

**HEALTH PROMOTION NEEDS OF STROKE PATIENTS
ACCESSING COMMUNITY HEALTH CENTRES IN THE
METROPOLE REGION OF THE WESTERN CAPE**

BY

DEBBIE BIGGS

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degree of Masters of Science in the Department of
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Supervisor: Mrs. Anthea Rhoda

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DEBBIE BIGGS

Key Words

Health Promotion

Health promotion needs

Stroke

Disability

Rehabilitation

Health promoting behaviours

Health risk behaviours

Secondary Complications

Quality of life

Community Health Centres

Western Cape



DECLARATION

I hereby declare that “**Health promotion needs of stroke patients accessing community health centres in the Metropole region of the Western Cape**” is my own work, that it has not been submitted, or part of it, for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

Signature:

Debbie Biggs

November 2005



Witnesses:

Mrs. Anthea Rhoda

.....

Dr. Josè Frantz

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ABSTRACT

Stroke is the third leading cause of death and a major cause of disability in most societies. Individuals with physical disabilities are at risk of secondary complications due to the impact of the disability, which may be exacerbated by poor lifestyle choices. Although disabled persons desire to engage in wellness-enhancing activities, limited programmes based on their health promotion needs' assessment have been developed. The aim of the present study is to determine the health promotion needs of stroke patients accessing selected Community Health Centres in the Metropole region of the Western Cape. A cross-sectional survey, utilizing a self-administered questionnaire and in depth interviews with a purposively selected sample was used to collect the data. The quantitative data was analysed using Microsoft Excel[®]. Means, standard deviations and percentages were calculated for descriptive purposes and the chi-square test was used to test for associations between socio-demographic and health-related variables. Audiotape interviews were transcribed verbatim, the emerging ideas were reduced to topics, categories and themes and finally interpreted. In order to qualify for between-method triangulation used in the study, complementary strengths were identified by comparing textual qualitative data with numerical quantitative results and vice versa. The quantitative analysis revealed that the participants were engaging in health risk behaviours such as physical inactivity, substance usage, non-compliance to medication use and inappropriate diet modification. Lack of financial resources, facilities and access to information predisposed them to involvement in risky health behaviours. In-depth interviews

supported the quantitative findings and revealed that numerous participants' suffered from depression and frustration as a result of having a stroke. The necessary ethical considerations were upheld. The outcome of the study could contribute to the need to develop, encourage and promote wellness-enhancing behaviours and activities to improve the participants' health status and ultimate quality of life.



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CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter begins with a description of the lifestyle patterns and behaviours of individuals with physical disabilities, mainly those who have had a stroke. In the background, the vulnerability of individuals with stroke to secondary complications is explained. This susceptibility can either be due to direct impact of the disability or poor lifestyle choices. The rationale and significance of the study is also explained. Finally, research questions and the aims of the study are stated. The chapter ends with the definition of terms used in the study, and a summary of the chapters.



1.2 Background

Stroke is the world's third highest cause of death and a major cause of disability (Bakas, Austin, Okonkwo, Lewis & Chadwick, 2002). The impact of stroke on an individual is vast and stroke sufferers are often left with a resultant disability. Physically disabled individuals, including those who have suffered a stroke, are highly susceptible to secondary health complications which may arise after a primary disability (Pope & Tarlov, 1991). In a report entitled 'Preventing Secondary Conditions Associated with Spina Bifida and Cerebral Palsy', it was noted that secondary complications affecting people with disabilities include

osteoporosis; osteoarthritis; decreased balance, muscle strength, endurance, fitness, and flexibility; increased spasticity; weight problems; depression; and other conditions (Marge, 1994). In stroke patients these secondary complications do not only include contractures, spasticity and pressure sores but also include psycho-social adjustment to depression, isolation and environmental issues such as architectural inaccessibility (Frey, Szalda-Petree, Traci & Seekins, 2001). According to the National Guideline on Stroke and Transient Ischaemic Attack Management (2001), depression and feelings of isolation should not be overlooked and should be attended to at outreach rehabilitation services such as the community health centres, rehabilitation clinics, day programmes or home visits by members of the stroke team / home based care team. The occurrence and severity of secondary conditions can further limit a person's ability to perform essential life tasks and social roles (Coyle, Santiago, Shank, Ma & Boyd, 2000).

In addition to being predisposed to secondary complications, stroke patients often also have predisposing illnesses that have been identified as modifiable risk factors for stroke. These illnesses include hypertension, diabetes mellitus, cardiac disease and hyperlipidemia (Pohjasvaara, Erkinjuntti, Vataja & Kaste, 1997). Excessive alcohol use and smoking have also been identified as modifiable risk factors for stroke (Pohjasvaara *et al.*, 1997). According to the National Guideline on Stroke and Transient Ischaemic Attack Management (2001), such risk factors place individuals who have suffered a primary stroke at

a greater risk for a second stroke. The second stroke is most likely to occur within 1-2 weeks of the first stroke, especially if the first event was an embolus arising from the heart or stenosis of the carotid artery. The second stroke may result in severe disability (National Guideline on Stroke and Transient Ischaemic Attack Management, 2001). Individuals who have suffered a stroke are extremely vulnerable, mainly due to poor choices of lifestyle such as poor nutritional strategies, smoking and alcohol use and physical inactivity (Stuifbergen & Rogers, 1997). The above factors have a negative influence on the health status of the individual who has suffered a stroke.

Health is not a static entity but rather a dynamic one that is multifactorial in nature and shifts back and forth on a continuum from low (poor) to high (excellent) and high to low during the course of a person's lifetime. The person who exercises regularly and has good dietary habits, may be at the high end of the health continuum at the age of 40 years, but after being diagnosed with cancer and going through several chemotherapy treatments, there would be a shift in health to the lower end of the continuum. Once treatment is completed and the person resumes a healthy lifestyle, there could presumably be a shift back to the higher end of the continuum (Rimmer, 1999). Variations in health during the course of a person's lifetime are no different for people with disabilities. Someone who has sustained a spinal cord injury but practises good health habits by eating properly, exercising, receiving regular medical checkups, preventing pressure sores, and maintaining adequate body weight, could be

considered to be on the high end of the health continuum. Alternatively, a person who has suffered a stroke that gets frequent pressure sores, has a poor diet, does no exercise, and is overweight, would most likely be in poor health and at the low end of the continuum because these factors will often have detrimental consequences (Rimmer, 1999).

A person with a disability can improve or worsen his or her health in the same manner as anyone else. The only difference, however, is that people with disabilities often start at the lower end of the health continuum due to secondary complications and predisposing illnesses such as diabetes and hypertension, that overlap with their primary disability (Marge, 1994). These modifiable risk factors and secondary complications can be further aggravated by the lifestyle the person engages in following a stroke. The choice of lifestyle an individual affected by a disability engages in, often has an impact on the individual's quality of life. A habitual lifestyle that involves health-promoting behaviours such as proper medication usage, being physically active and good hygiene, certainly enhances an individual's health status. On the other hand, practising health risk behaviours which include physical inactivity, poor hygiene and smoking, are potential dangers, which often result in poor health conditions and ultimately a poor quality of life (Mutimura, 2001).

Researchers are searching for answers as to what motivates some people to engage in a healthy lifestyle while other people continue to lead an unhealthy

lifestyle. Health behaviours are reported as being the core of why people behave as they do and ultimately attempt to explain the multifaceted phenomena of human behaviour (Manning, 1997). Engaging in health risk behaviours could compromise the functional mobility of the disabled individual and potentially lead to an earlier decline in health and a dependency on other individuals for care (Nosek, 1997; Stuifbergen, Gordon & Clark, 1998; Stuifbergen & Roberts, 1997). By shifting the focus in health to health promotion, disabled individuals can be empowered with knowledge to avoid health risk behaviours.

Health promotion is a broad term which is considered to be the aggregate of all purposeful activities designed to improve personal and public health through a combination of strategies, including the implementation of behavioural change strategies, health education, health protection measures, risk factor detection, health enhancement and health maintenance (Joint Committee on Health Education Terminology Report, 1991). In a recent working document, *Healthy People with Disabilities 2010*, the definition of health promotion for people with disabilities consists of four parts. The first being promotion of healthy lifestyles and a healthy environment, the second part refers to the prevention of health complications (medical secondary complications) and further disabling conditions, whilst the third part highlights the preparation of the person with a disability to understand and monitor his or her own health and health care needs. The final part consists of the promotion of opportunities for participation in commonly held life activities (Public Health Service, 1998). The health care

needs mentioned in part three of the above definition of health promotion, can according to Aday (1993), be characterized as being extensive. The author states that:

“ (1) their needs are serious, in many cases, debilitating or life-threatening ones; (2) they require an extensive set of medical and non-medical services; (3) the growth in the number of stroke patients and the seriousness of their needs are placing greater demands on the medical care, public health, and related service delivery sectors; (4) their complex and multifaceted needs are, however, not adequately met through existing financing or service delivery arrangements; and (5) federal, state and local policy makers are increasingly concerned about how to deal with the demands they place on the existing systems of care, as well as about how to aid the growing number of people at risk for serious physical, psychological, and/or social health problems”.

In order to enhance the life of the physically disabled, health care providers and policy makers are compelled to respond to the health promotion needs. Thus, despite the increasing interest by individuals with disabilities and health care professionals in this area, little is known about the health promotion needs and behaviours of people with various disabling conditions (Lezzoni, McCarthy, Davis & Siebens, 2000; Stuifbergen & Roberts, 1997). Although this is the case, it is clear that health services should be orientated towards the prevention of secondary complications and the enhancement of the health status of stroke patients by encouraging a habitual lifestyle that involves health-promoting

behaviours. A general health behaviour curriculum should be provided as a service to all those living with physical disabilities in South Africa.

South Africa has adopted the district health system for provision of health care for the country, with large numbers of disabled patients. Medical staffs at secondary and tertiary health facilities only attend to the disabled individuals if they have a referral from a primary source, such as a doctor at a community health centre. The community health centre is therefore in most cases, the first medical facility the post-stroke individual would access for care (Rhoda, 2002). Patients who have suffered a stroke form a large group of individuals with neurological deficit accessing the community health centres in the Western Cape. Services offered at these community health centres include primary health care services, which consist of preventative, promotive, curative and rehabilitative aspects. The rehabilitative services offered to the individuals with stroke, include mainly physiotherapy and occupational therapy. Individuals who have suffered a stroke require a rehabilitation programme to function at the highest level possible, to maintain optimal health, and to adopt an altered lifestyle (Habel, 1993). Therefore by incorporating health promotion interventions into rehabilitation programmes, individuals could be more effectively empowered to take control over their own lives. Although health promotion has been recognized as a component that needs to be included in the provision of health services at these Community Health Centres, the emphasis is still on curative and rehabilitative aspects and less on the preventative and promotive aspects.

The needs, including the health promotion needs of stroke patients are not known. The purpose of the present study is therefore to determine these needs in order to assist the shift of services from a curative to a promotive one. Addressing the health promotion needs of the stroke patients could form a vital part of the rehabilitation of these stroke patients. As noted by Renwick and co-workers, "Rehabilitation has strong potential as a collaborator in the process of making health promotion people-centered in that it has collective expertise in client centeredness at the individual level of analysis and application" (Renwick, Brown, Rootman & Nagler, 1996). According to Teague, Cipriano & McGhee (1990) "In restructuring health promotion services for people with disabilities, rehabilitation professionals are challenged to assume the roles of collaborator, educator, researcher, and programme provider".



1.3 Significance of the study

With healthcare costs on the rise (Pender, 1987) research aimed at empowering the disabled and their care-givers, can do much to reduce the health, welfare and economic burden of disability in South Africa (Bhagwanjee & Stewart, 1999). The findings of this study could contribute to the knowledge of health-related behaviours of stroke patients as well as the factors that influence these behaviours. Through the identification of the health-related behaviours of stroke patients, the health promotion needs specific to this group can be determined. Results of this study could be used to make recommendations for the implementation of intervention programmes that address the health promotion

needs of stroke patients, as well as decrease the incidence and severity of secondary complications. Interventions based on these study findings could contribute to improving the quality of life of these stroke patients.

This study attempts to identify factors that influence the health-related behaviours of people who have suffered a stroke. Most secondary complications are exacerbated by a poor choice of lifestyle (Coyle *et al.*, 2000). Therefore, efforts in health promotion intervention should place an emphasis on participation in health-promoting behaviours such as participation in physical activity, while refraining from health-risk behaviours, like tobacco smoking and poor eating habits.



Currently, the health care personnel labour force, mainly the rehabilitation sector, is overextended because of a small number of health care personnel and the possible increase in physical disabilities as a result of stroke. The views of the participants in the study on issues to promote their wellness-enhancing behaviours could help to prevent the occurrence of additional secondary disabilities. This could certainly improve the quality of rehabilitation by decreasing morbidity rates, which will result in lower health care costs (Mutimura, 2001).

1.4 Research Questions

The specific research questions addressed in this study are:

1. What are the health-related behaviours of stroke patients accessing Community Health Centres in the Metropole Region of the Western Cape?
2. What factors influence the engagement by the stroke patients in these health-related behaviours?

1.5 Aim of the study




To determine the health promotion needs, through the identification of the health-related behaviours of stroke patients receiving rehabilitation at the Community Health Centres in the Metropole Region of the Western Cape.

1.6 Objectives

1. To identify the health-related behaviours of the stroke patients.
2. To identify factors that influence the health-related behaviours of stroke patients.
3. To determine the health promotion needs of stroke patients.
4. To provide health care professionals with recommendations to incorporate health promotion into the rehabilitation programmes of stroke patients.

1.7 Definition of terms used in the thesis

1. Health-promoting behaviours include physical activity or exercise, eating practices, seeking of social support, and stress management (Stuifbergen & Rogers, 1997).
2. Health Promotion in a public health context is intended to maintain and enhance existing levels of health through the implementation of effective programmes, services and policies (Chermak, 1990; Smith, 2000). The concept of health promotion emphasizes self-care and encourages an active independent attitude towards health care rather than expert care (Stuifbergen & Rogers, 1997).

3. Health promotion needs are needs from the perspective of the clients. They are aimed at increasing and maintaining the clients participation in activities designed to enhance his/her quality of life and control of his/her life status. They include physical activity, good nutritional practices, stress management techniques and social support. However, since the perceptions of an individual may be limited, changing all risky lifestyle behaviours like smoking, alcohol abuse, which can result in a deterioration of quality of life are regarded as health promotion needs (Hogan, Mclellan & Bauman, 2000; Naidoo & Wills, 2000; Stuifbergen, Seraphine & Greg, 2000;).

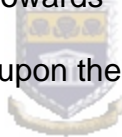
4. Quality of life: The definitions and descriptions of quality of life include both objective and subjective indicators of physical and psychological phenomena (Stuifbergen & Rogers, 1997). Objective indicators include income, living situations and physical functioning. On the other hand, subjective evaluations of quality of life represent the individual's perception of important life domains and satisfaction with those domains. Quality of life reflects an individual's sense of well-being and satisfaction with life (Stuifbergen, 1995).
5. Disability is defined as an umbrella term for impairment, activity limitation and participation restriction. It denotes the negative aspects of interaction between an individual who has a health condition and that individual's contextual factors which are environmental and personal factors (WHO, 2001b).
6. Stroke is defined as an abnormality of the brain characterized by occlusion from either an embolus, thrombus, or cerebrovascular haemorrhage or vasospasm, resulting in ischaemia of the brain tissues normally perfused by the damaged vessels. The sequelae of a stroke depends on the location and extent of ischaemia. Paralysis, weakness, sensory change, speech defect, aphasia, or death may occur. Symptoms remit somewhat after the first few days as brain swelling subsides. Also

called cerebrovascular accident (CVA) (Mosby's Medical, Nursing, and Allied Health Dictionary, 2002).

7. Health needs include normative needs defined by experts or professionals as well as the clients. They may also be comparative needs identified when people or group areas fall short of particular established standards (Naidoo & Wills, 2000).

8. Health is promoted by providing a decent standard of living such as good labour conditions, education, means of rest and recreation.

Therefore, health is not simply the absence of disease: it is something positive, a joyful attitude towards life, a cheerful acceptance of the responsibilities that life puts upon the individual (Breslow, 1999).



1.8 Summary of the chapters

Chapter one describes the basis of the current study. This includes a description of the lifestyle patterns and behaviours of individuals with physical disabilities, mainly those who have had a stroke. The researcher describes the impact of disability with a particular focus on stroke. The manner in which poor lifestyle behaviours may exacerbate the existing disability, and thus lead to further deterioration of an individual's life status, is also explored. The underlying principle of the study highlights the need for health promotion intervention based on the client's health promotion needs.

In chapter two, the literature reviewed highlights essential issues that need to be focused on. A description of the physiological phenomenon, which is stroke and information on the epidemiology of stroke internationally as well as locally are given. The prevalence of disability internationally as well as in South Africa is also discussed. Special reference is given to the prevalence of disability in the Western Cape. The concept of health promotion and disability are also further discussed in this chapter. The conceptual model of health promotion reviewed in this chapter reveals the influence of contextual factors on health behaviours, and the subsequent outcome of quality of life. The health promotion needs of disabled individuals are also discussed. Finally, the use of between-method triangulation adopted in the study methodology is reviewed.



In chapter three the study milieu, study population and sampling are described. Furthermore, an attempt is made to explain essential methodological issues, including methods of data collection and study procedure utilized. A self-administered questionnaire survey and in-depth face-to-face interviews were employed in data collection. Descriptive and inferential statistics were utilized in quantitative data analysis. A series of qualitative data analysis consisted of translations of interview quotations and field process notes. Then, precise transcriptions of audiotape recordings and the discovery of strong themes that ran through the data followed. Finally, qualitative textual data was compared to numerical quantitative findings to qualify the process of between-method triangulation utilized in the study.

In chapter four, the results of the study are presented. Means, standard deviations and percentages are used to present descriptive statistics while the chi-square tests was used to test associations between certain variables.

In chapter five, the discussion centres on an attempt to interpret the current study findings, and a comparison of the study results is made with similar studies. An effort is made to discuss how the existing trends of participants' poor lifestyle behaviours could be reversed.

The final chapter entitled 'Summary, Conclusions and Recommendations', summarizes, draws pertinent inferences from the research and proposes suggestions for future action.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter begins with the definition of stroke and describes the physiology of stroke. In addition to the incidence of stroke internationally as well as in South Africa, the prevalence of disability worldwide and in South Africa with special reference to the Western Cape, is also discussed. A number of health-promoting behaviours and the concept of health promotion are reviewed, which highlight self-care and encourage an active, self-sufficient approach towards health. The numerous factors such as personal, environmental, cultural and group factors which have an influence on the health behaviours of disabled individuals are discussed. Stuijbergen's conceptual model of health promotion for people with disabilities is also reviewed. The numerous health promotion needs of disabled individuals are discussed with reference to past literature on the subject. The chapter ends with the significance of the use of between-method triangulation that was utilized in the data collection.

2.2 Definition and cause of stroke

A stroke is defined by the World Health Organisation (WHO) as 'a clinical syndrome characterized by rapidly developing clinical symptoms and/or signs of focal and at times global (applied to patients in deep coma and to those with

subarachnoid haemorrhage) loss of cerebral function, with symptoms lasting more than 24 hours or leading to death, with no other apparent cause other than that of vascular origin' (WHO, 1989).

Therefore, any occlusion of the lumen by embolism or thrombus, rupture of a vessel, any lesion or altered permeability of the vessel wall, and viscosity or other change in the quality of the blood, will result in signs and symptoms of neurological deficit (Victor & Ropper, 2001). The nerve cells in that part of the brain deprived of blood cannot function, which sometimes results in total or partial loss of consciousness. The brain is dependent on having a steady supply of oxygen. Because there is no reserve supply of oxygen in the cerebral tissues, cerebral metabolism cannot be sustained during periods of reduced or total loss of cerebral blood flow. When the brain is completely deprived of oxygen, it undergoes ischemic necrosis or infarction (Victor & Ropper, 2001). Such changes within the brain can result in extensive damage (focal deficit) and occur within 10 to 20 seconds. Irreversible damage can occur in the cerebral hemispheres after 3 to 10 minutes (Sessler, 1981).

Ischemia, whether resulting in cerebral infarction (i.e., blockage), or resulting in an intracranial hemorrhage, is one of the most frequent precipitating causes of a stroke. The Committee of the National Institute of Neurological Disease and Stroke of the National Institutes of Health classifies more than 50 different diseases as potential predisposing risk factors of a stroke (Sessler, 1981). According to Kasner & Gorelick (2004), risk factors include hypertension,

hyperlipidemia, cardiovascular problems, smoking, alcohol use, diabetes mellitus, insulin resistance and metabolic syndrome, obesity, hyperhomocyst(e)inemia, inflammation/infection, and illicit drug use and abuse.

Both infarction and ischemia result from an interruption in the flow of blood to the brain and from tissue perfusion. A cerebral hemorrhage results from a ruptured vessel which, because of the spurting of blood from the injured vessel, destroys some of the nerve cells. A blood clot can also form around the area of spurting blood.

Those parts of the brain that control the motor and sensory systems of the body, that have been damaged because of the loss of their blood supply, are no longer able to control these functions. The result is paralysis of or loss of some function in these affected areas. These effects can be slight or severe, temporary or permanent (Sessler, 1981).



Although death may occur within hours or days after the onset of a stroke, most patients do survive for many years. Recovery depends on which brain cells have been affected, how widespread the damage is, how fast the body can repair itself, and whether other parts of the brain that have been less damaged can compensate by taking over the functions of the severely damaged brain cells (Victor & Ropper, 2001).

A stroke never affects all areas of the brain equally. Fortunately, most strokes affect only a small area of the brain and result in the loss of only a few vital

functions. It is only when a stroke is so massive or when many areas of the brain have been affected that the damage then becomes irreversible and there is widespread paralysis and loss of vital functions (Sessler, 1981)

2.3 Epidemiology of strokes

Stroke is a common and serious disorder. Each year there are approximately 750, 000 people in the United States who have a new or recurrent stroke and at least 20 million worldwide who have had a stroke (Broderick, Brott & Kothari, 1998). Stroke is the third leading cause of death in America after heart disease and cancer. One in every three deaths in the United Kingdom results from stroke, and it is the single greatest cause of disability in the adult population (Wolfe, 2000). Given that the incidence of stroke in the British population alone is estimated to rise by as much as 30% over the next 20 years (Wolfe, 2000), it represents a major and ongoing challenge for society.

In the Netherlands, approximately 27 000 people (~ 0.2% of the population) suffer a stroke each year, and ageing of the population will cause this number to increase by 30% in 2015 (Public Health Status & Forecasts, 1997). Presently, one third of Dutch patients with a first-ever stroke die within 36 months, making stroke the third leading cause of death in the Netherlands (Voorburg & Heerlen, 2001). About 60% survive with moderate or severe handicaps (Dutch Heart Foundation, 1999). In 1999, stroke was responsible for 2.9% of the Netherlands total health care costs, and for 6.0 % in the population aged 75 and over. Thus

stroke ranked second on the Netherlands list of most costly diseases for the elderly, after dementia (National Institute of Public Health & the Environment, 2002).

Variations in mortality rates exist globally with more affluent developed countries such as the United States, United Kingdom and the Netherlands, having lower mortality rates than poorer developing countries such as Mauritius (Murray & Lopez, 1997).

