Health Research Ethics Committee 1

2 Permission letters from healthcare institutions



MEDICLINIC OFFICES
STRAND ROAD
STELLENBOSCH
7600

PO BOX 456
STELLENBOSCH
7599

T +27 21 809 6500
F +27 21 809 6756
ETHICS LINE 0800 005 316

www.mediclinic.co.za

28 June 2017

Ms Ethel Mhango
Mediclinic Milnerton
Cnr Racecourse & Koeberg Road
Milnerton
7441

E-mail: ecmhango@gmail.com

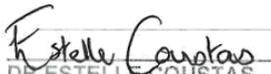
Dear Ms Mhango

PERMISSION TO CONDUCT RESEARCH AT MEDICLINIC MILNERTON

Your research proposal entitled "*Exploring the clinical roles of nurses in the rehabilitation of acute stroke patients at a private hospital in Cape Town, South Africa*" refers.

It is in order for you to conduct your research at Mediclinic Milnerton and wish you success with this project.

Yours sincerely


DR ESTELLE COUSTAS
Nursing Executive

14 September 2017

Ms Ethel Mhango
Mediclinic Milnerton
Cnr Racecourse & Koeberg Road
Milnerton
7441

E-mail: ecmhango@gmail.com

Dear Ms Mhango

PERMISSION TO CONDUCT RESEARCH AT MEDICLINIC PANORAMA

Your research proposal entitled "*Exploring the clinical roles of nurses in the rehabilitation of acute stroke patients at a private hospital in Cape Town, South Africa*" refers.

It is in order for you to conduct your research at Mediclinic Panorama and wish you success with this project.

Yours sincerely


DR ESTELLE COUSTAS
Nursing Executive



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

National Health Research Ethics Committee registration: REC 251015-048

03 October 2017

Mrs Ethel Chimango Mhango
University of Stellenbosch

Dear Mrs Mhango

RE: APPLICATION TO CONDUCT RESEARCH: LIFE VINCENT PALLOTTI HOSPITAL

Title of study: Exploring the clinical roles of nurses in the rehabilitation of acute stroke patients at a private hospital in Cape Town, South Africa

The Research and Ethics Committee of Life Healthcare Group hereby grants permission to conduct your study at the Life Vincent Pallotti hospital. However this approval is subject to the permission obtained from the hospital manager.

Present this letter to the Hospital Manager of the facility to gain permission.

Permission is granted based on the following standard terms and conditions:

1. Should patient or institutional confidentiality be compromised, Life Healthcare has the right to withdraw this permission and take legal action.
2. An electronic copy of your research report is submitted to the Life Healthcare Research Ethics Committee prior to publication.
3. No direct reference is made to Life Healthcare or its various institutions in your research report or any publications thereafter. The Company and its facilities are not in any way identifiable in the study.
4. The research is conducted within one year of permission being given by the Company.
5. Placement of the electronic research report and any publications on the Company's research register after approval by the associated Higher Education Institution.
6. Life Healthcare will not be liable for any costs incurred during or related to this study.

Yours sincerely,

A handwritten signature in black ink, appearing to read "P. Naicker".

P. Naicker
On behalf of the Research and Ethics Committee

3. Participant Information Leaflet and Consent Form

STUDY TITLE OF THE RESEARCH PROJECT:

Exploring the clinical roles of nurses in rehabilitation of acute stroke patients in a private hospital. Cape Town, South Africa.

REFERENCE NUMBER:

PRINCIPAL INVESTIGATOR: Ethel Mhango

ADDRESS: Box 5308, Cape Town. 8000.

CONTACT NUMBER: +27 82 590 7424

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?

- *Stroke is the major cause of death and disability in the world and rehabilitation is believed to be the key aspect in the management of stroke patients.*
- *This study will aim at exploring the roles of nurses in rehabilitation of stroke patients admitted in private hospitals in order to improve the care for such patients.*
- *This study will be conducted in about three private hospitals allocated in the Cape Metropolitan and there will be about ten nurses recruited to participate in the study. These participants will include, registered nurses, enrolled nurses and enrolled nurse auxiliaries currently working in private hospitals which admit and rehabilitate stroke patients.*
- *The researcher will ask you some questions relating to this study in a form of an interview which should take about 30 to 45 minutes long. These interviews will be recorded. Notes will also be taken by the researcher during the interview for record keeping. Recordings will then be transcribed and analysed by the researcher. Transcripts will be returned to you at a later stage, to verify the accuracy of the information transcribed.*

Why have you been invited to participate?