Strokes are next in importance to cardio vascular diseases in morbidity and mortality in Mauritius. In 2001, strokes accounted for 15.6% of deaths registered on the island. The incidence of stroke in Mauritius is one of the highest in the world. Stroke contributes to 6 percent of the total burden of disease in men and women in Mauritius. The last Non-Communicable Disease Survey carried out in 1997, revealed that 20% and 30% of the population aged 30 years and above are diabetic and hypertensive respectively, with a further 40 % of the population in the same age group being overweight. 42% of men and 3.3% of women are smokers. The control of diabetes, hypertension, and other health-related behaviours will go a long way towards reducing the incidence of strokes in Mauritius (White Paper on Health Sector Development & Reform, 2002).

In South Africa, stroke is the third most frequent cause of all deaths reported in the country and in 1990 accounted for 9,6 % of all reported deaths. Of all the deaths reported in the age group 25-64 years, 7.45 % were due to stroke

(National Guideline on Stroke and Transient Ischaemic Attack Management, 2001).

The highest documented stroke rates are found in the Coloured and Indian communities of South Africa, with age-standardised mortality rates (1984-1986) of approximately 125-175 per 100 000 per annum. The lowest rates were found in the White community at the rate of about 70 per 100 000 per annum. Stroke mortality rates were similar in men and women in South Africa, but incidence is approximately 30% higher in men than in women. Very few figures are available for Black communities but are assumed to be much higher, a suggested figure of 300 per 100 000. What is known is that black patients present much younger with stroke than white patients, the cause among black patients is mainly related to hypertension and morbidity is higher in this group (Department of Health, 2001).

It is estimated that there are about 6 million hypertensive people, 7 million smokers and 3-4 million diabetic patients in South Africa who are at risk for having a stroke (Department of Health, 2001). Improved management of the above risk factors, is key to reducing the stroke mortality figures in South Africa, and to reduce the number of individuals living with disabilities as a result of stroke.


2.4 Prevalence of disability

Disability is a global phenomenon of huge proportion, eliciting growing local, national and international concern. A conservative global estimate of the prevalence of disability, extrapolated from the findings of international surveys suggests that a staggering 537 million people in the world suffer significant disability (Bhagwanjee & Stewart, 1999). Stroke is an undisputed major cause of disability (White & Johnstone, 2000). In the United States, of the 500 000 people who have a stroke, 300 000 are left disabled (Agency for Health Care Policy & Research, 1995). Bonita, Broad & Beaglehole (1997), reports an estimated disability prevalence in New Zealand of 4.6 per 1000 of the population 15 years and older. Recent estimates of the disability prevalence in South Africa indicated an alarming population prevalence of 13% in 1995, with 5% of this population being severely disabled (Bhagwanjee & Stewart, 1999).

According to the 1996 census, the prevalence rate for disability in the Western Cape was 3.7%, which was lower than the national average of 6.6%. These figures correlate with the findings (respectively 3.8% and 5.9%) of a study done by the Community Agency for Social Enquiry (CASE) on commission of the National Department of Health during 1997-1999, as cited in the Integrated Provincial Disability Strategy (2002). Stroke is one of the commonest causes of disability in South Africa (Department of health, 2001).

According to the Integrated Provincial Disability Strategy, there are estimated to be more than 145 000 people with disabilities in the Western Cape alone

(Integrated Provincial Disability Strategy, 2002). Visual impairment is the disability with the highest prevalence in the Province, followed by physical disability. The distribution of disability in terms of types correlates with the pattern at national level. The findings of the CASE study similarly indicates that disabilities related to moving and seeing have the highest prevalence. A significant percentage (20.8%) of persons with disabilities did not specify the nature of their disability (Integrated Provincial Disability Strategy, 2002). It is not known the extent to which stroke make up these numbers.

A stroke is no respecter of age or position in life. From the newborn infant to the oldest citizen, no one is immune. According to the Integrated Provincial Disability Strategy (2002), the age groups  25-29 and 30-34 represent the highest percentages respectively 8.0% and 8.2% of the disabled people in the Province. The distribution of the disabled population according to age is more or less similar to the age distribution of the total population. The highest number (64 944) of people with disabilities in the Western Cape Province are from the coloured population group, who are the largest population group in the Province (Office of Premier, Western Cape, 2002). No specific data relating to the extent of disability post-stroke is available in South Africa (Hale & Eales, 2001). This is to be expected, as data relating to the prevalence and nature of disability in South Africa are also seriously lacking (Office of Deputy President, Republic of South Africa, 1997).

2.4.1 Disability Post-stroke

It is important to note that stroke is a sudden event and not a progressive disabling condition. The impacts of stroke therefore occur immediately and not over a period of time (White & Johnstone, 2000; Wyller & Kirkevold, 1999).

The most common impacts that occur following stroke are impairments such as impaired motor function, sensory deficits, abnormal tone, perceptual and cognitive limitations, speech impairments and depression (Clarke, Black, Badley, Lawrence & Williams, 1999; Duncan *et al.*, 1997; Mayo *et al.*, 1999;). According to Clarke *et al.* (1999), the activity limitations that are experienced by stroke clients are a decrease in mobility in the home and community, an inability to return to previous employment as well a limited involvement in recreational and social activities. Participation factors that are known to be affected are the social interaction of the clients (Dowswell *et al.*, 2000). In the qualitative study done by Dowswell *et al.* (2000), the subjects expressed the view that social isolation was not only due to the physical obstacles that limited their social functioning, but also the client's feelings of shame. These clients also felt that they could not fulfill their prior roles and thus had no purpose. Emotional and behavioural problems experienced by stroke survivors therefore also impact on their social functioning and quality of life (Hostenbach, 2000). The quality of life of an individual relates to the individual's perceptions of his or her emotional, social and physical well-being, and is said to encompass more than the sum of the effects of the impairment, the activity limitation and the participation restriction (Duncan *et al.*, 1997). The impact of post-stroke disability is therefore vast and

strategies including intensive rehabilitation and health promotion are crucial to improve the health prospects and functional independence of people with disabilities (Rimmer, 1999).

2.5 Concept of health promotion and disability

The Ottawa Charter has defined health promotion as ‘the process of enabling people to increase control over, and to improve their health’ (WHO, 1986). “To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and realize aspirations, to satisfy needs, and to change or cope with the environment” (WHO, 1986).



The concept of health promotion emphasizes self-care rather than expert care and promotes an active, independent attitude towards health care (Breslow, 1999; Smith, 2000). According to the WHO health promotion paradigm, society should aim to create prerequisites for health in society and to enable people to increase control over their lives and mobilize their internal resources. It focuses on health and promotion of health rather than disease. Health promotion is a process that facilitates the development of someone’s self and ability to act in a social setting (Medin, Bendtsen & Ekberg, 2003). Health promotion programmes have evolved from community action programmes which were based around lifestyle risk factor modification (Nutbeam, Smith, Murphy & Catford, 1990). The Kilkenny Health Programme in Ireland which ran from 1985-1991 (Shelley *et al.*, 1995) focused on instigating supportive changes of varying kinds which would

reach individuals who should alter their unfavourable health behaviours such as smoking and poor eating habits. This would have an impact on risk factors initially and ultimately on disease specific mortality and morbidity rates (Holman, 1997).

Programmes such as the Kilkenny Health Programme, that aim to encourage health promotion within the disabled community showed beneficial risk factor changes at follow-up compared with baseline in terms of the lifestyle risk factors targeted, so that there were falls in the systolic blood pressure, cholesterol and smoking practice (Shelley *et al.*, 1995). Therefore by implementing programmes which could provide access to knowledge and resources, to individuals with physical disabilities, may result in such individuals being better empowered to make the correct choices for health-promoting behaviours to sustain and enhance their quality of life (Stuifbergen & Rogers, 1997).

A wider perspective of health promotion is the recognition of the health-promoting role and responsibility of all health care professionals (Smith, 2000). Consequently, people with life-long physically disabling conditions often face challenges of promoting their health and maintaining their quality of life with little help from health care rehabilitation professionals (Rimmer, 1999; Smith, 2000; Stuifbergen & Rogers, 1997). A qualitative study undertaken by Stuifbergen and Rogers (1997) found that numerous participants with chronic disabling conditions created very satisfying lives for themselves, usually with very little assistance

from health care professionals. While some of the participants in the study had received valuable health promotion advice that resulted in a positive impact on their quality of life from health care professionals, virtually none of them indicated that they had received any information from nurses. Many of the participants had received no recommendations from any health care provider regarding health promotion strategies and had been forced to adopt self-education strategies to learn about their illness and how to cope with it on a day-to-day basis in an attempt to maintain a satisfactory quality of life. Stuijbergen & Rogers (1997) concluded that health care professionals, particularly neurologists, nurses and physiotherapists need to be proactive in recommending health promotion strategies to the disabled population. They also need to be aware of and appreciate the tremendous potential they have for positively affecting the lives of individuals with chronic disabling conditions by recommending and encouraging quality of life-enhancing health promotion activities. According to Stuijbergen & Rogers (1997), health promotion activities includes activities such as physical exercise or activity, eating practices, seeking of social support and stress management. Such health promotion activities are viewed as being essential to the process of rehabilitation and maintaining an acceptable quality of life (Stuijbergen & Rogers, 1997).

Rehabilitation is the strategy used by health care professionals to address the impairments, activity limitations, participation restrictions and changes in quality of life the stroke patients experience (Integrated National Disability

Strategy, 1997). Health promoting actions for chronically ill patients such as those with stroke are considered to be important components of the rehabilitation process. Health-promoting actions include comprehensive rehabilitation services, supporting the caregivers and providing the stroke patient with social support as well as social networking. Comprehensive rehabilitation services need to be made available to all stroke patients. These rehabilitation services not only address the physical needs of the patient, but also their psychological and emotional needs. Stroke patients require adequate medical treatment, but they need more to cooperate effectively during and after treatment and to cope with their social, practical and psychological problems. People need adequate, consistent and clear information, emotional support and practical help and opportunities to discuss openly their feelings and uncertainties. Health-promoting actions include informing the stroke patient accurately about the condition and how to control risk factors through behavioural change. Support programmes for the caregivers of stroke patients should be developed and applied, to prevent burn-out and to educate them on the different aspects of the patient's condition. Social supports are very important to all disabled individuals, and refer to the interpersonal relationships that protect people from the negatives of stress (Kessler, Price & Wortman, 1985). Social supports can be classified according to whether they relate to structural or functional aspects of the relationship. Structural aspects of the relationship include: living arrangements, frequency of contact, participation in social activities like attending a stroke group, and involvement in social networks. Functional aspects include: emotional support,

encouraging expression of feelings, provision of advice or information, provision of material aid (Kessler *et al.*, 1985). House (1981) classified supportive behaviour from others in terms of four general classes: emotional, appraisal, informational, and instrumental. Emotional support refers to feedback and affirmation. Informational support includes suggestions, advice, and information that one gets from others only. An example of informational support would be when a physiotherapist educates a stroke patient and the caregivers on pressure sores, and demonstrates how to regularly check the patient's affected side for their development. Instrumental support has to do with labor, money, and time that one can obtain from those with whom one affiliates. Being able to rely on family members and/or neighbours for a weekly lift to a stroke group would be an example of instrumental support.



Health promotion emphasizes the importance of social integration and mutual understanding in coping with the stress of life and illness. Including the family and significant others in the treatment procedures are important steps in the health promotion for chronically ill people (Badura & Kickbusch, 1991).

In order to understand health behaviours and health status, it is necessary to look beyond social supports and to consider the broader social networks in which supports may or may not take place. Mitchell (1969) defined social networks as having three dimensions: structural, the interactional, and the functional. The structural dimension refers to the size, density, and interconnectiveness of

specific linkages between individuals. An example would be the extent to which people know one another (Mitchell & Trickett, 1980). The interactional dimension is more concerned with the nature of the relationship, the quality of interactions, and the degree of reciprocity of relationships to others. The functional dimension is concerned with functions provided by various network members such as individual policy makers, non-government institutions providing services to stroke patients etc. Evidence suggests that the transmission of positive values toward medical care (for example, the cessation of smoking) and the sharing of health related knowledge is accomplished through social network interaction (Coppatelli & Orleans, 1985). In this sense social networks provide specific linkages that are used to interpret an individual's behaviour and to provide cues to preventative behaviour. Gravell, Zapka and Mamon (1985), suggested that interventions must take the form of providing key network members with pertinent health-promoting information in an effort to stimulate informed discussion within social networks, thereby increasing the probability of preventative health behaviours.

2.6 Factors that influence health behaviours

Health behaviours are a part of one's life-style, which is a broad concept encompassing not only behaviours and attitudes, but an outlook of life. There are numerous factors that can influence the development of a disabled person's

life-style, and health behaviours can be grouped into four main categories: environmental, cultural, group and personal factors (Gochman, 1988).

Environmental factors: Although there are several aspects of the physical environment over which a person can sometimes exert some direct control and choice (e.g. where they live and work), often such controlled choices are not possible. There are many more aspects of the physical environment that are influenced by public and organizational policies and policies over which we have little direct personal control, e.g., air, water, noise, pesticides, pollutants, and food preservatives (McKee, 1974; Milio, 1981). The quality of the physical environment has both direct and in-direct effects on one's health and influences one's health promoting behaviours.



As the speed of technology and industrialization has accelerated, environmental problems such as pollution have become more numerous and complex. This has an affect on the type and quality of the physical environment and will ultimately have a direct effect on the nutritional environment, i.e., the kinds of foods available and their cost. People will be less willing to participate in health promoting behaviours such as eating a healthy diet, if the fruit and vegetables needed to maintain such a diet are too expensive to afford. The physical environment will also influence the type, availability, and accessibility of health and social services. It might be expected that the more restrictive and hazardous the physical environment, coupled with a feeling of little personal control to

change it, the more individual health promoting behaviours' will be limited, inflexible, and of low value.

Given certain physical conditions, behavioural options that influence health may not be known or considered important, especially if such behaviours have no immediate, observable effect (Gochman, 1988).

Cultural factors: Health behaviours are largely learned passively during the process of socialization. Because healthy life-styles and behaviours are not highly valued or systematically taught, unhealthy life-styles and behaviours that are learned take substantial effort to modify (Maccoby & Farquhar, 1975). Individuals are continually confronted with messages in the mass media promoting unhealthy foods, alcoholic beverages, cigarettes etc. Unfortunately, individuals find it easier to receive and process information selectively to confirm the behaviour they have chosen to pursue, than to change that behaviour (Gochman, 1988).

Group factors. Although there have been a few studies that have dealt directly with health learning, it seems that a large amount of life-style and health and illness behaviour is acquired in the family setting (Mechanic, 1963). Litman (1974) found that parents, irrespective of the generation, were the most frequently mentioned source of health attitudes and opinions, followed by the spouse, health personnel, and the mass media. There also appears to be some

evidence that families' use of medical care services may be related to factors such as the individual's education level and their concern over their own health (Mechanic, 1963).

Fuchs (1974) has stated that the more education people have, the healthier they tend to be. People with more education tend to come from families with more money, who can afford better health care. Good education may lead to more sensible work and living habits. Formal schooling may also increase self-confidence and decrease stress. Fuchs therefore concluded that people determine much of their health status and health behaviours by the way they live.

Personal factors: Personal lifestyle factors that relate to health behaviour include beliefs about control, hardiness, and coping skills.

Beliefs are personally formed cognitive configurations that are often culturally determined and shared. They are preexisting notions about reality that serve as a perceptual 'set'. People develop beliefs about health and the degree to which they can influence their own health status. Beliefs about personal control have to do with feelings of mastery and confidence. There are several models for explaining the components of health beliefs, including personal control. One of the best known models is the 'health belief model' (Gochman, 1988). The health belief model (Becker, 1974) focuses on two related appraisal processes: the threat of illness, and the behavioural response to that threat. Threat appraisal involves consideration to both the individual's perceived susceptibility to an

illness and its anticipated severity. Behavioural evaluation involves consideration of the costs and benefits of engaging in behaviours likely to reduce the threat of disease. In addition, the model suggests that health-related decisions are triggered by environmental cues. Later versions of the model (Becker, 1974) added a fourth dimension, the individual's motivation or 'readiness to be concerned about health matters', although this has rarely been addressed by researchers (Conner & Norman, 1996). Although each factor is considered of importance in any decision-making process, no clear operationalization of how the constructs combine to result in a final decision has been developed (Lewis, 1994; Ronis & Harel, 1989).

Control is another factor that can relate to the health behaviour of an individual. Control refers to the real or perceived ability to determine outcomes of an event. When an individual's behaviour is perceived as causally linked to outcomes, perceptions of control are possible. When the outcomes cannot be tied to behaviour, it is more difficult to believe that one is in control (Gatchel & Baum, 1983). Control has dealt with two main issues: (1) the effects of believing that one has control and that outcomes are contingent on responses and (2) the effects of believing that outcomes are not contingent on behaviour and therefore not controllable. The first has been concerned most directly with the mediating effects of perceived control on response to aversive stimulation and stress. The second has been concerned with learned helplessness and debilitating effects of believing that one cannot control what happens. Research implies that when

faced with health problems, disabled individuals who have an internal locus of control appear to engage in generally more adaptive responses than externally controlled individuals. These range from preventative health measures through remedial strategies when illness occurs.

Kobasa, Maddi & Kahn (1982) examined 'hardiness' as a personality construct comprised of three characteristics: commitment, the tendency to appraise demands as challenging rather than threatening, and having a sense of control over one's fate. It was found that people characterized as 'hardy' were less prone to stress and had a positive attitude towards their health and practiced good health behaviours' despite their level of disability.


A disabled individual's perceptions, in addition to the numerous environmental, cultural, group, and personal factors previously discussed, can influence the development of health behaviour. Individual's perception of vulnerability or susceptibility, their perception of benefits and costs, and their perceptions and assessments of competing needs all influence, in various ways, health actions or inactions (Feuerstein, Labbè & Kuczmierczyk, 1986). In this regard, the conflict theory model of personal decision-making, unlike the health belief model, attempts to specify the conditions under which individuals will give priority to health matters and seek out medical information about the consequences of alternative courses of action. Jannis & Mann (1977) delineated five stages individuals go through in order to arrive at a stable decision. These stages were identified by observing individuals who made health decisions they subsequently

carried out successfully; these included giving up smoking and following a regular exercise regime. Stage 1 takes the form of an event or communication that conveys a threat or opportunity. The individual must either ignore or repeat the challenge or accept it and progress to the next stage of decision making. In stage 2, the individual carefully considers the goals relevant to the decision and looks for alternatives. Throughout stage 3, the individual evaluates the proposed cost of each alternative. Stage 4 sees the decision maker increasingly committed to a course of action. Finally, in stage 5, the decision maker discards new challenges and continues with implementing the decision. Janis & Mann (1977) agree that only when an individual's pattern is vigilant will the person be able to make a rational choice based on weighing the benefits or costs of taking an action.



The perception and assessment of personal risk is an important aspect of lifestyle and health behaviour. The decision on whether or not to take an action depends on the kind of information received and also on the state in which the recipient of the information is at the time. Baric (1969) described four different states of health (healthy, at risk, convalescent, and ill) and noted that people in each of these states will need a different kind of health information. Baric explained that a healthy person who becomes aware of a health threat, will undergo a process similar to that of acquiring a sick role. For Kasl & Cobb (1966) sick role behaviour denotes those actions, undertaken by persons who have already been designated as being sick or disabled, either by others or themselves. Such behaviours include, but are not limited to, acceptance of a

medically prescribed regimen; limitation of activity and of personal, family and social responsibilities; and actions related to recovery and rehabilitation. Baric (1969) emphasized the limitations of efforts to modify health behaviour if intervention is focused on the sick role or at the point at which a person has already made a health decision based on a perception and assessment of risk.

Finally, a person's perception of risk, possible benefits, and assessment of need, relate to an overall attitude of responsibility for one's health. The health care system provides sophisticated, technological services for complex physical disease; yet it is not as effective in providing preventative services. The public have high expectations of medicine's ability to cure and rehabilitate. These expectations are reinforced by the  mass media and the publicity given to technological advances in health care. Providers of health services have helped to create high expectations and a dependency on technology to cure disease. This results in an attitude that one does not need to assume personal responsibility for one's health. An individual's attitude toward responsibility for health is learned at an early age, modified and reinforced by the media, and often is unchangeable until a health crisis forces a reevaluation of attitude, behaviour, and life-style. A life-threatening event such as a stroke, is often a potent modifier of priorities and attitudes toward life (Cousins, 1979).

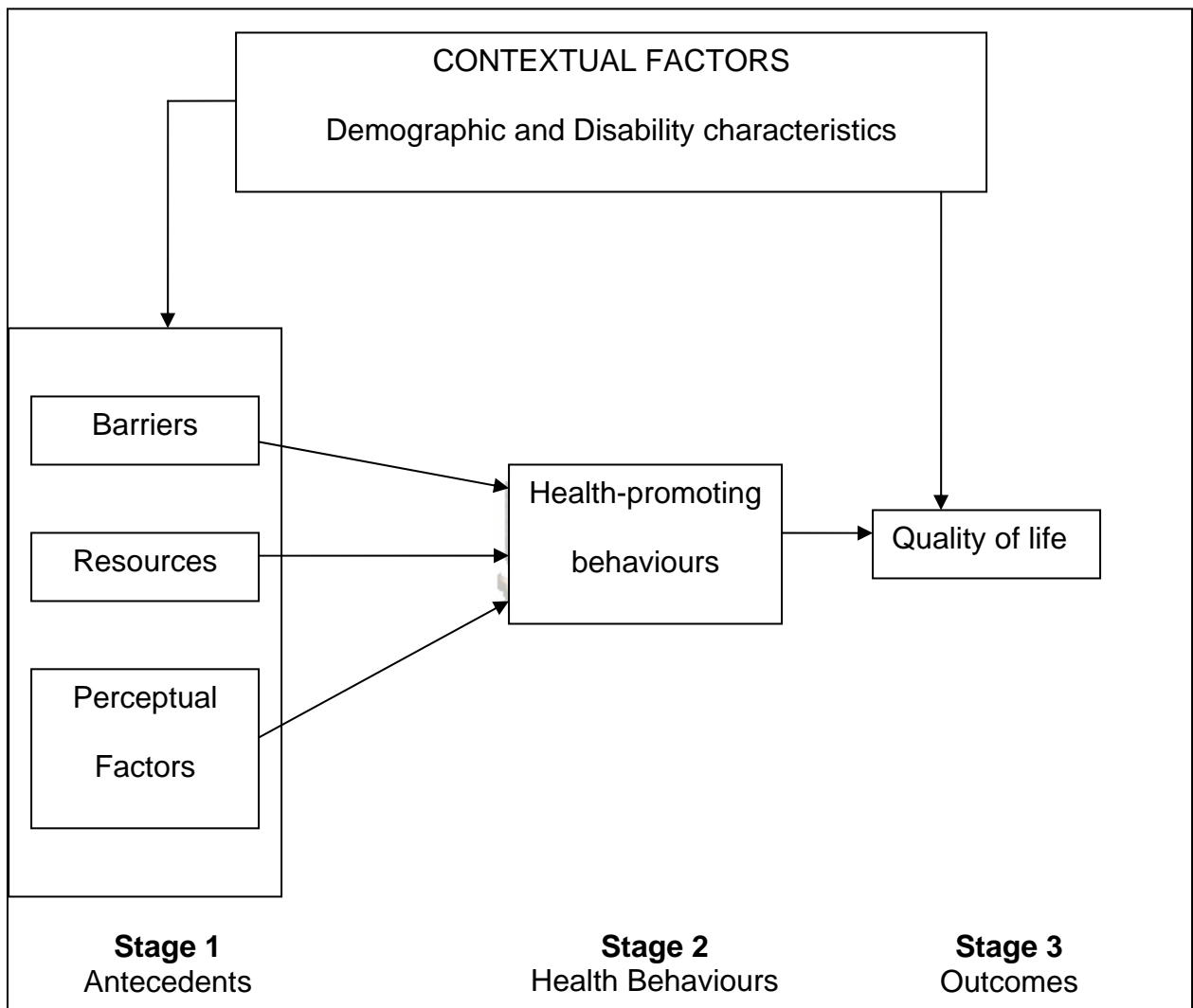
2.7 Conceptual model of health promotion for people with disabilities

The general conceptual model used in this study represents a synthesis of findings from the review of the literature. Stuijbergen (1995) proposed a process model comprising of factors that influence health-promoting behaviours and thus quality of life. Health-promoting behaviours are those personal attributes such as beliefs, expectations, motives, values, perceptions, and other cognitive elements; personality characteristics, including affective and emotional states and traits; and overt behaviour patterns, actions and habits that relate to health maintenance, to health restoration and to health improvement (Gochman, 1988). An improvement in one's health status, will subsequently have positive outcomes for an individual's sense of well-being and satisfaction with their quality of life (Stuijbergen, 1995). Quality of life can be determined objectively by an individual's standard of living situation, as well as the income and level of physical functioning. Subjective evaluations of quality of life represent the individual's perception of important life domains and satisfaction with such domains (Stuijbergen, 1995). Stuijbergen's model proposed four antecedent factors that influence health-promoting behaviours, namely demographic and disability-related factors, resources, barriers and perceptual factors. However, the Stuijbergen (1995) model does not indicate the relationship between demographic and individual disability-related characteristics with other antecedent factors, such as resources, barriers and perceptual factors.

Figure 2.1, illustrates a three-stage Conceptual Model proposed by Stuijbergen and Rogers (1997). The figure indicates the direction of the predicted relationship between specified antecedent factors and health-promoting behaviours, all of which influence the outcome of quality of life. The model specified the influence of demographic and individual disability-related characteristics on other antecedent factors, health-promoting behaviours, and on the outcome of quality of life.



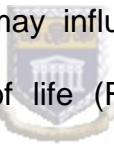
Figure 2.1: Conceptual Model of Health Promotion and Quality of life for people with permanent physical disabling conditions. Source: Adapted from Stuifbergen & Rogers, 1997.



Contextual factors are visually represented as influences on previous circumstances called antecedents, mediating health behaviours, and quality of life outcomes. Antecedents include the concepts of barriers, resources and perceptual factors, which serve as precursors to the next stage 2. The selection

and use of health-promoting behaviours in stage 2 act as a mediating influence between the antecedents of stage 1 and the outcome of quality of life in stage 3. In this model, quality of life is viewed subjectively as the individual's satisfaction with the domains of life perceived as being most important (Stuifbergen Seraphine & Greg, 2000; Stuifbergen & Rogers, 1997; Stuifbergen & Becker, 1994).

2.7.1 Contextual factors

Contextual factors include individual (e.g. age, gender, expectation of outcome, motivation levels) and disability-related characteristics (e.g. severity of disability, lesion location in the brain) that may influence, directly or indirectly, health-promoting behaviors and quality of life (Rice-Oxley & Turner-Stokes, 1999; Stuifbergen & Rogers, 1997;). 

Gender specific societal processes have been shown to influence the health behaviour of individuals. An example of the impact of social mores on health-related behaviour can be found in studies of participation of exercise programmes. Here, low participation rates for women are frequently ascribed to family responsibilities and joint work-home responsibilities and the societal norms which support such behavioural choices (Green, Hebron & Woodward, 1986). Reddy, Fleming & Adesso (1992) found that men behave differently to women and in general are more likely to be overweight, smoke more frequently, eat less healthily, and drink alcohol more heavily than women. The place one occupies in


society therefore can impact substantially on one's health and health-promoting behaviours.

The motivational level of an individual will also have an influence on their health-promoting behaviours and quality of life. The World Health Organization's International Classification of Functioning and Disability defines motivation as a global mental function (a conscious or unconscious drive), that produces the incentive to act (World Health Organisation, 1999). Essential components of the classification are those contextual conditions, such as personal and environmental factors, that interact with body function, activity, and participation. Thus motivation to engage in a health-promoting behaviour, may be influenced by both personal factors (such as age, gender, personality, educational and social background, experience, coping capacity, health status, and lifestyle) and environmental factors, which together shape the physical, social, and attitudinal context for rehabilitation and hence improving one's quality of life (Holmqvist & von Koch, 2001).

Health-promoting behaviours and quality of life may be dramatically influenced by disability-related characteristics. In a recent study by Ivey, Macko, Ryan & Hafer-Macko (2005), stroke patients were found to have profound cardiovascular and muscular deconditioning. The metabolic fitness levels were discovered to be approximately half of those found in age-matched sedentary controls. Physical deconditioning, along with elevated energy demands of hemiparetic gait, define a detrimental combination termed diminished physiological fitness reserve, that can

greatly limit performance of activities of daily living and the ability of the patient to partake in health-promoting activities and behaviours.

Disability related characteristics such as the severity of the stroke and the lesion location of the stroke have also been found to influence patients' quality of life.

Few studies, however, have focused on the relationship between types of stroke and lesion locations and patient's quality of life. In a 4-year follow-up study, Niemi, Laaksonen, Kotila & Waltimo (1988) found that patients with either a right or left hemisphere lesion had more frequently evidenced quality of life deterioration than patients with no localizable or brain stem lesions. Poststroke deterioration in quality of life manifested primarily in basic activities such as body self-care, ability to communicate, and eating (De Haan, Limburg, Van der Meulen, Jacobs & Aaronson, 1995).  De Haan *et al.*, (1995) found that with the exception of the ability to communicate, the quality of life profiles of patients with lesions in the left hemisphere were slightly better compared with those of patients with lesions in the right hemisphere. In comparison with patients who suffer from lacunar infarcts, patients with larger supratentorial strokes (both infarcts and hemorrhages) showed a significant deterioration in practically all life domains with the exception of emotional distress. Quality of life, however, was unrelated to the type of (sub) cortical lesion. Although patients with supratentorial hemorrhages had suffered more severe strokes, resulting in higher rates of impaired consciousness at stroke onset and poststroke mortality, they did not evidence more quality of life impairment than survivors of supratentorial strokes (de Haan *et al.*, 1995). Similar patterns of recurrence and functional outcome for

survivors of hemorrhagic versus ischemic stroke have been reported by Franke, van Swieten, Algra & van Gijn (1992).

2.7.2 Antecedent factors

Antecedent factors include the barriers, resources, and perceptual factors that influence an individual to choose to engage in health-promoting behaviors. Barriers, defined as perceptions regarding the unavailability, inconvenience, or difficulty of a particular health-promoting option, can be related to participation in exercise programs and self-examination of the skin on the affected side for pressure sores (Stuifbergen, Becker & Sands, 1990). They can also be primary prevention of behaviors such as a sedentary lifestyle, nutrition of high fat and low fibre content, exercise, use of alcohol or smoking and skin care (Stuifbergen & Rogers, 1997).

A variety of resources including income and social support, are related to the selection and use of health-promoting behaviors and health outcomes (Stuifbergen *et al.*, 2000). Tangible resources have been related to outcomes of health behaviors including functional disability, adjustment, depression, and quality of life (Schoppen *et al.*, 2001). Various perceptual factors including specific self-efficacy for health practices and perceived demands of illness, have been reported to influence the likelihood of engaging in health promotion behaviors (Stuifbergen & Rogers, 1997). Self-efficacy, defined as beliefs about one's ability to successfully perform specific health behaviours, has been

consistently identified as a significant predictor of health-promoting behaviours for a variety of groups, including people with disabilities and with stroke (Becker, Stuifbergen, Ingalsbe & Sands, 1989; Stuifbergen, 1995; Stuifbergen & Becker, 1994; Strecher, de Vellis, Becker & Rosenstock, 1986). The demands of illness are subjective judgements about the difficulties, problems, or challenges inherent in day-to-day living with a chronic illness. These demands encompass the direct effects of a disease, personal disruption occurring as a consequence of illness, and environmental transaction necessitated by the illness or disability (Haberman, Woods & Packard, 1990). Descriptive studies of chronically ill individuals, including stroke patients, have related the increasing severity of illness (operationalized as increasing physical dependence, functional limitations, development of secondary complications, and perceived severity of illness) to severe restrictions in recreation and leisure activities, limitations in instrumental and nurturant roles for homemakers, and reduced labor-market activity and income (McSweeney, Grant, Heaton, Adams & Timms, 1982; Paringer, 1983; Resine, Goodenow & Grady, 1987).

The impact of environmental factors for example, the effect of being in hospital on the health-promotion behaviours of patients with stroke, including their initiative and autonomy, is not well understood. Yet the low level of activity initiated by stroke patients when they are in hospital (Ada, Mackey, Heard & Adams, 1999; Lincoln, Willis, Phillips, Juby & Berman, 1996; Newall, Wood, Langton Hewer & Tinson, 1997), and the disempowering nature of their role as

patients (Cant, 1997), suggest that closer attention needs to be paid to environmental factors in rehabilitation (Holmqvist & von Koch, 2001). In a recent study on the environmental factors in stroke rehabilitation, clear differences in both patient's and therapist's behaviour were noted, when rehabilitation sessions in patients' homes or a community setting were compared with those in hospital (Von Koch, Wottrich & Holmqvist, 1998). Patients that were not undergoing rehabilitation in a hospital setting took the initiative and expressed their goals more often. Therefore rehabilitation at a community setting, such as a community health centre or the patient's home, seems to empower patients (Holmqvist & Von Koch, 2001). Patient's who feel empowered over their stroke and subsequent disability, are more likely to engage in health-promoting behaviours and actions than those stroke patients with low levels of motivation and a feeling of helplessness about their condition.

2.7.3 Health-promoting behaviors

These constitute stage two of the model, and include ongoing behavioral, cognitive and emotional activities engaged in to promote health and well-being. Physical exercise, nutritional strategies, lifestyle adjustment, maintaining a positive attitude, health responsibility behaviours and seeking and receiving interpersonal support constitute the six broad categories that have been identified. A large majority of disabled people, including those who have had a stroke, regard physical activity as consisting of self-initiated physical exercise, including activities of daily living, as well as structured exercise programs such as

stroke groups (Stuifbergen & Rogers, 1997). In Stuifbergen and Roger's research on health promotion for persons with chronic disabling conditions, 95% of participants discussed the importance of physical activity in their daily lives, although many viewed their housework or other activities of daily living, such as walking around the house, as the primary component of their physical activity. The level of physical activity also varied according to the level of disability (Stuifbergen & Rogers, 1997). Therefore, whilst a very disabled stroke patient may be extremely pleased to accomplish a few very assisted steps twice a week with the assistance of a physiotherapist, other less disabled stroke patients may be participating in exercise programmes on a daily basis.

A good nutritional strategy is another important health-promoting behaviour for all individuals who have had a stroke. Most of the disabled participants in Stuifbergen and Roger's study (1997) mentioned the importance of a well-balanced diet, low-fat meals, and high fiber intake. Several participants also emphasized the scheduling of meals to avoid low blood sugar or mid afternoon 'slumps'.

Lifestyle adjustment includes efforts to structure demands and activities to allow more time for valued activities. It has been found that lifestyle adjustment in disabled individuals is usually required to engage in other health promotion practices, particularly exercise and physical activity (Stuifbergen & Rogers, 1997). Lifestyle adjustments are commonly made by disabled individuals as a result of their chronic condition and can include factors such as: learning limits,

monitoring, prioritizing and pacing, balancing rest and activity, choosing what one will and will not do and avoiding heat. Regarding 'learning limits' individuals who have had a stroke need to know their limits and do everything they can possibly do within such limits. 'Monitoring' is closely related to 'learning limits'. For individuals who have had a stroke, limits may vary from day to day or from one time of the day to another (Stuifbergen & Rogers, 1997). 'Prioritizing and pacing' includes undertaking important activities in the morning (such as exercising, doing chores around the house) when energy stores are at the highest. Disabled individuals need to pace themselves with all activities of daily living, and learn how to fit their disability into their schedule, and not their schedule into the disability. 'Balancing rest and activity' is another lifestyle adjustment that is important to disabled individuals. Whether it be taking an afternoon nap or getting an adequate, restful nighttime sleep, many disabled individuals mentioned these as being the prerequisites for making it through each day without negative sequelae (Stuifbergen & Rogers, 1997). Another lifestyle adjustment is 'choosing what one will and will not do'. An example is when housewives who have had strokes face difficult decisions about what they can and can not do in the home, such as cooking for the family every night, doing all the housework, lifting heavy loads of laundry etc. 'Maintaining a positive attitude' is recognized as being another important health promotion strategy. Stuifbergen & Rogers (1997) found that numerous disabled individuals strived to maintain a positive attitude towards their condition and that this was the single most important health promotion strategy they practiced. 'Health responsibility

behaviours' include efforts to seek information about stroke and general health promotion. This includes regular check-ups and preventive screening with their primary physician, consultations with nutritionists, psychologists, physiotherapists, and others in an effort to maximize their health. Many disabled individuals also attempted to avoid harm by not smoking, avoiding alcohol, and reducing or eliminating caffeine intake (Stuifbergen & Rogers, 1997). 'Seeking and receiving interpersonal support' is another important health-promoting behaviour. In Stuifbergen and Roger's study, numerous disabled individuals indicated that it had been or still was very difficult to ask for help, but there was a realization that help in many forms was essential to ensure their continued functioning at the highest possible level. Numerous disabled individuals shared the extreme importance that support groups play in their lives. Stroke groups not only provide the individuals with an opportunity to get out of the house and interact with other people, but also encourage physical exercise.

The realization that they were not alone in their problems has been identified as a very important turning point in the emotional well-being of certain disabled individuals (Stuifbergen & Rogers, 1997).

Selected studies document that disabled people desire and choose health-promoting behaviors. The frequency of engaging in such health-promoting behaviors has been associated with perceived quality of life (Stuifbergen, 1995; Gulick, 1991).

2.7.4 Quality of life outcomes

The quality of life outcome in this model is assessed by the measure of the functional status (Stuifbergen & Roberts, 1997). Most assessments however, rely on the assumption that a decrease in functioning is analogous to a decrease in quality of life (Stuifbergen *et al.*, 1990). Therefore, these measures do not consider the significance attributed to exact domains of life, such as physical functioning (Stuifbergen *et al.*, 2000). Objective indicators such as income, living situations, and physical functioning are commonly used as measures of quality of life. However, such measures fail to indicate how individuals actually perceive their lives. In contrast, subjective evaluations of quality of life represent individuals' perception of important life domains and satisfaction with the domains they judge as critical to their quality of life (Oleson, 1990; Stuifbergen & Rogers, 1997; Stuifbergen, 1995).

Although interest in quality of life is high, few researchers have asked people with chronic and disabling conditions to define the important domains that constitute quality of life (Burckhardt, Woods, Schultz & Ziebarth, 1989). In a study conducted by Bostick (1977), groups of people with and without disabilities had similar responses when asked to describe the domains of quality of life. In a study of adults with chronic illnesses such as stroke, independence (being able to do for oneself) was the one theme generated in verbal responses that could not be placed within the domains of the Flanagan Quality of Life Scale (Burckhardt *et al.*, 1989). Results of studies conducted with disabled populations

have suggested that contact with people without chronic conditions and perceived support from family and friends are related to better psychological adaptation (Maybury & Brewin, 1984; McIvor, Riklan & Reznikoff, 1984; Wineman, 1990). Certain studies conducted on individuals with chronic conditions, have identified linkages between quality of life and mastery, fatigue, self-help, self-esteem, and perceived support (Braden, 1990; Burckhardt, 1985; Moody, McCormick & Williams, 1991).

People living with stroke must therefore manage a wide variety of disease-related, intrapersonal, and environmental demands to maintain their quality of life. Engaging in health-promoting behaviours is one strategy recommended to manage disease symptoms and enhance quality of life (Stuifbergen & Rogers, 1997).



2.8 Involvement in health-promoting behaviours

In his model of health promotion for people with disabilities, Stuifbergen, Gordon & Clark (1998) identifies certain factors that influence the disabled person's ability to engage in health-promoting behaviors. This entails participation in activities designed to enhance the quality of life and well-being while refraining from risk lifestyle behaviours, which often results in a deterioration of health. Stuifbergen *et al.* (2000) emphasizes that participation in physical activity, stress management techniques and social support are amongst the activities that enhance an individuals well-being and quality of life. Futhermore, a number of

studies have highlighted the need to abstain from risky health behaviours such as tobacco smoking or poor nutritional habits for physically disabled individuals in particular, as well as the general population (Hogan *et al.*, 2000; Steele *et al.*, 1997; Stewart, 1987;). The practice of health-enhancing behaviours is undoubtedly critical for people with physical disabilities, however involvement in health promoting activities for this vulnerable group may be far from reality.

Health care professionals have clearly indicated that maintaining a suitable physically active lifestyle has a profound effect on all-cause mortality rates (Cooper *et al.*, 1999; Kalies, 2000; Rimmer, Rubin & Braddock, 2000). Furthermore, physical activity can reduce overall mortality rates from cardiovascular, pulmonary, metabolic and neuromuscular disease. It also reduces the development of several different types of cancers, non-insulin-dependent diabetes mellitus, hypertension, osteoarthritis, osteoporosis and obesity (Cooper *et al.*, 1999; Davis, 2000; Rimmer *et al.*, 2000; Vuori, Oja & Stahl, 1996;). Vuori *et al.* (1996) further states that there are also short-term beneficial effects on psychological stress, depression, anxiety, mood and the general psychological well-being. Surprisingly, some studies have also noted that the level of health risk resulting from inactivity is similar to that resulting from smoking (Cooper *et al.*, 1999; Davis, 2000;). Despite these numerous benefits, Rimmer (1999) is doubtful that the lives of the most physically disabled people constitute daily habitual physical activity patterns.

The use of resources for health promotion may be expensive especially for the less developed countries such as South Africa. However, involvement in health-enhancing behaviours definitely far outweighs the current situations in which policy makers use resources mainly for expensive medical care after certain complications are irreversible. The time has come for resources to be used for the promotion of health-enhancing behaviours. Even for developed countries like the United States of America, it is crucial to shift not only from disability prevention but also more importantly to the prevention of secondary conditions (Rimmer, Braddock & Pitetti, 1996). Strategic programmes have been adapted since 1996 by the European Union, for the promotion of health-enhancing physical activity (Vuori *et al.*, 1996). Despite this, much remains to be realized for special considerations of target groups such as the physically disabled and the elderly.



Despite the meager achievements to promote health-promoting behaviours, their benefits are extensive. For example, recreational activities and sports increase integration of physically disabled people back into society, and thus enhance their quality of life. Studies on health-related behaviours and their effects on quality of life have commended the need for involvement in other behaviours such as access to relevant information about stroke and even stress management techniques (Cooper *et al.*, 1999; Rimmer *et al.*, 2000; Stuifbergen *et al.*, 2000; Stuifbergen & Rogers, 1997).

Selected studies document that disabled people desire and choose health-promoting behaviours such as participation in recreational activities, as participation in such behaviours ultimately leads to an improved quality of life (Stuifbergen & Rogers, 1997).

Such lifestyle behaviour is significant to improve physical fitness as well as sociability and self-confidence that can lead to a full satisfying health status (Legro, Reiber, Czerniecki & Sangeorzan, 2001). A physically active lifestyle, also decreases morbidity rates among all individuals, particularly those who are already limited by a primary disability (Cooper *et al.*, 1999; Melzer, Yekutieli & Sukenik, 2001). Although health promotion strategies have not characteristically been components of most rehabilitation programs (Lanig, Chase, Butt, Hulse & Johnson, 1996), it is becoming increasingly obvious that the enhancement of health-promoting behaviours should be a priority for programs serving people with strokes (Stuifbergen & Rogers, 1997).

Therefore, adequate rehabilitation of stroke patients by health care professionals is essential, as it is aimed at reducing the effects of the stroke on the individual in an attempt to regain the previous level of functioning of the person and hence improve their quality of life (Reddy & Reddy, 1997; WHO, 1994; Wressle, Öberg & Henriksson, 1999).

Physically disabled individuals have not been sufficiently empowered to participate in activities that prevent development of secondary conditions and

complications. Stuifbergen and Rogers (1997) supported this argument noting that generally people with physical disabilities have been left to manage their lives with little help from health care professionals.

Studies on health-related behaviours and their effects on quality of life have commended the need for involvement in other behaviours such as access to relevant information and stress management techniques to sufficiently empower the disabled (Cooper *et al.*, 1999; Rimmer *et al.*, 2000; Stuifbergen *et al.*, 2000; Stuifbergen & Rogers, 1997).

Among many people with disabilities, there is a belief that the emphasis in health care has been directed at the primary prevention of disability rather than at the prevention or reduction of secondary health conditions (Patrick, 1997).

Undoubtedly, physically disabled individuals have not been sufficiently empowered to participate in activities that prevent development of secondary complications. Studies have advocated collective efforts to improve the lives of people with physical disabilities through health-enhancing behaviours (Cooper *et al.*, 1999; Rimmer *et al.*, 1996; Stuifbergen *et al.*, 2000). The strategy is to empower people with physical disabilities to take control of their lives by motivating them to engage in healthy lifestyle behaviours (Breslow, 1999; Davis, 2000; Kalies, 2000).

Health behaviour is one of the fastest growing areas in health promotion (Vollrath, Knoch & Cassano, 1999), and more concrete efforts in this field of interest for both clients and professionals need to be attained. The

transformation of health behaviour needs to include topics related to living a physically active lifestyle, stress management, the cessation of smoking and coping strategies (Cooper *et al.*, 1999). In order to do this, a number of issues need to be considered in planning intervention strategies. Issues to be targeted in health promotion interventions should consider a variety of factors.

Stuifbergen and Rogers (1997) noted that these factors consisted of resources such as social support and income, transportation and socio-economical status, all of which are related to health promotion behaviours. Such factors positively influence the selection and use of health-promoting behaviours and health outcomes. However, it is important to consider barriers that prevent access to health promotion services for the prevention of further disability. Such barriers include inadequate facilities, lack of appropriate transportation, lack of support, inadequate resources and poor information about the available facilities (Smith, 2000; Stuifbergen, 1995).

Barriers can also include intrapersonal, interpersonal and environmental factors that inhibit selection or use of health-promoting behaviours.