- *This study requires nurses who are able to provide information in regard to the care of stroke patients and are willing to participate in the study. You have been invited to participate because you meet these criteria.*

What will your responsibilities be?

- *You are expected to provide information based on your knowledge.*

Will you benefit from taking part in this research?

- *This study will add scientific knowledge to the healthcare profession which will benefit stroke patients.*

Are there risks involved in your taking part in this research?

- *This interview may take some of your valuable time and the researcher will try to take necessary steps not to further waste your time.*

If you do not agree to take part, what alternatives do you have?

- *If you do not agree to take part your decision will be respected.*

Who will have access to your records?

- *All information collected will be treated as confidential. Your name will not appear in any of the documents. Interview recordings, field notes and transcripts will be stored in a lockable place and word documents will be stored in protected word processing only accessible by the researcher.*
- *If information is used as a publication or thesis, your identity will remain anonymous.*

Will you be paid to take part in this study and are there any costs involved?

- *You will not be paid to take part in the study and there will be no cost involved for you in this study. There will be no extra travelling required by you, interviews will be conducted at the hospital where you are currently working.*

Is there anything else that you should know or do?

- You can contact The University of Stellenbosch at 021 808 9111 if you have any further queries or encounter any problems.
- You can contact The Health Research Ethics Committee at 021 938 9207 if you have any concerns or complaints that have not been adequately addressed by the researcher.
- You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I agree to take part in a research study entitled (*insert title of study*).

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) on (*date*) 2017.

.....
Signature of participant

.....
Signature of witness

Declaration by investigator

I (*name*) declare that:

- I explained the information in this document to
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below.*)

Signed at (*place*) on (*date*) 2017.

.....
Signature of investigator
Declaration by interpreter

.....
Signature of witness

I (*name*) declare that:

- I assisted the investigator (*name*) to explain the information in this document to (*name of participant*) using the language medium of Afrikaans/Xhosa.
- We encouraged him/her to ask questions and took adequate time to answer them.
- I conveyed a factually correct version of what was related to me.
- I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*) on (*date*)

.....
Signature of interpreter

.....
Signature of witness

4 Interview Guide

Dear Sir/Madam

I am a student from University of Stellenbosch, Department of Medicine and Health Sciences, conducting a research project. The aim of the study is to explore the clinical roles of nurses in the rehabilitation of stroke patients admitted in private hospitals.

For the purpose of this research, the following information is required from the participant.

PARTICIPANT NAME WILL REMAIN ANONYMOUS :

Gender : Male Female

Age group : 20 – 29 30 – 39 40 – 49 50+

Occupation : RN EN ENA

Nursing Qualifications : Degree Diploma Certificate Other

Additional Nursing Qualifications: Yes No

If “Yes”, specify

Work Experience in the nursing care of stroke patients:

None 1 - 5 years 6 – 10 years 11 – 15 years 16 – 20 years 20+ years

RESEARCH QUESTIONS

- What do you perceive as your clinical role in the care of stroke patients admitted to the hospital?
- What do you perceive to be the role of nurses in the rehabilitation of stroke patients?
- What do you perceive to be the means of involving nurses in the rehabilitation of acute stroke patients?
- What do you perceive to be the barriers in the engagement of nurses in the rehabilitation of stroke patients?

Probes like: advocate; protector; support; rehabilitation will be used during the interview.

Division for Postgraduate Studies
University of the Western Cape
Private Bag X17
Bellville, 7535
South Africa

23 November, 2017

To Whom It May Concern,

EDITING CONFIRMATION LETTER

This is to confirm that the research report of Ethel Chimango Mhango, titled, ***EXPLORING THE CLINICAL ROLES OF NURSES IN THE REHABILITATION OF ACUTE STROKE PATIENTS AT A PRIVATE HOSPITAL IN CAPE TOWN, RSA***, was edited by me. It was the product of research towards the candidate's Master of Nursing Science degree in the Faculty of Medicine and Health Sciences, Stellenbosch University.

The work of editing involved the language usage and technical layout of the research report to ensure compliance with the required standards. Kindly address any related concerns to me.

Sincerely,



.....
David Kwao-Sarbah
Email: dkarb@gmail.com
Mobile: +233 504 228 334

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