2.9 Health promotion needs of the physically disabled

Various studies identify a number of health promotion needs of people with physical disabilities (Dean, Fox & Jensen, 1985; Edwards, 1996; Forero, Bauman, Young, Booth & Nutbeam, 1996; Hogan *et al.*, 2000; Zola, 1982). The results of a survey conducted by Marshall, Johnson, Martin, Saravanabhavan

and Bradford (1992) to determine the needs of urban American Indians with disabilities, revealed the need for service providers to be more responsive to the advocacy needs of people with disabilities. Only a third of the population surveyed reported being satisfied with advocacy efforts in the community. While the advocacy needs of people with disabilities were important concerns in the Marshall *et al.* (1992) survey, Kent, Chandler and Barnes (2000) found that factors such as the presence of informal family networks, access to services, access to employment and access to transport, were regarded as important in reducing the disadvantage and isolation suffered by people with disabilities in the United Kingdom.

To add to the understanding of quantitative data about health outcomes, Hildebrandt (1999) gathered and analysed qualitative data concerning the perceptions of vulnerable people regarding their health needs and barriers to health care. The term 'vulnerable people' was used to refer to persons in the United States that were disadvantaged because of poverty, living in high-risk environments, social bias and having a disability. Central problems identified in the study included access, self-care, consumer/provider attitudes and networking. In another qualitative study by Turmusani (1999), to investigate the economic situation of people with disabilities in Jordan, focus groups were used to gain insight into the perceived economic needs of people with disabilities and to highlight their perceptions of services designed to address their needs. The research concluded that awareness of economic need such as a need for

employment, is a key element in changing attitudes towards people with disabilities.

In South Africa, the needs of people with disabilities have been investigated and described by several authors. The aim of a study done by Meyer and Moagi (2000) in the North West Province, was to determine what the needs of mothers who had children with disabilities were. The needs identified by the mothers included a day centre for their children, education and skills training in handling and training children, a support group to share problems, income generation activities, and resources for the day center, including transport.

Another South African study done by McLaren, Philpott and Mdunyelwa (2000) in Kwazulu Natal, showed that people with disabilities experience emotional, spiritual, attitudinal, financial and physical barriers as they are not generally accepted in the community as persons who have their own rights and feelings. This leads to poor self-esteem and disempowerment on the part of the person with a disability as they lack the resources that will enable them to take control of their lives. Lorenzo (2001) reported similar findings in a participatory action research study in Khayelitsha, South Africa. The study focused on the needs of women with disabilities. Analysis of the women's stories revealed their need for identity, emotional support and protection. The study further revealed that if disabled women can be assisted to become active, competent participants in their own development, they will be able to overcome feelings of isolation and

dependency. Lorenzo also asserts that the identification and removal of barriers to the social integration and economic independence of women with disabilities will have a positive influence on their families, as well as the communities in which they live.

Mutimura (2001) discovered that individuals with lower limb amputation in Rwanda, have a number of health promotion needs, mainly resulting from risky health behaviours. The majority lived sedentary lifestyles, participating in less physical activity or exercise. Numerous participants were involved in substance usage like tobacco use, drug abuse or alcohol consumption. In addition, participants were found to be vulnerable to emotional disorders due to low psycho-social status and self-perception. This study concluded that the impact of such lifestyle behaviours was detrimental to the participants' health status. If no health promotion programmes specifically targeted at the needs of the participants' were put in place, this would result in poor quality of rehabilitation services. Consequently, this would increase morbidity and mortality rates, leading to an increase in the healthcare costs of a country whose health budget is already overstrained.

By identifying the health promotion needs of stroke patients accessing community health centres in the Metropole region of the Western Cape, specific interventions addressing these needs can be implemented. A variety of strategies can be implemented soon after the diagnosis of stroke, as a means to

improve the patient's health and to diminish their struggle to achieve and maintain a satisfactory quality of life.

2.10 The use of between-methods triangulation

The use of between- methods triangulation was employed in the collection of data. Between-methods triangulation may be defined as the combination of the research strategies using qualitative and quantitative methods (Rees & Bath, 2001). It can occur simultaneously or sequentially (Maher, Kinne & Parteick, 1999; Rees & Bath, 2001). In this study, simultaneous triangulation of methods was utilized.



According to Begley (1996), between-methods triangulation is becoming an increasingly popular methodology in research. It offers greater confidence in the validity of the study findings. The method also improves confirmation of the results and yields a more complete representation of the topic of investigation, that is to say completeness (Morse, 1991). Although several researchers have suggested that the fundamental aim of between-methods triangulation is one of confirmation (Begley, 1996; Bradley, 1995; Morse, 1991), others argue that triangulation could serve the function of completeness (Begley, 1996; Nolan & Behi, 1995; Rees & Bath, 2001). In the current study, between-methods triangulation was utilized for the purpose of both completeness and confirmation of the study findings.

It was important to employ two methods since they complement one another. This methodological approach, called triangulation of methods combines quantitative and qualitative styles of research that provide a more comprehensive picture of the topic of enquiry than that supplied by either method alone (Avis, 1995). The use of both methods produces results and conclusions that are more dependable (Avis, 1995; Rees & Bath, 2001). Rees and Bath (2001) used the triangulation method in the analysis of the information sources given by partners of women with breast cancer. By combining both quantitative and qualitative data, the authors found that the study possessed a good convergent validity that resulted in further confirmation of the study findings.

For the quantitative research methodology, a survey questionnaire was used to collect data on the number of stroke patients involved in various health-related behaviours, such as physical inactivity, smoking, alcohol abuse etc. In addition, health promotion needs were also identified from the questionnaire. However, the exact reasons for involvement in particular health risk behaviours, such as smoking, poor nutritional status etc. was only clarified in face-to face interviews, which is part of the qualitative research methodology.

Therefore the combination of these methods offers a greater complimentary effect in the study findings (Rees & Bath, 2001). It has been further argued that although most researchers develop expertise in one style, the two methods or styles have significantly different complimentary strengths (Neuman, 2000).



CHAPTER THREE

METHODOLOGY

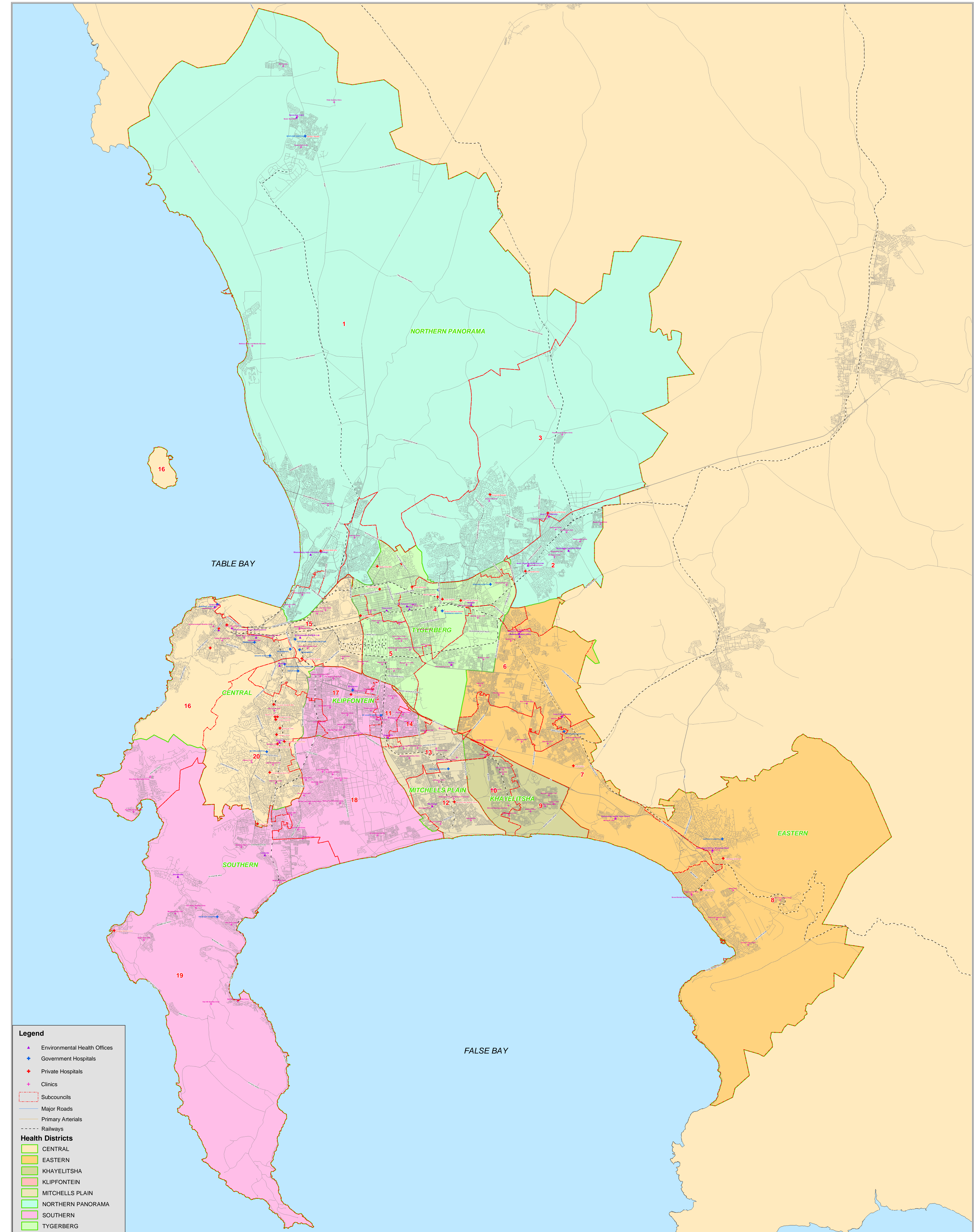
3.1 Introduction

This chapter explores the method utilized in the study, in which data collection was done by a self-administered questionnaire survey and face-to-face interviews. Included in the chapter are descriptions of the research setting, study sample and study designs. A description of the pilot studies and how the data analysis was conducted is also explained. Finally, the issues of ethical consideration regarding the study are reported.

3.2 Research setting



The study was conducted in the Western Province, South Africa. This province is divided into several regions, with each region being divided into several districts. The setting for the current study was the Metropole Region of the Western Cape, which was divided into various health districts. These include the Central Health District, the Eastern Health District, Khayelitsha, Klipfontein, Mitchells Plain, Northern Panorama, Southern Health District and the Tygerberg Health District. The 43 Community Health Centres (CHCs) in the Metropole region of the Western Cape all fall into one of the above mentioned districts. The map below was obtained from the City of Cape Town Health Facilities and demarcates the eight different Health Districts accessed in this study.



Legend

- ▲ Environmental Health Offices
- ★ Government Hospitals
- ★ Private Hospitals
- + Clinics
- Subcouncils
- Major Roads
- - - Primary Arterials
- - - Railways

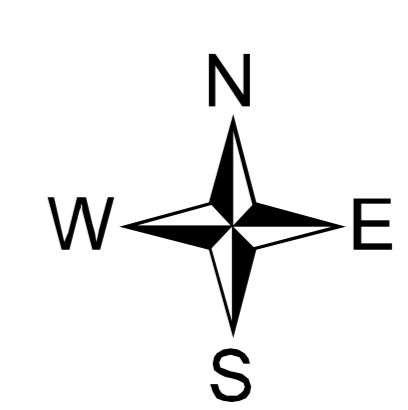
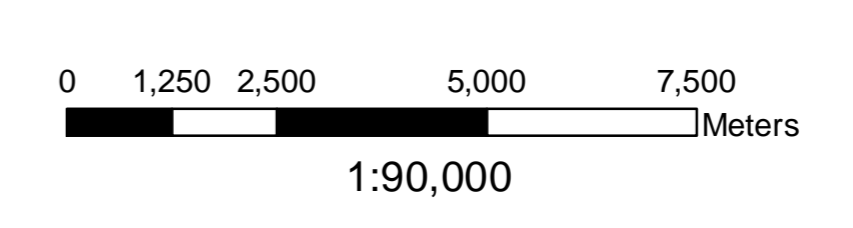
Health Districts

- CENTRAL
- EASTERN
- KHAYELITSHA
- KLIPFONTEIN
- MITCHELLS PLAIN
- NORTHERN PANORAMA
- SOUTHERN
- TYGERBERG

CITY OF CAPE TOWN
 ISIXEKO SASEKAPA
 STAD KAAPSTAD

Note: _____

CITY OF CAPE TOWN HEALTH FACILITIES



The table below indicates the distribution of disability in the various Health Districts as released by the Integrated Provincial Disability Strategy in 2004. No data was available for the Khayelitsha, Klipfontein and North Panorama districts. It is also not known to what extent stroke make up the figures.

Table 3.1: Distribution of disability in the various Health Districts

Health District	Total Disabled Population	%
Central	31355	33.4%
Eastern	3662	3.8%
Mitchells Plain	41467	44.2%
Southern	4456	4.8%
Tygerberg	13058	13.8%
Total	93998	100

There are a number of community health centres in each of the health districts. Community health centres are primary health care centres which provide comprehensive services encompassing preventative, promotive, rehabilitative and curative care. Preventative care includes immunization programmes whilst promotive care encompasses aspects of health promotion and health education, which aims to have a positive effect on the patient's recovery process and quality

of life. Rehabilitative care, which is the responsibility of the physiotherapist, occupational and speech therapist, is aimed at improving the patient's functional status and quality of life. Rehabilitation may include individual treatments, stroke group sessions and/or home visits made by the health care professional. Curative care is mainly provided by medical officers and primary health care nurses.

Community Health Centres are primary level referral centres for patients treated at secondary and tertiary institutions. The majority of stroke patients in the Western Cape would therefore attend Community Health Centres for rehabilitation, follow-up medical check ups and to receive medication.

3.3 Study design



Both descriptive qualitative and quantitative designs were used to collect data. Nolan and Behi (1995) indicated that this between-methods triangulation will result in the study findings being more informative and comprehensive.

The use of both methods provided a valid reflection of the participant's health-related behaviours and their own experiences with stroke rather than using either quantitative or qualitative methods alone.

The purpose of quantitative research is to describe, explain or predict phenomena (Domholdt, 1993). In the current study the phenomena refers to the health promotion needs of stroke patient's accessing Community Health Centres in the Metropole region of the Western Cape. Quantitative research designs are

structured and can be classified as non-experimental, quasi-experimental and experimental (Domholdt, 1993). The current study was non-experimental, as it did not involve the manipulation of an independent variable. A cross sectional survey was the design used for the quantitative aspect of the study. Surveys have been defined as 'systems for collecting information to describe, compare, and predict attitudes, opinions, values, knowledge and behaviour (Domholdt, 2000).

The survey constitutes a descriptive design in which the approach is a non-experimental one and aims to describe specific phenomena or variables or to find relationships between variables. The survey approach provides data about the present as it can tell what people are thinking, doing, anticipating, and planning at this time. It provides the researcher with an opportunity to use his creativity, since he is the one who determines the area to be surveyed and the method by which he will use to extract all the facts. Another advantage of the survey approach is that it has a high degree of representativeness in proportion to the sample size (Treece & Treece, 1982). Phillips (1966) believes that the survey approach is valuable because the survey can provide data about an individual's expectations, values, and relationships necessary to understand his behaviour.

Qualitative research is grounded in a concern with peoples everyday realities, seeking to understand how people experience and make sense of their lives following a devastating event such as a stroke (Hammell, Carpenter & Dyck, 2000). A phenomenological approach was used as the qualitative study design

in the study. The purpose of the phenomenological approach is to 'give voice' to the person being studied, and requires that the researcher present the subject's view of his or her world (Holstein & Gubrium, 1994). This allowed the qualitative data to complement the quantitative data, and to provide a deeper understanding of the findings of the study, as well as to illustrate and highlight the participants' views of their health promotion needs.

This will provide a reflection of the participants' health-related behaviours and their own experiences of living with a stroke, rather than using either qualitative or quantitative methods alone.

3.4 Research Subjects



3.4.1 Sample for quantitative data collection

Stroke patients receiving services from Community Health Centres in the Metropole region of the Western Cape formed the sample for the quantitative part of the study. A convenient sample of four hundred and eighteen (418) stroke patients, representing each of the health districts of the Metropole region of the Western Cape, participated in the quantitative part of the study. Samples of convenience involve the use of readily available subjects (hence the unequal number of stroke patients from the various districts) and are a common form of sampling used in Physiotherapy Research (Domholdt, 2000). A total of 74 patients were recruited from the Central Health District, 62 from the Eastern Health District, 4 from the Northern Panorama District, 10 from the Southern

Health District, 34 from Khayelitsha, 63 from Mitchells Plain, 4 from Klipfontein and 166 from the Tygerberg Health District. All of the participants accessed their nearest community health centre either for medication, rehabilitation services or follow-up medical care.

3.4.2 Sample for qualitative data collection

A purposive sample of 12 stroke patients was selected from the quantitative sample, and formed part of the study sample for the qualitative section. According to De Vos (2002), purposive sampling is based on the judgment of the researcher, in that a sample is composed of elements that contain the most characteristic, representative or typical attributes of the population. Characteristics that were considered for purposive sampling included the patients chronicity of the stroke, as well as the current age of the patient. A total of six patients in the acute stage (three months or less) post stroke and six in the chronic stage (more than three months) were selected by the researcher. Three patients' in the acute stage, fell into an older age group category (sixty five years and older) and the other three in a younger age group (less than sixty five years of age). Of the six patients in the chronic stage, three fell into an older age group category, and three in a younger age group category.

3.5 Exclusion Criteria

Patients were excluded from the study if they had severe cognitive and communicative deficits as a result of a stroke.

3.6 Methods of Data Collection

3.6.1 Quantitative Data Collection

A self-administered questionnaire designed by the researcher based on the literature was used to collect the quantitative data (Appendix D). The questionnaire consisted of both closed as well as open-ended questions. Closed format questions restrict the range of possible responses whereas open-ended questions permit a flexible response that allow for a greater breadth of response (Domholdt, 2000).

3.6.1.1 Instrumentation

3.6.1.2 Development of the questionnaire

The researcher's first step in developing the questionnaire was to draft items for consideration for inclusion in the questionnaire. Before writing any items, the researcher reexamined the purposes of the current study and outlined the major sections the questionnaire needed to include to answer the questions under study.

The questionnaire is comprised of the following seven sections.

Section A included questions relating to the socio-demographic status of the patient. Age, gender, marital status, educational qualification, employment status at the time of the stroke and currently as well as the patients' access to transport and residential particulars were determined. These items were developed from measurements by Stuijbergen (1995), who indicated that contextual factors included demographic characteristics such as age, gender, marital status and employment status. These demographic characteristics were found to be significantly related to positive adjustment and improving self-concept. For example, question one dealt with the participants' age. According to numerous studies, age is inversely related to scores on measures of adjustment, physical and social health, and quality of life (Brooks & Matson, 1982; Harper *et al.*, 1986; Stuijbergen, 1995). Section A of the questionnaire addressed the second objective of the current study. The second objective aimed to identify factors that influenced the health-related behaviours of stroke patients. Literature suggests that environmental factors (employment status, accessibility to transport and area in which the individual lives) have an influence on individuals' health-related behaviours.

Section B included information relating to stroke such as how long ago did they suffer the stroke, what side of the body is affected, were they admitted to hospital post stroke and the rehabilitative services the participants received. Disability

related characteristics along with the socio-demographic factors covered in section A of the questionnaire, also form part of the contextual factors according to Stuijbergen's model. Disease/disability related characteristics are believed to have a potential influence on the health promoting behaviours and the quality of life of disabled individuals (Stuijbergen & Rogers, 1997). This section of the questionnaire therefore addressed the second objective of the study, which aimed to identify factors that influenced the health-related behaviours of stroke patients.

Section C included questions about the general health/lifestyle of the stroke patients. This section addressed the first objective of the study, and aimed to assess the current health-related behaviours of stroke patients', accessing community health centres in the Metropole region of the Western Cape.

Section D focused on the participants' knowledge about stroke. The questionnaire asked the participants' whether health care professionals educated them about what a stroke is, the causes of stroke, how to prevent a further stroke as well as the prevention of secondary complications. Therefore, shortfalls in the stroke patient's knowledge about stroke could be identified and the appropriate measures taken to amend the lack of stroke related knowledge.

Section E dealt with the issue of support. Question 46 investigated what support (physical and emotional) the stroke patients felt they needed post stroke, including who they felt should be providing the support.

Section F included questions relating to the physical mobility of stroke patients. Participants were requested to respond to an item about physical activity, *‘Do you participate in any kind of physical activity or exercise like walking, gym, exercising in a stroke group on a regular basis, for half an hour each time?’* This was included to assess participation in physical activity as a health-related behaviour. A number of other issues that were identified in the literature were assessed, such as the patient’s awareness of secondary complications in stroke.



Section G comprised a set of items that identified programmes and activities the participants perceived as essential to improve their well-being. These items assessed perceived health-related needs of the participants in the quantitative part of the study. This section addressed the third objective of the study by determining the health promotion needs of the study sample.

Even during this first draft of the questionnaire, the researcher took into consideration the issues of format and comprehensibility. The font in which the questionnaire was typed was not an atypical font and so potential difficulty in reading the questionnaire was avoided. A second aspect of the readability was the reading level required to understand the questionnaire. The researcher tried to phrase questions in a non-ambiguous way and unnecessary jargon was

avoided. Since the format of questions changed from item to item, the instructions on how to complete each question were made very clear and specific (e.g., “Tick appropriate option/s”).

3.6.1.3 Peer Review

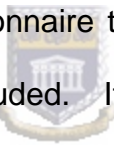
Once the draft was written the questionnaire was subjected to a peer view, by colleagues knowledgeable in the field of health promotion and stroke management. This peer review was essential to check for content validity (Domholdt, 2000). The peer review brought to the researcher’s attention the need to include a separate section on support, and to include the open-ended question to allow participants to express any views they had on the issue of support and what support they feel they need since having a stroke.


It was suggested that a question relating to whether participants have access to transport, be added to the original questionnaire. If participants indicated that they did have access to transport, they had to indicate whether it was private transport or public transport. If participants did not have access to transport they had to indicate how they then get from point A to point B. Suggested options provided for this question were, walking, using a wheel-chair and forced to stay at home because of lack of transport.

Another suggestion was that Conradie Care Centre be added in as an extra option in question 21, as it is one on the main rehabilitation centres in the Western Cape and numerous stroke patients are admitted here.

3.6.1.4 Pilot Study

A pilot study was carried out to pre-test the questionnaire, thus determining the content validity of the instrument for possible changes before it was administered. The questionnaire was therefore pre-tested on eight individuals who attend a weekly stroke group held in Retreat, Western Cape. These eight individuals would not participate in the study. A number of changes were made following the responses given by the participants.

A few amendments were made to the socio-demographic data section. Under the question relating to the participants marital status, divorced was added as an extra option. In the original questionnaire the question 'were you employed at the time of your stroke?' was included.  If participants answered yes to this question a follow-up question regarding the specific type of work they were involved in was included. If they answered no to the original question participants were given options to choose from as the reasons why they were not employed. The pilot study brought to the attention of the researcher that the current employment status of stroke patients is an important aspect of the socio-demographic data that had been overlooked. Therefore the question 'are you currently employed?' was added to the questionnaire. If participants answered yes to this question, they were asked in the form of an open-ended question what type of work they are involved in. If participants answered no, they had to mark the corresponding reason for this from a list of options provided by the researcher. Section B of the questionnaire-Information relating to stroke had

only two minor amendments. The pilot study brought to the researcher's attention that some stroke patient's left and right sides of the body were affected by stroke. Therefore an extra option 'both sides' had to be included in question 17 Stroke patients had to indicate whether they were admitted to a centre for rehabilitation. If they answered yes, then they had to mark which of the centres they received rehabilitation services at. An additional option 'other, please specify' was given to the participants as in the pilot study it was noted that some patients were admitted to rehabilitation centres in other provinces, and have since relocated to the Western Cape. Patients involved in the pilot study had difficulty understanding what the researcher meant by the term 'rehabilitation services'. Therefore for greater understanding of the participants, the question 'have you ever received any rehabilitation services?', was changed to 'have you ever received rehabilitation services such as physiotherapy, occupational therapy, speech therapy?'. 

Three amendments were made to Section C- general health/lifestyle to add more clarity to the following questions. The question 'did you drink at the time of your stroke?' was clarified by rephrasing it to read 'did you drink alcohol at the time of your stroke?' Three of the original options participants had to choose from for the question 'how much alcohol do you drink at one time on average?' were deleted from the questionnaire. These options were, 'one bottle of wine, more than one bottle of wine'. Instead the options 'one glass of wine, two glasses of wine and more than two glasses of wine' were included. Another change was to

the question 'have you changed your eating habits/diet since having the stroke?' Originally the options provided for this question were, 'yes, no: too expensive and no: did not know about changing my diet'. Instead of the above mentioned options, participants were now to mark either yes or no. If participants answered no, they had to either indicate the reason by marking options provided by the researcher, or write their reasons down in the space provided. Participants were also given a yes, no option for the question 'Do you take your medication as prescribed?' If participants answered no, they had to indicate the reasons why by either marking the most appropriate option provided by the researcher or by writing their reasons down in the space provided.

Participants had difficulty in understanding the first question in section E: support. Participants did not know what the researcher was referring to with the word support. To amend this problem the question 'what support do you feel you need since having a stroke?' was changed to 'what support (physical and emotional) do you feel you need since having a stroke?'

No amendments were made to section F: physical mobility and section G: perceived health-related needs.

3.6.1.5 Translation, Reliability and Validity of the Questionnaire

A professional translator translated the questionnaire from English into both Afrikaans and Xhosa, since English will not be the majority of participants' first

language. In order to ensure that the translated questionnaires assess what the original English version intended to assess, another translator translated the questionnaires from Afrikaans and Xhosa, back to English. This version was the same as the original questionnaire set in English. Therefore, translating the questionnaire in the Afrikaans and Xhosa languages back to English eliminated the possible loss of false validity.

Reliability and validity are fundamental concerns in all measurements. Reliability refers to dependability or consistency of the measurements (Carr, 1995; Redfern & Norman, 1994). By using both quantitative and qualitative methods simultaneously, the results were more reliable than if one method was used alone. Although the two methods operate from entirely different scopes, related areas have been identified (Neuman, 2000). Integrating the two methods, called triangulation of method reduces the possibility of bias and produces results that are more reliable with complimentary strengths (Rees & Bath, 2001).

As part of the present study a test-retest reliability study was conducted using a sample of 10 stroke patients from the English language version of the questionnaire, to test for any variations in the responses. Chronbach's alpha for the test-retest was between 0.95 and 1.00 for the different sections of the questionnaire.

3.6.1.6 Procedure

The researcher as well as trained research assistants administered the questionnaire to the participants on a one to one basis, ensuring correct completeness of the questionnaire. The research assistants were nursing sisters and community based carers working for various non-governmental organizations in the various districts of the Metropole region of the Western Cape. A group of fourth year physiotherapy students from the University of the Western Cape who were posted at various community health centres, also assisted with the collection of the quantitative data. Each of the research assistants were individually trained by the researcher to ensure accurate completion of the questionnaire. Before each research assistant could begin the collection of quantitative data for the study, two 'practice' questionnaires had to be completed on stroke patients of their choice. The researcher then checked to ensure that the questionnaires were completed correctly and the research assistants could discuss any problems they experienced relating to the completion of the questionnaires. Comprehensively training all of the research assistants (who came from different backgrounds) ensured uniformity and accuracy when collecting the quantitative data.

Stroke patients who never attended formal rehabilitation at the community health centres, but who still accessed these centres for medical check-ups or to collect medication were also included in the study. This made the sample a more representative one. Completing the majority of questionnaires in the comfort of the participants' homes, made them feel more at ease and allowed more time to

be spent with each participant, thereby gaining maximum input from each individual. Numerous questionnaires were also completed at the various stroke groups held at the community health centres. All questionnaires in these cases were completed by the participants either before or after the stroke group so as not to interfere with the participants exercise regime.

No patients were duplicated in the study as the students and community based health workers collected data from different settings. The students concentrated on the various stroke groups and could keep record on which patients they had or had not seen by the attendance record of each stroke group session. The community based health workers were each given a different list of possible patients they could access in a specific area.



3.6.2 Qualitative Data Collection

Face-to-face interviews were used in the current study to provide in-depth descriptions of the informants' health-related behaviours, and the reasons for their engagement in certain lifestyles. The value of face-to-face interviews is that the researcher can achieve a greater depth of response, maintain control over who actually responds, determine the opinions of those who cannot read or write, and have higher response rates (Domholdt, 2000).

The guided interviews (Appendix I), developed from literature (Stuifbergen, 1995) were purposeful conversations during which the participants' lifestyle experiences were explored. The interviews started with a 'grand tour' question to

set the tone of the interview, and to let the participants determine what was important for them to tell about living with a long-standing disability (Stuifbergen & Rogers, 1997).

Consequently, the 'grand tour' question for this study was *'Tell me what it is like for you to live with a stroke, how does stroke affect your life?'* The remainder of the interview guide consisted of a series of guided probes that endeavoured to obtain an in-depth justification of the practice of various health-related behaviours. The interviews were guided; purposeful conversations during which the participants' lifestyle experiences, and the meaning attached to those experiences were explored in detail.



Patients who were interviewed for the qualitative part of the study were purposively selected as indicated in section 3.4.2. The researcher contacted the 12 purposively selected patients who met the inclusion criteria to obtain their consent and willingness to participate in the study. All data was collected by the researcher. A convenient time and location was determined for the patient interviews, and the interviews lasted on average fifty minutes.

3.6.3 Trustworthiness of the qualitative data

Tendencies from the transcribed interviews were kept as close as possible to the respondents' own mode of talking (Thick low inference data) (Shepard, 1997).

The participating patients were interviewed in the language of their choice and the researcher arranged a translator when it was necessary. Member checking was the form of verification used. In this process, informants reviewed the interpretive 'story' that the researcher had generated and were given the opportunity to correct technical errors or take issue with ways in which the researcher has interpreted their situation. The researcher then uses this information to revise the story, or at least to indicate points of departure between his views and the views of the informants (Domholt, 2000).

3.7 Data Analysis

3.7.1 Quantitative analysis



Descriptive statistic analysis using Microsoft Excel ® was employed to obtain a profile of the study population. Means, standard deviations and percentages were calculated for descriptive purposes and the chi-square test was used to test for associations between various variables. Various relationships between the socio-demographic characteristics (age, gender, education, employment status and disability-related characteristics) were illustrated using frequency tables. A number of health-related behaviours and factors that influence these behaviours were analysed using chi-square tests, where the association between these various variables was determined.

3.7.2 Qualitative analysis

Analysis of the qualitative data began with the transcription of the audiotapes. All audiotape recordings were transcribed precisely word for word. The transcriptions were compared to audiotape recordings and field process notes several times to verify accuracy (Neumann, 2000). After reading the transcriptions of all the interviews and process notes a number of times, analysis of all interview data began with content analysis.

Analysis was a procedure that started with discovering strong themes running through the data (Stuifbergen & Rogers, 1997). In this way, data was coded in broad categories according to the research questions. For example, 'What were the health-related behaviours the participants were engaged in?' Alternatively, 'What factors influenced the participants' involvement in certain health-related behaviours?' In the second stage, any data that depicted the smallest information units was identified (Rees & Bath, 2001). An information unit is any smallest amount of information that is informative by itself (Rees & Bath, 2001). In the final stage of the analysis, information units were categorized into themes related to health-related behaviours, reasons for engaging in various behaviours and factors that influence involvement in certain behaviours. After establishing the themes, corresponding verbatim quotations were used to support all themes. In order to maintain anonymity, participants' names were changed and cited using the code P1 to P12 for all the participants.

In order to gain a deeper understanding of the results, quantitative data was compared and supplemented by qualitative analysis and vice versa to qualify the process of between-methods triangulation (Neuman, 2000; Nolan & Behi, 1995; Redfern & Norman, 1994; Rees & Bath, 2001).

To achieve triangulation for confirmation, convergent, inconsistent and contradictory results between textual qualitative data and numerical data were determined. In order to achieve triangulation for completeness, numerical data that expanded on interview findings were highlighted (Rees & Bath, 2001).

3.8 Ethical Considerations



Approval for the implementation of the study was obtained from the Senate Higher Degrees Committee of the University of the Western Cape. Permission to conduct the study was also obtained from the Medical Superintendent of the Community Health Services Organisation (Appendix B). Informed consent was obtained from all patients participating in this study (Appendix C, E and G). It was explained in the consent form that the participants were ensured confidentiality and anonymity and the right to withdraw from the study at any stage. Patients were ensured that involvement in this study will not influence their future rehabilitation in any way. For the qualitative part of the study, every individual participant who agreed to participate in the study, signed a consent form before participating in a 45 to 60 minutes audiotape interview. The

researcher ensured the availability of support counseling at the Community Health Centres should the patients need it. The results of the study will be made available to all participants, rehabilitation staff and superintendents of the institutions.



CHAPTER FOUR

RESULTS

4.1 Introduction

In this chapter, the quantitative results of the socio-demographic characteristics of the study population are described. These comprise age, gender, education, employment status and disability-related characteristics. A number of health-related behaviours and factors that influence these behaviours are also described. Various relationships between health-related behaviours and demographic characteristics are explained. Additionally, accounts from the in depth interviews are presented. In giving the accounts of the interviews, the exact language and phrases used by the participants were preserved. However, for more clarity in the flow of ideas, the order of the contents was sometimes slightly altered. For purposes of anonymity and confidentiality, the transcribed quotations of data from the interviews are cited in the cryptogram **P1** to **P12**.

4.2 Response Rate

A total of 420 participants completed the questionnaire for the quantitative part of the study. A total of three questionnaires were omitted from the study, as certain sections of the questionnaire were not completed. Four-hundred and seventeen questionnaires were therefore completed correctly and were eligible for data analysis. This yielded a response rate of 99.2%

4.3 Socio-Demographic Characteristics of the Participants

4.3.1 Gender, Age

Table 4.1 illustrates the socio-demographic characteristics of the study sample.

Table 4.1: Age versus Gender

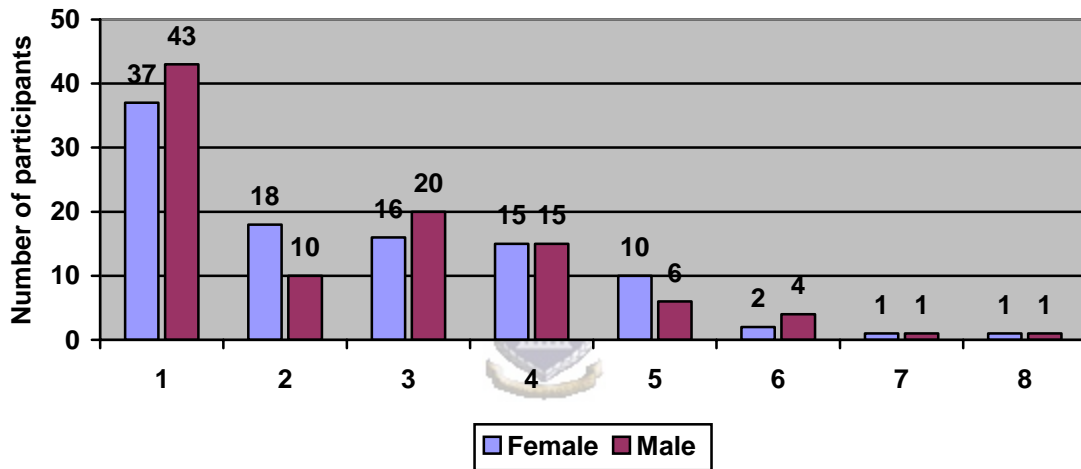
Age	Male n (%)	Female n (%)
30 -54	24 (14.2%)	21 (8.5%)
55 -62	106 (62.3%)	148 (60%)
63 -73	30 (17.6%)	63 (25.5%)
74 -98	10 (5.9%)	15 (6%)
Total	170	247

The mean age of the participants was 61.4 years, with ages ranging from thirty one to ninety eight years of age. The standard deviation was calculated to be 10.1. Two hundred and forty seven (59.2%) participants were females and one hundred and seventy (40.8%) were males.

4.3.2 Gender versus Locality

Figure 4.1 illustrates the district where the participants resided according to gender.

Figure 4.1: Gender distribution according to district



KEY:

- | | |
|----------------------------|-----------------------------|
| 1. Tygerberg | 5. Khayelitsha |
| 2. Mitchells Plain | 6. Southern health district |
| 3. Central health district | 7. Northern Panorama |
| 4. Eastern health district | 8. Klipfontein |

The majority of participants were recruited from the Tygerberg health district (39%), followed by the Central health district (17.3%). The least amount of

participants were recruited from the Klipfontein and Northern Panorama health districts (2%) respectively.

4.3.3 Marital Status

Table 4.2 illustrates the marital status of the participants according to gender.

Table 4.2: Marital status versus gender

Marital Status	Female n (%)	Male n (%)
Married	91 (36.8%)	90 (53%)
Widowed	98 (39.8%)	35 (20.6%)
Divorced/separated	23 (9.4%)	24 (14.1%)
Single	35 (14%)	21 (12.3%)
Total	247	170

The majority of the participants (43.4%) were married. There were a much larger number of females who were widowed.

4.3.4 Employment Status, Educational Level and Access to Transport

Table 4.3: Socio-demographic characteristics of the study sample

Variable measured	Characteristics	Number	Percentage
Education	≤ 6 years	170	40.8%
	≥ 7 years	247	59.2%
Employment status	Employed	8	1.9%
	Retired receiving pension	106	25.4%
	No disability grant	142	34.1%
	Receiving disability grant	129	30.9%
	Unemployed	12	2.9%
	No benefits	20	4.8%
Living Conditions	Own house	215	51.5%
	With family	119	28.5%
	Rented house	75	18%
	Old age home	8	2%
Access to transport	Yes	271	65%
	No	146	35%

With regard to the participants' educational level, the majority (59.2%) had ≥ 7 years of education, whilst 40.8% had ≤ 6 years of education.

Only eight individuals of the 417 (2%) in the sample of stroke patients were employed. Six of the eight currently employed individuals fell into the 30-54 age group, whilst two were between 55 and 62 years of age. Although the majority of participants (409, 98%) were unemployed, only 31.5% were receiving a disability grant.

One hundred and six (25.4%) participants were retired receiving a government pension whilst a further 4.8% were receiving no benefits (neither a disability grant nor pension). Two point nine percent of participants were currently unemployed but indicated that their disability would not prevent them from trying to find employment in the future.

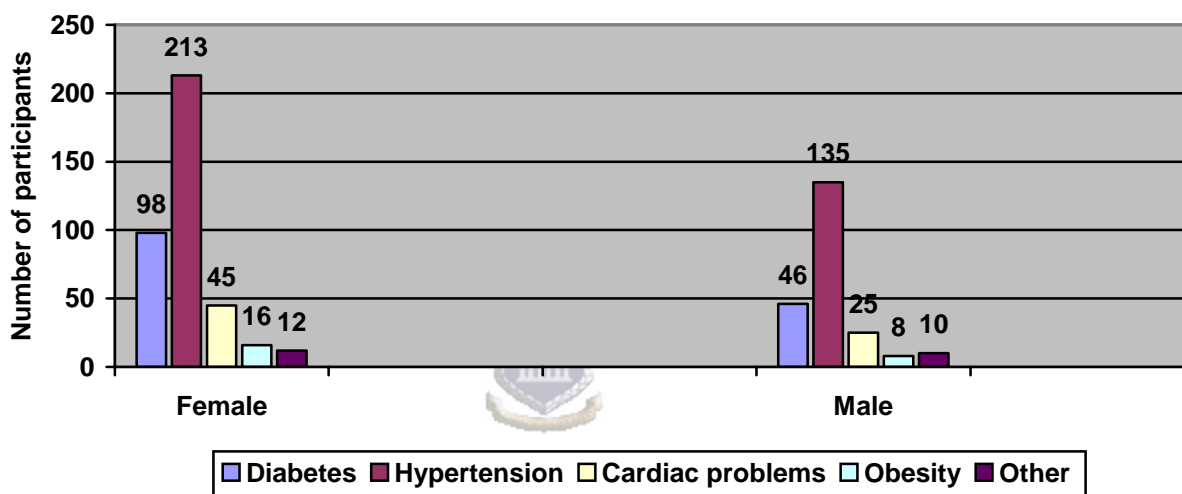
The majority of participants (51.5%) lived in their own house, whilst 28.5% stayed with family members. Eighteen percent of participants were currently renting either a house or flat, whilst the minority (2%) resided in an old age home.

A total of 271 (65%) participants had access to either public or private transport. Of these participants' who had 'access to transport', 64.6% were females (175 out of 271), whilst only 35.4% were males.

4.3.5 Associated medical conditions/illnesses

Figure 4.2 illustrates the various illnesses participants are suffering from in relation to gender.

Figure 4.2: Illnesses in relation to gender



The majority of participants (144, 34.5%) suffered from diabetes. Significantly more females (41%) suffered from diabetes compared to the males (36.5%).

Three hundred and forty eight (83.5%) participants were hypertensive in the current study. There was no difference between female (89.1%) and male (87.1%) participants', when it came to hypertension.

Seventy (21.6%) participants were suffering from cardiac problems. The rates of cardiac problems for females and males were 23.2% and 19.2% respectively.

The general rate of obesity in the current study was low (N=24, 6.1%), with no significant difference between the two genders.

Twenty two (5.3%) participants reported that they suffered from other conditions besides those featured in the questionnaire. These illnesses included, epilepsy, blindness, arthritis, tuberculosis and HIV/AIDS.

4.4 Information relating to stroke

Table 4.4: Tertiary and secondary institutions where participants were admitted.

Type of institution	Frequency	Percentage
Tertiary	135	38.3%
Secondary	159	45.2%

The majority of participants (71%) suffered their stroke more than 12 months ago, whilst 19.1% had their stroke 6 or less months ago. A total of 215 participants (52.5%) had a right cerebrovascular accident, whilst 192 (46%) had a left cerebrovascular accident. A total of 10 participants (2.5%) had suffered both a right and left cerebrovascular accident.

Three hundred and fifty two (83.5%) participants reported that they were admitted to hospital after having the stroke. Of these, 20 (5.3%) were admitted to a private hospital.

Three hundred and thirty two (94.7%) were admitted into the public sector where they received tertiary, secondary or primary levels of care as illustrated.

The two tertiary institutions comprised 38.3% of all admissions whilst the secondary hospitals accounted for 45.2% of all admissions to hospital. Eleven percent of respondents were not admitted to hospital at the time of their stroke.

A total of 134 participants (32.1%) were referred to a rehabilitation centre.

Table 4.5 represents the frequency distribution of rehabilitation centres where patients were treated.



Table 4.5: Frequency distribution of admittance to rehabilitation centres

Centre Name	Frequency
Conradie Care Centre	69
Booth Memorial	31
Western Cape Rehab Centre	23
Panorama	11
Total	134

The first two rehabilitation centres served 74.6% of the total number of patients admitted to a centre for rehabilitation post stroke.

The details of participants' duration of stay at the rehabilitation centres with relevant frequencies is illustrated in Table 4.6

Table 4.6: Frequency of participants' duration of stay at the rehabilitation centres

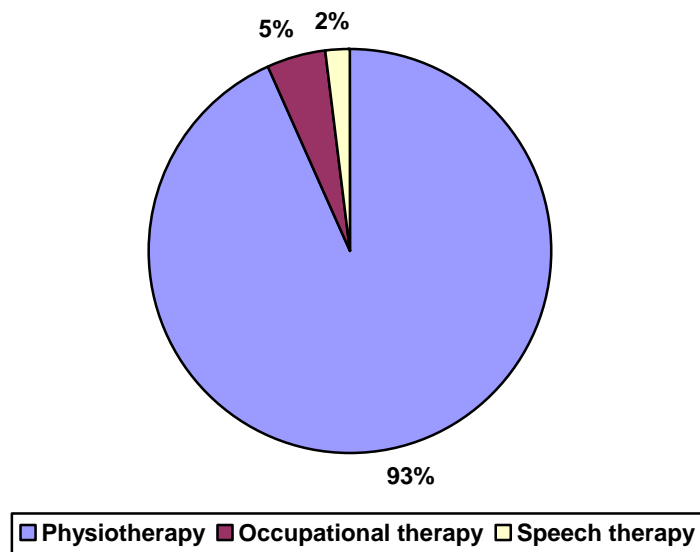
Duration at Rehabilitation Centre	Frequency
Less than one week	11
One week	8
Between one and two weeks	10
Between two and three weeks	16
Between three and four weeks	25
Longer than four weeks	64
Total	134

With the exception of the first two rows, the frequencies increased as the duration of admittance at the rehabilitation centre increased.

Participants received physiotherapy, occupational therapy as well as speech therapy at the various rehabilitation centres.

Figure 4.3 illustrates the frequency distribution of the three paramedical sciences: Physiotherapy, occupational therapy and speech therapy

Figure 4.3: Frequency distribution of the three paramedical sciences



Physiotherapy was used to treat most of the patients (93% overall), but those who received speech therapy and not occupational therapy had a lower usage of physiotherapy, namely 78.4%. Similarly, those patients' who did not receive speech therapy, but received occupational therapy, also had a lower usage of physiotherapy, namely 76.9%

4.5 Health related behaviours

The participants' health-related behaviours assessed included participation in physical activity, substance usage including smoking and alcohol consumption, modification of diet and the use of medication.

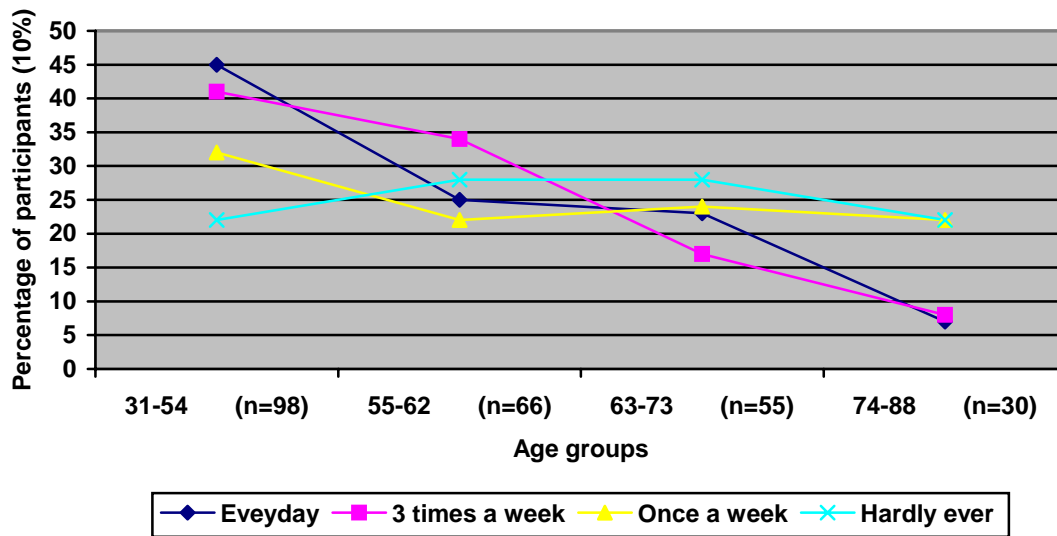
4.5.1 Participation in physical activity and influencing factors

One hundred and sixty eight (40.3%) participants did not participate in any kind of physical activity or exercise, while 249 (59.7%) participants participated in some kind of physical activity or exercise. Among those who participated in physical activity (N=249), 113 (45.4%) participated on a daily basis, 59 (23.7%) participated three times a week and once a week respectively, and 18 (7.2%) participated only a few times per month. A number of issues, such as socio-demographic factors and barriers, influenced participants' choice to take part in physical activity.

4.5.1.1 Physical activity participation in relation to age groups

Figure 4.4 illustrates the participants' involvement in physical activity in relation to age groups.

Figure 4.4: Physical activity in relation to age groups (n=249)



The highest percentage of participants (80.6%) who hardly ever or never participated in physical activity was in the age group 74-98 years, while the lowest percentage of participants (22%) was in the age group 31-54 years.


The majority of participants (N=51, 45.1%) who participated in physical activity every day were in the age group 31-51 years. The second highest number (N=28, 24.7%) of participants who participated every day was in the age group 55-62 years, followed by 26 (23%) in the age group 63-73 years. Only 7% of participants (N=8) from the 74-98 age group participated in physical activity on a daily basis. The number of participants who participated three times a week was 24 (40.6%) in the age group 31-54 years, 20 (33.8%) in the age group 55-62 years, 10 (16.9%) in the age group 63-73 years and 5 (8.4%) in the age group 74-98 years. An equal number of participants (N=13, 22%) who participated in

physical activity once a week were in the age groups 55-62 years and 74-98 years. The highest number of participants who participated in exercise once a week was 19 (32.2%) in the age group 31-54 years, followed by 14 (23.7%) in the age group 63-73 years.

4.5.1.2 Physical activity in relation to gender and educational level

Table 4.7 presents the figures of participation in physical activity in relation to gender and educational level.

Table 4.7: Frequency of physical activity participation in relation to gender and educational level (n=249)



	Everyday	3 times a week	Once a week	Hardly ever
	N (%)	N (%)	N (%)	N (%)
Gender				
Male	48 (46.1%)	21 (20.2%)	26 (25%)	9 (8.7%)
Female	65 (44.9%)	38 (26.2%)	33 (22.7%)	9 (6.2%)
Education				
≤ 6 years	54 (50%)	16 (14.8%)	27 (25%)	11 (10.2%)
≥ 7 years	59 (41.9%)	43 (30.4%)	32 (22.7)	7 (5%)

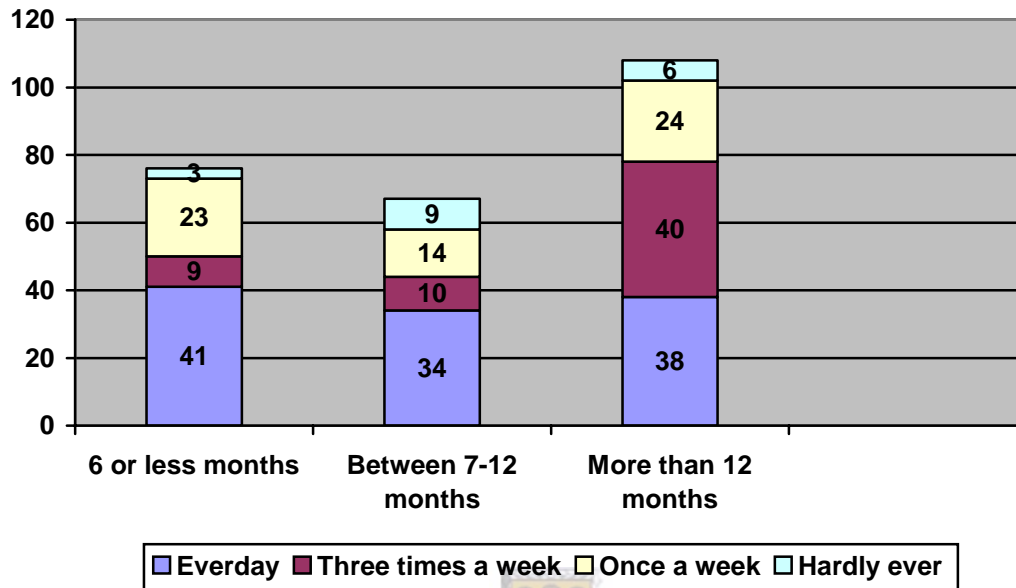
The majority of subjects (113, 45.3%) participated in physical activity on a daily basis. These included 48 (46.1%) males and 65 (44.9%) females. Fifty nine subjects (21 males and 38 females) participated in physical activity three times a week, whilst another 59 (26 males and 33 females) participated once a week. A minority of 18 participants (9 males and 9 females) hardly ever participated in physical activity.

Fifty percent of subjects (N=54) who had ≤ 6 years of education, and 41.9% of those with ≥ 7 years of education participated in physical activity on a daily basis. Of those subjects who participated in physical activity three times a week, 14.8% had received an education of ≤ 6 years, whilst 30.4% had ≥ 7 years of education. Similar figures (25% and 22.7%) for ≤ 6 years and ≥ 7 years of education respectively, represented those subjects who participated in physical activity once a week. Eleven subjects (10.2%) with ≤ 6 years of education and 7 subjects (5%) with an educational level of ≥ 7 years, hardly ever participated in physical activity. No significant relation was found between gender and physical activity ($p < 0.10$) as well as age and physical activity ($p < 0.10$).

4.5.1.3 Physical activity in relation to the length of time that has passed since the stroke

Figure 4.5 illustrates the frequency of participation in physical activity in relation to the time elapsed from having the stroke.

Figure 4.5: The frequency of participation in physical activity in relation to the time elapsed since having the stroke.




One hundred and six participants (42.5%) who had suffered a stroke more than twelve months ago participated in physical activity. Of these, (38) 33.6% participated in physical activity on a daily basis, 40 (67.8%) exercised three times a week, 24 (40.6%) participated in exercise once a week, whilst 6 (33.3%) hardly ever participated in physical activity. Of the 67 participants who had suffered a stroke between 7-12 months ago, 34 (30%) exercised every day, 10 (17%) participated in physical activity three times a week, whilst 14 (23.7%) and 9 (50%) participated in physical activity once a week and hardly ever respectively. Seventy six participants' suffered a stroke six or less months ago. Of these, 41 (36.3%) participated in physical activity on a daily basis, 9 (15.2%) exercised

three times a week, 23 (35.7%) participated in physical activity once a week and 3 (16.7%) hardly ever exercised.

4.5.1.4 Barriers to participation in physical activity or exercise

Table 4.8 shows various barriers to participation in physical activity among those who hardly ever or never participated in physical activity or exercise.

Table 4.8: Barriers to participation in physical activity or exercise (n=254)

Barriers to do physical activity or exercise	Number	%
Cost of transport 	37	14.5%
Do not know where to exercise	48	19%
Lack of motivation	51	20%
Have other health concerns	26	10.2%
Lack of energy/ not sure if I can manage	92	36.2%
Other reasons: lack of time, lack of interest	10	4%

For two of the barriers, namely, 'Do not know where to exercise' ($p < 0.10$) and 'lack of motivation' ($p < 0.05$) the males had a higher proportion of 'yes' responses. None of the other reasons (proportion 'yes') were significantly different for the two genders.

The greatest barrier to participation in physical activity, reported by 32.2% (N=82) of the participants was a lack of energy and uncertainty if they would cope with exercise. From the qualitative findings, there was further emphasis to this factor, as one of the participants explained,

P1: *I can't manage any type of exercise. I used to go to the stroke group but would feel very tired after the exercises. Every one else exercising in the group did not get as tired as I did, so I eventually stopped going to exercise.*

The second highest barrier, reported by 20% (N=51) of the participants, was a lack of motivation to participate in physical activity. From the qualitative interviews, participants gave more clarification regarding lack of encouragement to start exercising, as one of them explained,

P 11: *I do know a few of the exercises I should be doing everyday to keep my hand and leg moving, but to be honest I just don't do them. I don't see how those exercises will help me move easier. Perhaps if I was encouraged more by my wife to do the exercises, I will try harder to do them.*

The influence of this factor was further echoed in the following statement, as one participant said,

P7: *If someone could show me exercises to do I would make an effort to do them because I want to get stronger. It's like if I had someone to guide and motivate me I wouldn't feel so helpless and afraid about what the future holds for me.*

Not knowing where to exercise was reported by 48 (19%) participants. This fact is further illustrated by the following quotation from the qualitative interviews,

P8: *As far as I know there are no proper facilities in this community for disabled people like me to use for exercising. Everything is always focussed on the fit young boys, the soccer and rugby players...[pauses]...its like the community and government don't care about our special needs. I think exercises like weights and riding a bicycle would benefit me but where can I do it?*

The cost of transport also proved to be a barrier to participating in physical activity for 14.5% (N=37) of the participants. One participant explained,

P10: *I am not financially well off, and so can't afford to join a gym or anything.*

Transport will also be a problem. I don't know what exercises I am allowed to do because of my heart problem, so I will rather be safe than sorry and do nothing. If I could somehow get to the group where they teach the special exercises, I would be more confident to try.

Twenty six (10.2%) participants were not involved in any physical activities because of various health concerns. The influence of this factor was explained by one participant,

P2: *I am scared to do any exercises because what will happen if I have a heart attack or something. I don't think that I will manage because I am very weak since having the stroke and I get tired very quickly. It is just a waste of time and precious energy because it (exercise) will not fix me.*

Other barriers included a lack of time to participate in physical activity as well as a lack of interest in exercising, as reported by 10 (4%) participants.

One of them explained,

P12: *I am still fortunate enough to be working after my stroke. When I come home I am tired and have to still cook for the family. I just don't have the time to exercise everyday.*

One hundred and seventy one (41%) participants are currently receiving physiotherapy on either an individual basis (N=105, 61.4%) or are attending a stroke group (N=65, 38%). One participant (0.6%) attended physiotherapy on both an individual and group basis. Those participants who are currently not attending a stroke group for exercises, reported various barriers that prevented them from attending such groups. The greatest barrier to not attending a stroke group was that 151 (36.2%) participants' were never educated about the existence of such groups. One participant explained,

P6: *This is the first time I am hearing about stroke groups. No one ever bothered about telling me about them. They (the medical staff) expect you to just know everything and don't offer any extra advice and suggestions. Do I have to pay to go to the stroke group? Because I am poor cos I have to live off a small pension.*

One hundred and eighteen (28.3%) participants could not attend a stroke group because there were none in close proximity to where they lived. Ninety nine (23.7%) participants reported that the high cost of transport was the reason as to why they did not exercise at a stroke group. These barriers were echoed further by one participant,

P11: *I think I would enjoy doing exercises at a stroke group with people who are in the same position as me. I just have a big problem in getting to the*

clinic to the group. The taxi's are very expensive and besides that the nearest rank is still a good ten minutes walk from my house. I don't think it would be safe for me to walk that far.

A minority (N=55, 13.2%) felt that they did not need to attend a stroke group for exercising and support.

P1: *I manage fine on my own. I am sure these groups can be beneficial for some people but personally, I don't need any extra help.*

4.5.2 Use of alcohol, smoking and influencing factors

Table 4.9 illustrates the participants frequency of substance usage.

Table 4.9: Substance usage

Substance usage	Yes		No	
	N	(%)	N	(%)
Currently smoke	126	(30.2%)	291	(69.8%)
1-5 cigarettes per day	65	(51.6%)		
6-10 cigarettes per day	38	(30.1%)		
11-20 cigarettes per day	23	(18.3%)		

Substance usage	Yes		No	
	N (%)		N (%)	
Alcohol use	55	(13.2%)	362	(86.8%)
Everyday	14	(25.5%)		
3-4 times a week	24	(43.6%)		
Once a week	9	(16.4%)		
A few times a month	8	(14.5%)		

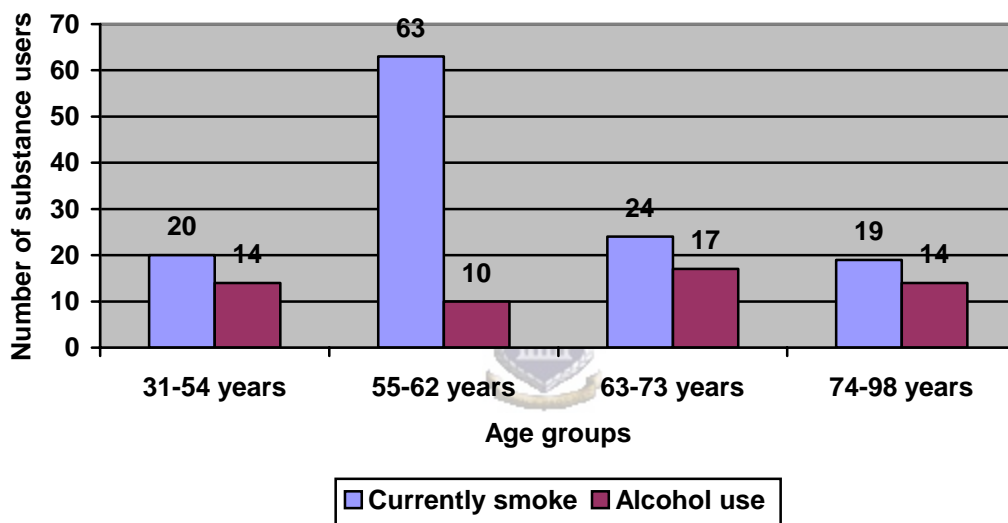
One hundred and twenty six (30.2%) participants smoked cigarettes. Out of 126 participants (30.2%) who smoked, the majority (N=65, 51.6%) smoked 1-5 cigarettes everyday, followed by 38 (30.1%) who smoked 6-10 cigarettes per day. Twenty three participants (18.3%) smoked more than 10 cigarettes everyday.

Of the 55 (13.2%) participants who currently consume alcohol, the majority consumed alcohol 3-4 times a week (N=24, 43.6%), followed by 14 (25.5%) who used alcohol everyday. Nine participants' (16.4%) consumed alcohol once a week, whilst 8 (14.5%) participants consumed alcohol a few times per month.

4.5.2.1 Substance usage in relation to age groups

Figure 4.6 illustrates the number of participants in each age group in relation to substance usage.

Figure 4.6: Substance usage in relation to age groups



The majority of participants who smoked (N=63, 50%) were in the age group 55-62 years, followed by 24 (19%) participants in the age group 63-73 years. Twenty (16%) participants in the age group 31-54 smoked, compared to 19 (15%) participants in the age group 74-98 years.

With regard to the consumption of alcohol, the majority (N=17, 31%) were in the age group 63-73 years, followed by 14 (25.4%) in the both the 31-54 and 74-98 year age groups. The minority of alcohol consumers, (N=10, 18.2%) were in the

55-62 years age group. Chi-square tests indicated a significant statistical significance between substance usage including alcohol consumption ($p < 0.001$) and smoking ($p < 0.002$) in relation to age groups.

4.5.2.2 Frequency of substance usage and age groups

Table 4.10 illustrates the participants' frequency of substance usage in relation to age groups.

Table 4.10: Frequency of substance usage in relation to age groups

Age groups	31-54 N (%)	55-62 N (%)	63-73 N (%)	74-98 N (%)	Total N (%)
Currently smoke	20 (16)	63 (50)	24 (19)	19 (15)	126 (30.2)
1-5 cigarettes/day	7 (12)	25(43.1)	15 (25.9)	11 (19)	58 (46)
6-10 cigarettes/day	9 (17)	32 (60.4)	8 (15.1)	4 (7.5)	53 (42)
More than 10/ day	4 (26.7)	6 (40)	1 (6.6)	4 (26.7)	15 (12)
Alcohol use	14 (25.4)	10 (18.2)	17 (31)	14 (25.4)	55 (13.2)
Everyday	2 (33.3)	1 (16.7)	2 (33.3)	1 (16.7)	6 (11)
3-4 times a week	8 (36.4)	3 (13.6)	7 (31.8)	4 (18.2)	22 (40)
Once a week	3 (15.8)	3 (15.8)	5 (26.3)	8 (42.1)	19 (34.5)
Few times a month	1 (12.5)	3 (37.5)	3 (37.5)	1 (12.5)	8 (14.5)

Of the 58 (46%) participants who smoked 1-5 cigarettes a day, the majority (43.1%) were in the age group 55-62 years. The smallest number of smokers (N=19, 15%) were in the age group 74-98 years.

The majority of alcohol consumers (N= 8, 36.4%) used alcohol 3-4 times a week and were in the age group 31-54 years. Eight participants (42.1%) also used alcohol once a week and were in the 74-98 year age group. A similar number (N=7, 31.8%) in the age group 63-73 years also consumed alcohol 3-4 times a week. The smallest number of alcohol users (N=1, 16.7%) were in the age groups 55-62 years as well 74-98 years.

4.5.2.3 Substance usage in relation to gender and education



Table 4.11 shows figures for substance users in relation to gender and level of education.

Table 4.11: Substance usage in relation to gender and education

	Gender		Education	
	Male	Female	≤ 6 years	≥ 7 years
Currently smoke	74	52	38	88
1-5 cigarettes/day	33	32	19	46
6-10 cigarettes/ day	27	11	11	27
More than 10/ day	14	9	8	15

	Gender		Education	
	Male	Female	≤ 6 years	≥ 7 years
Alcohol use	37	18	17	38
Everyday	9	6	6	15
3-4 times a week	18	5	4	13
Once a week	7	5	6	6
A few times a month	3	2	1	4



Seventy-four (44%) males smoked, compared to 52 (21%) females. Thirty seven males (21.8%) consumed alcohol, compared to 18 (7.3%) females. This amounts to a considerable difference of current alcohol usage between the genders.

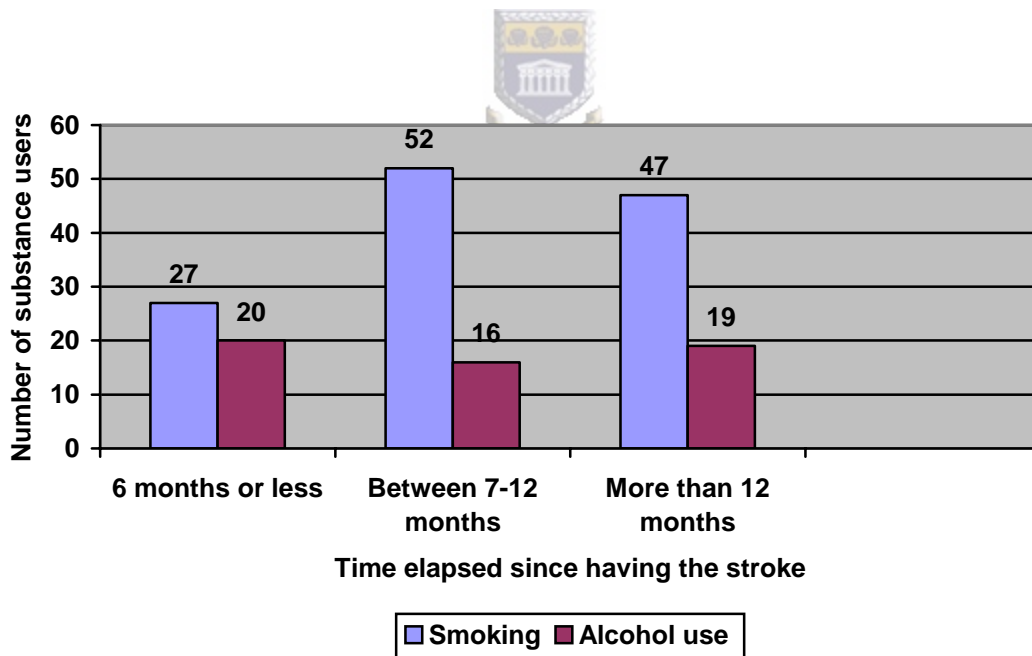
The majority of participants (N=88, 70%) who had ≥ 7 years education smoked, whilst 38 (69%) participants who consumed alcohol also came from this higher educational group. For participants with a higher education, it was found that the females smoked fewer cigarettes per day than the males, but this difference was only weakly statistically significant ($p < 0.10$).

From the results it was found that if a female smoked, it was likely that she would also consume alcohol and *vice versa* ($p < 0.001$). This positive association was also evident for the male part of the sample. This relationship proved to be even stronger for the males ($p < 0.0001$) compared to the females.

4.5.2.4 Substance usage in relation to time elapsed since having the stroke

Figure 4.7 presents the number of substance users in relation to the time elapsed since having the stroke.

Figure 4.7: Substance usage in relation to time elapsed since having the stroke.



Most participants ($N=52$, 41.2%) who smoked, suffered their stroke between 7-12 months ago, followed by 47 (37.3%) who had a stroke more than 12 months ago.

The majority of participants (N=20, 36.5%) who consumed alcohol, suffered their stroke 6 or less months ago, followed by 19 (34.5%) who had the stroke more than 12 months ago.

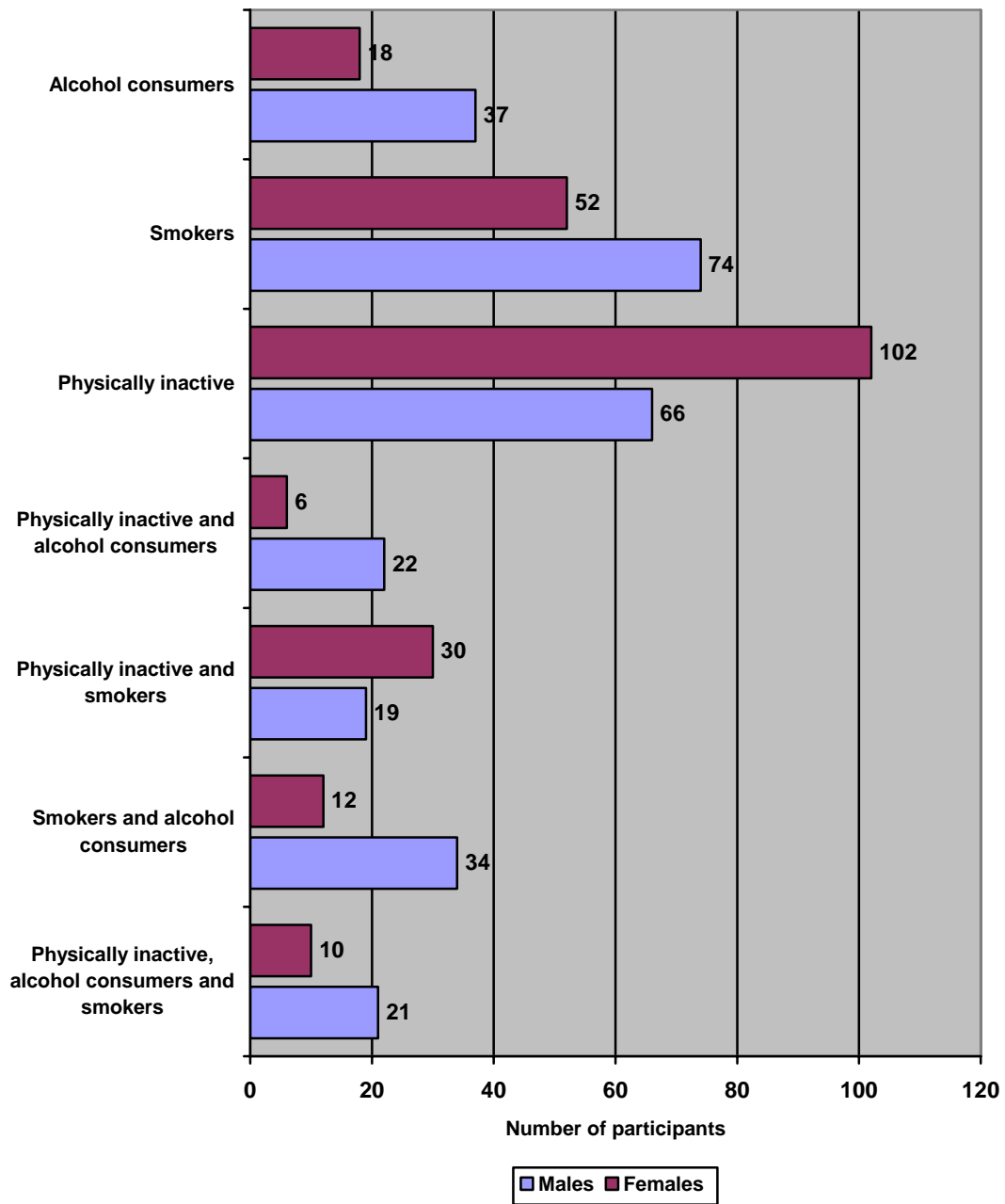
4.5.2.5 Physically inactive participants and substance users

A number of participants were involved in all health-risk behaviours assessed in this study.

Figure 4.8 illustrates the number of physically inactive participants' and substance users in relation to gender.



Figure 4.8: Number of physically inactive participants' and substance users and their counterparts



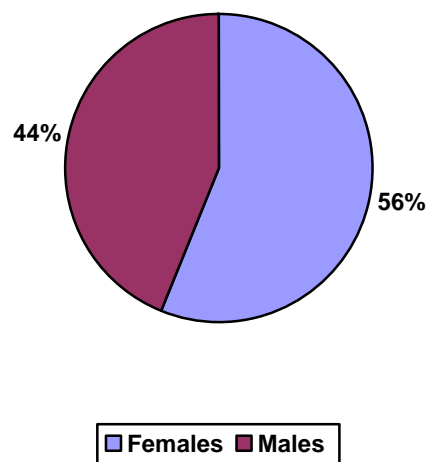
Most participants who combined at least two health-risk behaviours were 49 physically inactive participants and smokers (19 males and 30 females). The second highest number were 46 alcohol consumers and smokers (34 males and 12 females), while 31 participants' were physically inactive, smokers and alcohol consumers (21 males and 10 females). Twenty eight participants' were both physically inactive as well as consumed alcohol (22 males and 6 females).

4.5.3 Factors influencing the change of eating habits/diet following stroke

Figure 4.9 illustrates the percentage of participants who changed their diet according to gender.



Figure 4.9: Percentage of participants who changed their diet according to gender.



Within the female population (N=135, 56%) changed their diet, whilst 73 (44%) males changed their eating habits $p < 0.02$ since having the stroke. According to tables not shown here, educational level did not contribute to the change in diet for both genders. Overall, 50% of the participants changed their diet since having the stroke.

4.5.3.1 Barriers to changing eating habits/ diet in relation to gender

Figure 4.10: Barriers to changing eating habits/diet according to gender

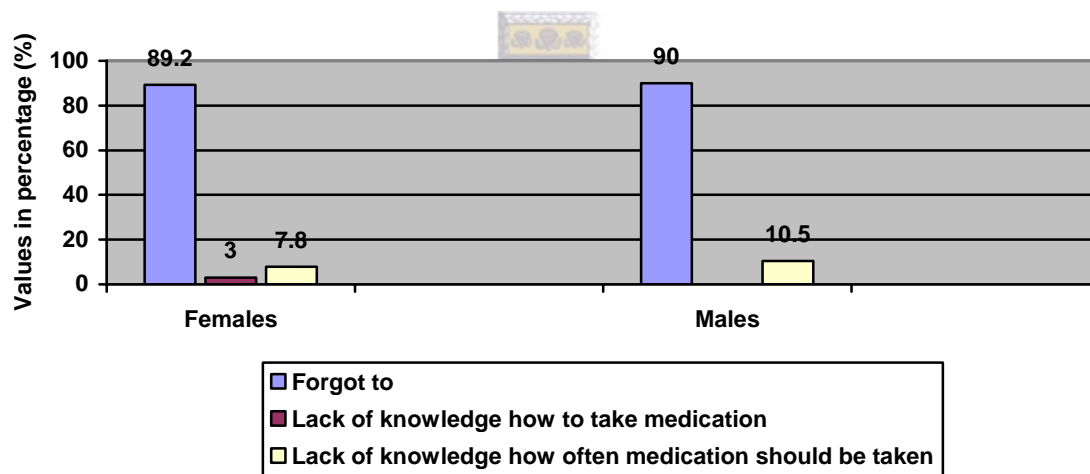


The greatest barrier to changing eating habits/diet post stroke, reported by 119 (58%) of the participants was 'not knowing that they had to change their diet'. There was no significant difference between the genders for the above barrier. Fifty eight (28.3%) participants reported that they had not altered their diet post stroke because it was 'too expensive' to do so. There was a significant

difference between the opinion of the females and males on the reason 'Too expensive'. It was interesting that 34 (35.4%) male participants thought that changing the diet was too expensive, compared to 24 (22%) females ($p < 0.05$). Forty eight (23.4%) participants did not alter their diet post stroke because they 'did not know how to change their eating habits/diet'. For this reason, there was no significant difference between females and males.

4.5.4 Compliance to medication use

Figure 4.11: Reasons for not taking medication as prescribed according to gender

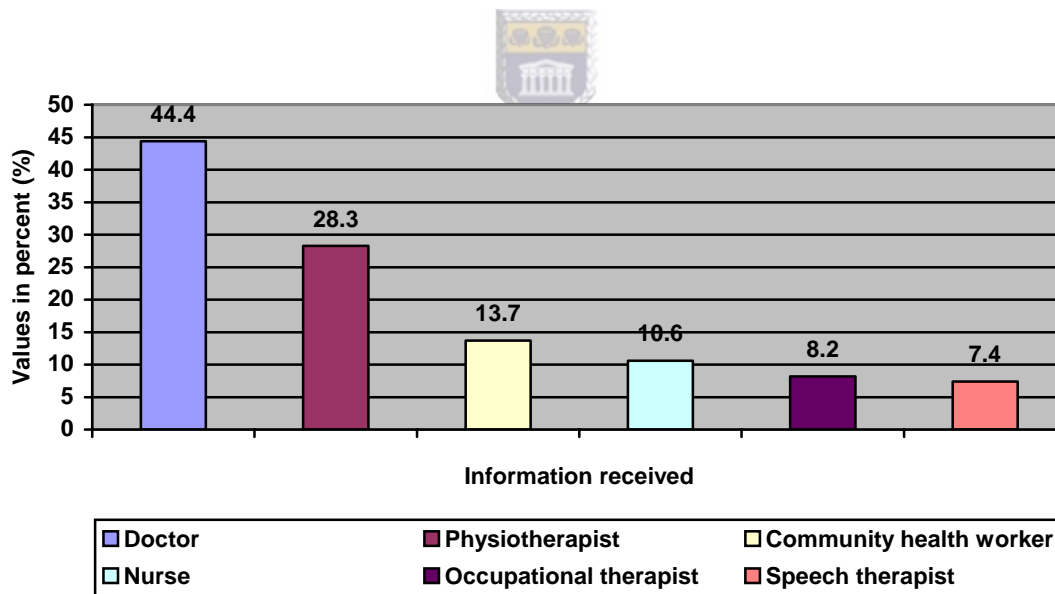


Two hundred and thirty two (94%) female participants used medication for various reasons, compared to 153 (90%) males. Of the female participants who used medication, 102 (44%) reported that they did not always take their medication as prescribed. Similarly, 76 (50%) males also did not always take their medication on a regular basis.

The majority of females (N=91, 89.2%) and males (N=68, 89.5%) did not take their medication as prescribed because they 'forgot to'. Three females (3%) reported that the reason they did not take their medication as prescribed, was because it was never explained to them how they should take their medication'. Eight (7.8%) females and 8 (10.5%) males reported that it was never explained to them how often they should take their medication.

4.6 Knowledge about stroke

Figure 4.12: The extent to which various health care professionals educated the stroke patients



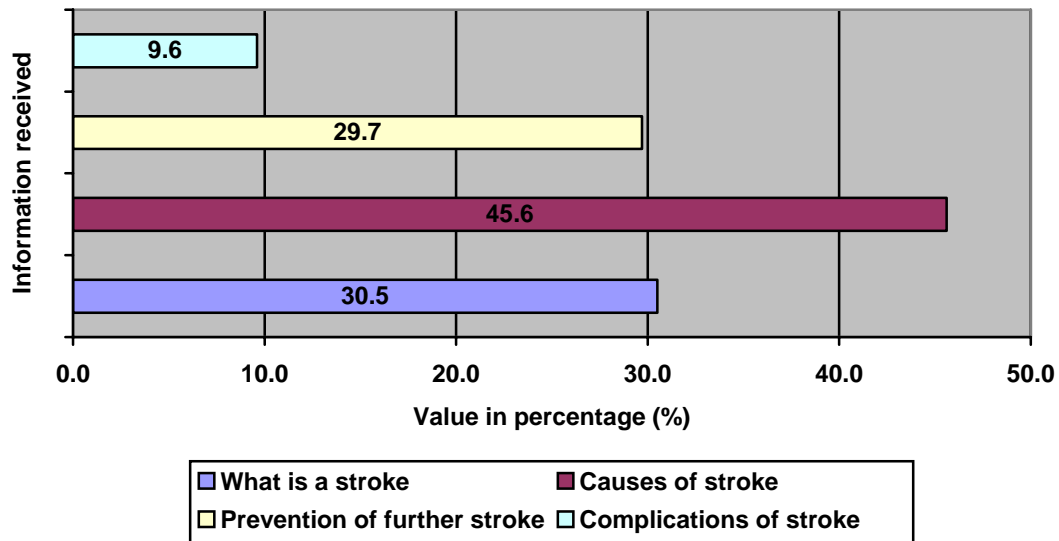
Only 257 (61.6%) participants received information about stroke from health care professionals. No significant difference between the two genders was observed ($p>0.10$).

The majority of participants (N=185, 44.4%) who did receive information about stroke, received it from doctors, followed by physiotherapists (N=118, 28.3%). Fifty seven participants (13.7%) were educated about stroke from community health workers, 44 (10.6%) by nursing staff, 34 (8.2%) by occupational therapists and 31 (7.4%) by speech therapists.

One hundred and ninety (45.6%) participants received information about the various causes of stroke, whilst 127 (30.5%) were educated about what a stroke is. A further 124 (29.7%) participants were given information on how to prevent a further stroke, compared to 40 (9.6%) participants who were educated about the various complications of stroke. It was also investigated whether the participants' gender and educational level had a significant influence on the information received, but it did not have any influence on the information outcome.



Figure 4.13: Categories of information received about stroke from health care Professionals.



4.7 Support



The majority of participants (78, 83.9%) females with an education ≤ 6 years expected emotional and physical support from their family and friends, compared to 103 (75.7%) of the more educated females. Thirty seven males (80.4%) with an education ≤ 6 years expected emotional and physical support from their family and friends, compared to 37 (80.4%) of the males with an educational level of ≥ 7 years ($p < 0.05$). Collapsed over gender, the lesser educated group showed a stronger need for support from their family and friends. From the qualitative findings, there was further emphasis to this factor, as one of the participants explained,

P4: *My life is very difficult now (since having the stroke) and I am reliant on people for help with every day things like bathing and dressing. I think that the responsibility lies with my children to support me in whatever ways they can because I have made many sacrifices for them in the past.*

Sixty seven (16.1%) participants received support from their church group, whilst 123 (29.6%) participants received emotional and physical support from medical staff. Gender and educational level did not have an influence on whether participants sought support from the church group or medical staff. From the qualitative interviews, participants gave more clarification regarding support received from a church group, as one of them explained,



P5: *If it weren't for the love and support I receive from my church, I don't know how I would have managed. Ladies from the church group bring me a lovely cooked meal two times a week as well as help me with things that I can no longer do for myself, such as cutting my toe nails. It may seem small, but its more than my own children are doing for me.*

Fourteen (15.1%) females with an education ≤ 6 years expected emotional and physical support from a stroke group and, compared to 34 (25%) of the more educated females. Ten males (21.7%) with an education ≤ 6 years expected emotional and physical support from a stroke group, compared to 38 (34.2%) of the males with an educational level of ≥ 7 years. Males generally had greater expectations how they could benefit by support from stroke groups. This

differential did not prove to be significant within both educational groups ($p>0.10$). However, if the educational level was collapsed, this differential became significant ($p<0.05$).

The following is a quotation from the qualitative interviews, expressing one of the participant's views regarding support from a stroke group.

P 10: *It's great to attend a stroke group on a weekly basis. It makes me feel that I am not alone, and I have made many new friends. We are able to talk about problems that we all are facing, and come up with solutions together. We also motivate each other to exercise regularly. There is a good competitiveness that exists when we exercise together, and so we all put in effort not to be outdone by anybody else in the group.*



4.8 Participants' perceived health-related needs

Figure 4.14 illustrates the perceived health-related needs of the participants' in their responses to various health-related programmes and activities.

The majority (N=297, 71.2%) of participants desired to attend a programme where information how to prevent a further stroke would be the focus. Two hundred and twenty seven (54.4%) participants wanted to be taught how to prevent pressure sores and contractures, whilst the same amount of participants felt it was also important for their family members/caregivers to be educated about stroke. This need was further explained by one participant,

P3: *If my family were taught more about stroke and understood the condition better, I am sure they would learn how to be more patient and understanding of me. If only they could understand what I am going through.*

Two hundred and twenty (52.8%) participants also desired to learn more about what a stroke is and the causes of a stroke, whilst 210 (50.4%) perceived information on how to manage their blood pressure as being essential. Two hundred and fifteen (51.6%) participants desired to attain new lifestyle habits to improve their health. One hundred and eighty one (43.4%) participants considered information relating to the prevention and management of diabetes as being essential, whilst 185 (44.4%) believed that health interventions also need to focus on the development of exercise programmes.

In addition, 173 (41.5%) participants considered issues like staying physically active in daily activities as being important. One hundred and seventy seven participants' expressed their need to receive guidance on how to cope with depression and lack of motivation, whilst 173 (41.5%) participants wanted advice on how to manage stress.

Although many participants perceived all programmes as fundamental, 83 (19.9%) participants did not desire to attend teachings on how to stop smoking and 85 (20.4%) participants did not want to learn how to manage their weight more effectively. Teaching about HIV/AIDS awareness and prevention also

featured as one of the least desired teachings with only 110 (26.4%) participants interested in learning more about this.

During in-depth interviews, participants clarified and gave more meaning regarding the desire to get relevant information from health care professionals.

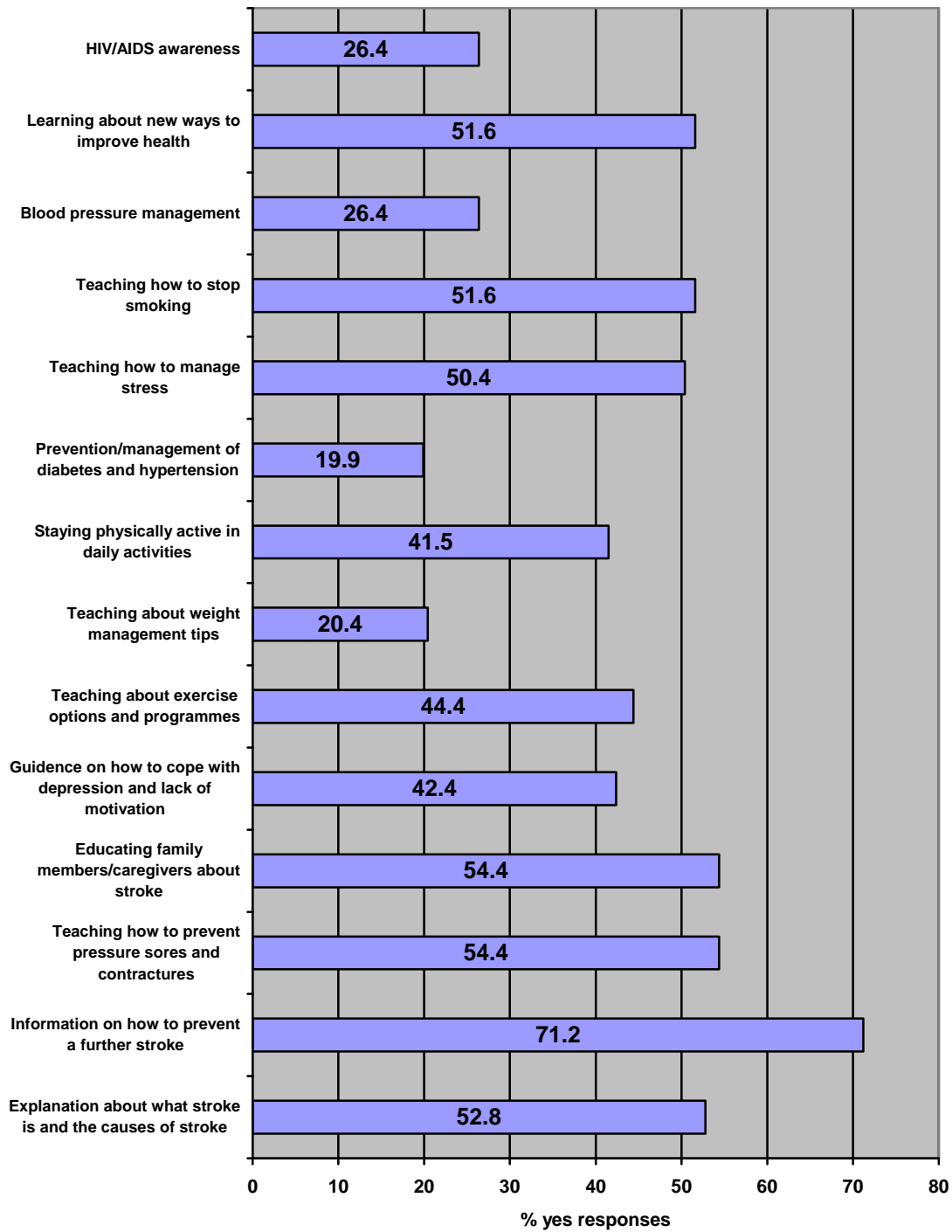
One of the participants said,

P1: *I think it is very important that you (health professionals) teach us how to live healthier lives and tell us what things can be harmful to us. I still smoke and know now why it is bad for me. I don't want another stroke and need help to quit.*

Numerous participants also expressed frustration with the government and believe that it should be implementing support programmes for them. One of the participants explained,

P4: *I think that the government should be doing more for us. The authorities are not aware of the numerous challenges we have to cope with. It would help a lot if they could maybe provide us with a special bus that just serves disabled people in the community. At least then we could attend physiotherapy and fetch our pills from the centre [community health centre].*

Figure 4.14: Participants' perceived health-related needs



4.9 Summary

The majority of the participants in the present study were in the age range 55-62 years. The findings of the study indicated that a large number of participants practiced risky lifestyle behaviours such as physical inactivity, substance usage, non-compliance to medication use and non-modification to diet. The majority of participants identified the need for health-promoting programmes.



CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter focuses on a comparison of the current study's findings relating to the health promotion needs, through the identification of the health-related behaviours of stroke patients with literature. The impact of the findings on disability as well as the impact of involvement in health-risk behaviours, are also discussed. Various aspects of health promotion as well as the relevance of the study findings to physiotherapists and other rehabilitation professionals is also explored in further detail. Quotes from qualitative interviews are included to enrich the discussion.



5.2 General Findings Related to Demographic Factors

The findings of the study corroborate several demographic trends reported consistently in the literature about stroke. The mean age of the participants in the current study was 61.4 years. This is in slight contrast to the findings of studies. For example in the study by Bonita *et al.* (1997), out of a total population of 1518 subjects, only 20% were 64 years and younger. In a study conducted by Rosmand (1986) in South Africa the author also found higher incidence of stroke rates, among those who were 65 years and older. A recent South African study conducted in the Limpopo Province also found the highest incidence in people aged 65 years to 84 years (SASPI, 2004). The results of the present study is

however similar to the results found by Rhoda (2002), that recorded a mean age of 59 years. It must also be noted that approximately 20 % of the sample consisted of black stroke patients who are known to present at a much younger age than white and coloured patients (National Guideline on stroke and transient ischaemic attack management, 2001). This factor could have decreased the mean age of the study sample.

More females (59.2%) than males (40.8%) participated in the quantitative study survey. This may be due to a response bias as the sample selected for the study was a sample of convenience. These results differed to those found by Hoffman (2000), who reported the female to male ratio to be equal in a group of young stroke clients. Although these results were found for South Africa, international studies record a slightly higher incidence in males than in females (Bonita *et al.*, 1997; Bonita, 1992; Bruno, 2000; Stewart, 1999; Thorsveld, Aspulnd, Kuulasmaa, Rajakangas & Schroll, 1995). This slightly higher incidence of stroke in males, may be due to the fact that males generally tend to engage in behaviours (smoking and alcohol use) which predispose an individual to suffering a stroke.

A total of 176 stroke patients (45.4%) from the study sample were married. This was slightly lower than the number of married stroke participants in a similar study, where 56% were involved in a marital relationship (Rhoda, 2002).

In the current study, 29.9% of the participants were widowed, a factor which could be expected as the mean age of the population was 61.4 years. This number was however considerably less than the 64% of widowed participants that formed part of Rhoda's (2002) study on stroke patients in the Bishop Lavis area. The majority of the study sample were single, either as a result of being divorced, separated, widowed or because they have never married. According to Stewart and Eales (2002) being single, whether it be due to divorce or even death of one partner, has been found to be associated with poor adherence to risk factor modification in a group of hypertensive patients. The fact that the majority was single may therefore be problematic when wanting to implement health promotion programmes.



Only 8 individuals of the sample of 417 were employed. This is very disconcerting as 109 (26.1%) participants were employed at the time of their stroke. The return to work rate for the study population was therefore 2.9%. Teasall, McRae & Finestone (2000) as well as Flick (1999) mentioned discrepancies about the return to work rate post-stroke recorded in the literature, as ranging between 17% and 51%.

The reasons for this may be due to the difference in the severity of stroke among the persons studied and differing definitions used for returning to work (Flick, 1999; Teasall *et al.*, 2000). The majority of studies however, record very low return to work rates. Young stroke clients experience high levels of anxiety about whether they will be able to return to work post stroke (Teasall *et al.*, 2000). This

anxiety could be as a result of not being able to meet their financial commitments. Most of the participants in the current study, who could not return to work, were however either receiving a government pension or a disability grant.

5.3 Participants' lifestyle behaviours and influencing factors

After an initial stroke, patients remain at continued high risk for recurrent stroke as well as for myocardial infarction and cardiac death (Williams, 2001; Williams, Jiang, Matchar & Samsa, 1999). Nearly a third of stroke patients experience recurrent stroke within 5 years, despite optimal medical management. (Antiplatelet Trialists' Collaboration, 1988). Further, comorbid cardiovascular conditions are present in 75% of stroke patients, representing the leading cause of death in stroke survivors. (Roth, 1993; Roth, 1994; Sacco, Wolf, Kanner & McNamara, 1982; Wade, Skilbeck, Wood & Langton, 1984). Stroke patient's need to be made aware of this high risk for recurrent stroke and educated how to best prevent this from occurring by practicing healthy lifestyle-behaviours.

The findings of the study related to the participants' lifestyle behaviours are alarming. There is a great concern regarding the participants' involvement in various health-risk behaviours. These behaviours include not participating in physical activity on a regular basis, smoking, alcohol consumption and non-compliance to medication use. A large number of participants do not partake in any form of physical exercise, whilst many participants were either smokers or

alcohol consumers. In addition most participants did not have access to relevant information about stroke in general and how to avoid health-risk behaviours.

5.3.1 Participation in physical activity or exercise

Many participants (41% of the females and 39% of the males) did not participate in any physical activity or exercise. These figures were significantly less than a study by Mutimura (2001) on lower limb amputee patients' in Rwanda. Mutimura found that 64.7% of his study sample was physically inactive. A similar study investigating the health promotion needs of spinal cord injured patients in South Africa, also found that many individuals who were previously involved in sports reported having resorted to sedentary lifestyles after the injury as they believed that they had lost the ability to participate in physical activity (Majoki, 2001). Lack of participation in physical activity is common among people with physical disabilities. In his model of health promotion for people with disabilities, Stuijbergen (1998) suggests that low exercise participation rates for women are frequently ascribed to the family responsibilities and societal norms which support such behavioural choices. In an assessment of lifestyle health behaviours among individuals with physical disabilities, Steele *et al.* (1997) reported a high level of sedentary lifestyle. More recently, Hogan *et al.* (2000) further reported that individuals with disabilities, especially from the younger age groups, were living a physically inactive lifestyle. Despite documented benefits of physical activity for people with physical disabilities including those who have had a stroke (Kosma, Cardinal & McCubbin, 2003; Rimmer *et al.*, 1996) it is clear


from a number of studies that, habitual physical activity is a missing component in the lives of most persons with physical disabilities (Cooper *et al.*, 1999; Rimmer *et al.*, 1996).

Considering that exercise and activity are of prime importance in the rehabilitation of individuals with physical disabilities including those with stroke, physical inactivity that is persistently evident among these individuals is of concern to rehabilitation professionals. To be able to promote physical activity among these individuals, it is essential that rehabilitation professionals understand more fully the factors that enable or discourage these individuals' participation in physical activity. Participants in this study described a number of factors that influenced their participation or lack of participation in physical activity.



A recent study reported that active or fit individuals have a 64% lower risk for stroke. Even moderate levels of physical activity are associated with protection against ischaemic and haemorrhagic stroke events (Kiely, Wolf, Cupples, Beiser & Kannel, 1994; Lee, Folsom & Blair, 2003; Wannamethee & Shaper, 1992). It is not known whether exercise confers similar protective benefits against recurrent stroke or improves cardiovascular health outcomes in the post stroke population. However, despite the dangers of reduced physical activity and associated fitness to all individuals, there remains encouraging evidence regarding the potential to reverse health risks of previous sedentary living with exercise training. Even subtle improvements in fitness and daily activity have been shown to pay large dividends in stroke patients. For persons who have had a stroke, the Stroke

Council of the American Heart Association recommends 30 to 60 minutes of moderate exercise at least 3 or 4 times per week, which should be medically supervised (particularly for high-risk patients) and adapted depending on neurological functioning (Wolf *et al.*, 1999). According to Rimmer (1999), there appears to be no element of habitual physical activity among individuals with physical disabilities, and many live a physically inactive lifestyle.

It is of concern that after the completion of conventional physiotherapy, there are no empiric recommendations and few resources promoting regular exercise during the chronic stroke period. Patients must then often face the functional and cardiovascular health consequences of physical inactivity while aging with a chronic disability (Ivey *et al.*, 2005).  The results of the current study reflected the need to promote programmes encouraging physical activity in the stroke population, accessing community health centres, in the Metropole region of the Western Cape.

5.3.2 Barriers to participation in physical activity

People with physical disabilities face numerous barriers to participation in physical activity. These barriers include lack of energy and motivation, lack of knowledge where and how to exercise, cost of transport, other health concerns, lack of financial resources and time. In the present study, lack of energy and being unsure if they could manage any form of physical activity, was one of the

major barriers to participation in physical activity or exercise. One participant further clarified this factor in the qualitative interview as,

P 15: *“When I wake up in the morning it’s like I have none of the energy I used to have. Just getting dressed is like climbing a mountain for me and I need a long time to regain my strength. I know I will not manage well with any exercise, and if I did exercise, it would use up all the energy I need for more important things like bathing and cooking for instance”.*

Individuals with lower limb amputation also reported lack of energy to be one of the barriers to physical activity they encounter, but this barrier was less frequently mentioned with this group than with the current sample of stroke patients. An explanation for this difference may be due to the fact that the stroke population is generally much older than the younger amputee group (Mutimura, 2001). Young individuals in general have much higher levels of energy than their older counter-parts (Mutimura, 2001).

The second highest recorded barrier was lack of motivation, which influenced participants’ involvement in physical activity. In the qualitative review, one participant expressed lack of motivation to engage in exercise,

P 6: *“I used to be a keen gardener when I was healthy but since having the*

stroke I don't feel as motivated as I used to. I think if I had more encouragement and motivation from my family to become more active, I would try harder and maybe start gardening again".

Similarly, another participant said,

P 10: *"No one has ever encouraged me to start with any exercises. I wouldn't know what to do anyway."*

This finding is in agreement with the results of numerous other studies. People with physical disabilities report lack of motivation as one of the main barriers to participation in physical activity or exercise (Rimmer *et al.*, 2000; Stuijbergen *et al.*, 1990). Furthermore, women with multiple sclerosis reported interest to engage in exercise, but lacked the courage to start participation in physical activity (Stuijbergen & Rogers, 1997).

The third most frequently reported barrier was a lack of knowledge regarding the location where exercises could be performed. In the quantitative survey, 9.7% of females and 14.1% of males stated that they did not know where the exercises should be carried out. One participant further clarified this factor in the qualitative findings as,

P11: *"I have never heard about any places nearby that cater for the disabled."*

I can't go to a normal gym because it will be embarrassing and I don't own any of my own gym equipment".


People with disabilities' lack of knowledge of where to exercise, is a major barrier to physical activity participation even in the more developed countries. For example, lack of knowledge of where to exercise was ranked first by 58% of the study sample among American women with physical disabilities (Rimmer *et al.*, 2000). Lack of knowledge of where to exercise has been reported in some other studies. Mutimura (2001), found that lower limb amputee patients' in Rwanda identified lack of knowledge where to exercise as being the number one barrier to physical activity participation. Similarly individuals with Multiple Sclerosis identified lack of accessible facilities such as exercise venues and equipment, as one of the major environmental barriers to participation in physical activity (Stuifbergen & Rogers, 1997).

Additional barriers to participating in physical activity identified in the present study and have been reported in other studies (Rimmer *et al.*, 2000; Stuifbergen & Rogers, 1997; Stuifbergen *et al.*, 1990) included, lack of financial resources having other health concerns and lack of time.

The following excerpt illustrates how a lack of financial resources created a barrier for participating in physical activity.

P1: *"Since having the stroke I no longer can work. That means I have to*

support my family on the disability grant which you know is not a lot of money. I just can't afford to pay taxi fares to get to the stroke group". Besides that the taxis' want to charge me double fare, because my wheelchair takes up an extra space in the taxi".

The effect of the above mentioned barriers deprived persons with disabilities the opportunities to increase their overall well-being and quality of life (Stuifbergen *et al.*, 1990). Lack of financial resources and lack of time appear to be barriers to participation in exercise that apply to both the disabled and non-disabled populations (Kalies, 2000; Rimmer, 2000). Most of these barriers to physical participation have been identified among people with disabilities elsewhere in developed countries (Messent,  Cooke & Long, 1999). To promote regular physical activity for people with physical disabilities and especially those who have suffered a stroke before sedentary preferences become habits, barriers such as the ones mentioned in this study need to be addressed.

5.3.3 Alcohol use, smoking and influencing factors

The number of participants involved in substance usage seemed to vary according to the type of the substance. The majority of individuals in the current study were smokers, followed by lower numbers of alcohol consumers, especially amongst the females. The frequency and quantity of cigarettes smoked daily was lower than the numbers reported for similar studies. Smoking was also found to be common among individuals with lower limb amputations (Mutimura,

2001). Furthermore, higher rates of tobacco smoking were reported among students with disabilities compared to their non-disabled peers (Hogan *et al.*, 2000).

Dean *et al.* (1985) reported that persons with physical disabilities are equally involved in substance usage regardless of age.

Generally substance usage appeared to be greater in males than females in the present study. This finding correlated well with the finding by Mutimura, (2001) where a significant association was found between substance usage and gender. In this study the males were found to use substances more than the females. A relatively greater percentage of males than females smoked cigarettes. Similarly, a relatively higher percentage of males smoked more cigarettes daily than females. An unexpected result from the current study was that the higher educated (≥ 7 years education) males smoked more than their lower educated counter-parts.

Few studies have reported substance usage among people with physical disabilities, and to the investigator's knowledge, none have appeared to focus on gender difference. However Dean *et al.* (1985) reported higher percentage of females than males with disabilities to have been substance abusers. This is in contrast to the results of the current study.

An amazing finding from the qualitative part of the study was that many of the participants were living off a small government pension or disability grant, yet were still substance abusers. Since cigarettes and alcohol are expensive, many

participants even skipped meals or avoided purchasing their monthly medication so that they could afford to pay for their substance/s of choice. Participants in the qualitative interviews expressed this.

P10: *“I have become very depressed since having the stroke. Now smoking feels like the only small pleasure I have in life and I wont quit even if it may eventually kill me.”*

P3: *“Wine keeps me going from day to day. I have my first glass early when I wake up. I suppose it makes me happy for the day ahead. I wouldn’t be coping without it (the wine). It does get expensive even though it’s cheap box stuff (wine). Say I go to the shop and have only twenty (rand) on me, I’ll rather buy my wine than bread and milk”.*

It is estimated that there are 7 million smokers in South Africa (National Guideline on stroke and Transient Ischaemic Attack Management, 2001). Smoking can significantly increase the risk of suffering a recurrent cerebrovascular event as well as other cardiovascular conditions. This risk may be reduced through preventative measures, including lifestyle changes such as the cessation of smoking (Greenlund, Giles, Keenan, Croft & Mensah, 2002).

Patients therefore need to be made aware of the dangers of smoking and support programmes should be implemented in order to assist patients to stop smoking.

The current study assessed that there is a great need to implement programmes to help stroke patients' manage their problem of alcohol abuse and smoking. Such individuals need to be educated on the harm excessive drinking and smoking has on their general health and well-being and the dangers of them suffering a recurrent stroke.

5.3.4 Diet modification post-stroke

In the current study approximately 50 % of participants, changed their diet since having a stroke. Diet can affect stroke risk, with epidemiological studies indicating an inverse relationship between fruit and vegetable consumption and cardiovascular events (Goldstein *et al.*, 2001). A study including individuals free of cardiovascular disease at baseline found that the relative risk of stroke was reduced by 31% for persons in the highest quintile of fruit and vegetable intake (Joshi *et al.*, 1999). Analysis of data from the National Health and Nutrition Examination Survey Epidemiologic Follow-up Study supports these results (Bazzano *et al.*, 2002). This study found that consumption of fruit and vegetables ≥ 3 times per day compared with < 1 time per day was associated with a 27% lower stroke incidence.

Dietary factors that may be related to reduction in stroke risk include increased antioxidants and potassium through greater consumption of fruits and vegetables

and reduced salt intake, which may lower high blood pressure, the major risk factor for stroke (Gariballa, 2000). Barriers for participants in the present study not changing their diet post stroke included 'too expensive', 'did not know about the benefits of changing their diet' and 'did not know how to change their diet'. These barriers could be easily overcome if the stroke patients received more adequate information from health professionals (especially dieticians) with respect to the benefits of eating more fresh fruit and vegetables. Workshops could even be held where stroke patients are taught different ways to preparing healthy meals. Individuals who have suffered a stroke must be made aware that their money will also go further if they buy fresh fruit and vegetables, rather than unhealthy processed foods and large amounts of meat. Therefore all the above mentioned barriers to diet are able to be overcome with the sharing of information.



5.3.5 Compliance with use of medication

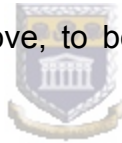
The majority of participants in the present study had co-morbid illnesses such as diabetes and hypertension, which have been identified as known health risk factors. They therefore have to take regular medication to control these illnesses. Approximately 88.3% of female and male stroke patients in the current study had high blood pressure.

In the current study, 94% and 90% of the female and male samples respectively, used medication for various reasons. A large number of participants admitted that they did not take their medication as prescribed due to the following reasons.

Seventy five percent reported that they 'forgot' to take their medicine regularly, especially if they were living alone. 3.1% complained that health professionals had never explained to them how they should take their medication, and so they ceased taking it. A further 3.1% reported that it was never explained to them how often to take their medication.

In addition environmental barriers also proved important for patients from lower socio-economic classes who have to use the public health system. Numerous individuals partaking in the qualitative section of the study mentioned that the high cost of transport to the hospital or community health centre to collect their medication; as well as the long waiting times which can be anything up to a five hour wait to see the doctor for ten minutes, and then a further wait at the pharmacist for their medication prove, to be significant environmental barriers.

One of the participants stated,



P4: *"The clinics are not well run. The lines are very long and move very slowly. I am too sick and weak to spend my whole day waiting for my pills. Some months, I just don't fetch them (the medication)".*

P12: *"The government needs to either improve the service delivery at the Community health centres or come up with another plan. What if there was a special service started where you order your medicine from the clinic and then they drop it off for you at your house every month. (Laughs) sort of like a pizza delivery service! Don't you think more*

people would take their medicine then?”

Patients use a variety of criteria to determine the value of medication and this may become a barrier to adherence to medical regimens (Wallenius *et al.*, 1995). They may place an equal or greater value on competing non-clinical outcomes. Physical, economic, psychological and social factors influence the use of medication. Patients often take fewer drugs than required, due to their experiences with side effects and their symptoms (Wallenius *et al.*, 1995). Surprisingly none of the stroke patients interviewed in the qualitative part of the study, expressed any concern about side effects influencing their use of medication. One of the individual's did express concern about the possibility of becoming addicted to the analgesics she took for her frequent headaches, as expressed in the following quotation.



P8: *“I have always suffered from these headaches, even before the stroke. It worries me that I have become too dependant on the pills (headache medication). I take about eight everyday, even if I don't have a headache. I know they are bad for me and may be affecting the way my other more important pills are working”.*

5.4 Support

Participants in the study identified social support as a major resource that facilitated a choice of positive health related behaviours. This consisted of emotional, instrumental and informational type of support. Sources of support that were mentioned by participants consisted of family, friends, medical staff (including physiotherapists, doctors, nurses and social workers) and church groups. Family and friends were frequently mentioned (especially by the females) as the main sources of emotional and instrumental support through ways such as having someone to talk to, being a source of encouragement and also doing activities together. Many of the participants emphasized the extreme importance of emotional support to their sense of well-being. Social support has been reported as an important resource by people with chronic disabling conditions and physical disabilities including those with stroke, in a number of studies. For instance, in a study by Hampton (2001), social support was found to be the most influential factor on quality of life of Chinese adults with spinal cord injuries. In a study by Stuijbergen and Rogers (1997) individuals with multiple sclerosis identified social supports as being a major resource which enhances the choice of health-promoting behaviours.

The importance of social support in a stroke sufferer's life is further highlighted by many psychological obstacles that they can encounter. Social isolation, low self-esteem and anxiety have been reported among numerous people with physical disabilities including those with stroke (Hogan *et al.*, 2000; Steele *et al.*, 1997;

Stover, Keller, Cobey & Soheap, 1994). In a study by King (1996), on the quality of life of long-term stroke survivors, depression was found to be the strongest predictor of overall, psychological, and health quality of life. This finding supports the results of several other studies (Ahlsio, Britton, Murray & Theorell, 1984; Anstrom, Asplund & Astrom, 1992; Niemi *et al.*, 1988). Stuijbergen's conceptual model of health promotion and quality of life for people with disabilities further supports the fact that perceptual factors such as depression will have a negative effect on one's quality of life. The high rate of depression supports the need for follow-up programs that include assessment and interventions to treat depression.

Literature on social support of stroke patients suggests that decreased social contact or support could result in emotional mal-adaptation (Friedland & McColl, 1987) and lower life satisfaction (Viitanen, Fugl-Meyer, Bernspang & Fugl-Meyer, 1988). Referrals of survivors to support groups and education of family members and the wider community on the importance of social support after disability may help to strengthen support. In addition caregivers have been found to benefit from counseling on ways of managing their responses to stroke patients, so they can continue to be supportive over the long term (King, 1996).

According to the findings of this study, informational support was one of the major resources that influenced the health-related behaviours of stroke patients'.

Only 30.5% of the stroke patients received information about what a stroke is from health care professionals. The highest rate of information received was on 'causes of stroke' (45.6%), whilst a mere 9.6% were educated about the complications of stroke and how to manage them. Most alarming of all was that only 29.7% of stroke patients' participating in this study, were ever educated about how to prevent a further stroke by incorporating health-enhancing behaviours into their lives. Similarly, some studies have reported a lack of access to relevant information regarding health-promoting behaviours such as physical activity participation and quitting smoking (Bonohue, 1997; Christman, Ahijerych & Buckworth, 2001). Furthermore, other individuals with physical disabilities have reported such information as an essential factor that influences their engagement in health-promoting behaviours (Stuifbergen & Rogers, 1997).



With regards to sources of informational support, most of the participants in the present received or sought informational support from medical doctors, with physiotherapists in second place. Given the importance attached to informational support from the health care professionals by the participants', there's a need for rehabilitation professionals such as physiotherapists to target family and friends by involving them early during the rehabilitation process so that they can access relevant information as one of the strategies for health promotion intervention.

In the qualitative findings, informational support was regarded as extremely important in participants' choice to engage in various lifestyle behaviours. In a few cases it facilitated them to quit some health-risk behaviours. As one of the participants explained,

P7: *“My doctor told me about the effects smoking was having on my body. It scared me to think that my own behaviour could result in me having another stroke. I stopped smoking a few months back and feel more in control of my health and life now”.*

Therefore, as was found in other studies, informational support in the current study appeared to be one of the most significant resources that facilitated the participants' involvement in various health-promoting behaviours (Rimmer *et al.*, 2000; Stuifbergen & Rogers, 1997; Stuifbergen & Roberts, 1997).

5.5 Participants' perceived health-related needs

Many participants reported that they desired to attend most of the health promotion programmes as listed in the questionnaire. A mean percentage of approximately 43.9% perceived the respective programmes assessed to be health-enhancing. Surprisingly, this mean percentage was much lower than the 80% of lower limb amputees' who desired to attend a similar list of health-enhancing programmes (Mutimura, 2001).

The highest number of participants desired to attend a programme where information on how to prevent a further stroke would be the focus. Participants also desired to learn more about what a stroke is and the causes of a stroke, whilst others perceived information on how to manage their blood pressure as being essential. Many participants desired to attain new lifestyle habits to improve their health. Although many participants perceived all programmes as fundamental, the highest number of participants did not desire to attend teachings on how to stop smoking and how to manage their weight more effectively. Teaching about HIV/AIDS awareness and prevention also featured as one of the least desired teachings. This was in contrast to the findings of Mutimura's (2001) study where the highest number of lower limb amputees desired to attend teachings about HIV/AIDS awareness and prevention. Bearing in mind the potential dangers of smoking and the HIV/AIDS epidemic in South Africa, this finding further reflects the participants' lack of access to relevant information or willingness to be educated about these two concepts. Over saturation of information regarding smoking and HIV/AIDS could also be the reason why they did not want additional information regarding these topics.

With regards to other programmes participants desired to attend in order to improve their well-being, most participants felt a need to be educated about how to prevent secondary complications such as pressure sores and contractures. One participant on the qualitative study explains further,

P8: *“I was never warned about these sores (pressure sores) and had to be admitted into hospital to get them treated. If the doctor had told me in the first place that I would be at risk of getting them (the pressure sores), I could have taken preventative measures like getting pressure care cushions. It was a case of getting the information when it was already too late.”*

Others wanted their family and/or caregivers to be educated about stroke. One participant stated,

P2: *“It is important that my family be told more information about stroke so that they are more sympathetic to my needs and are better empowered to support me at this difficult time in my life”.*

P12: *“I forget most of the exercises I do with the physiotherapist. That is why it is better if my wife also learns to do the exercises. That way she can help me with my exercises at home”.*

Numerous participants considered information relating to the prevention and management of diabetes as being essential. Health interventions also need to focus on the development of exercise programmes as one participant explained,

P4: *“I am wheelchair bound and attend a stroke group regularly. The problem is that I cannot do most of the exercises the others (stroke patients) can do. This makes me frustrated and depressed. It would be better for me to be placed in a group where the others also have the same amount (severity) of stroke as I do”.*

Many participants expressed their need to receive guidance on how to cope with depression and lack of motivation. One participant noted,

P9: *“I am very depressed because I feel like I am a burden to my family. Maybe it would help if I see a psychologist or something, but where do I find one?”*



In addition, patients considered issues like staying physically active in daily activities as well as teachings about weight management tips.

P5: *“Since the stroke five years ago, I have put on ten extra kilos. I would love to either attend a talk, or receive a pamphlet with tips on how to lose weight and maybe even low fat recipes which I can experiment with at home.”*

Comparing these findings with other studies, participants desired to attend health-promotion services more frequently than disability-related services, and

participants were specifically interested in access to exercise, and stress management (Stuifbergen *et al.*, 1990). Furthermore, Edwards (1996) reported that spinal cord injured patients expressed the need to attend exercise programmes as an important health promotion need. Individuals with lower limb amputation were reportedly interested in recreational activities (Legro, Reiber, Czerniecki & Sangeorzan, 2001).

5.6 Aspects of health promotion

The Ottawa Charter has defined health promotion as 'the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and realize aspirations, to satisfy needs, and to change or cope with the environment' (WHO 1986). By identifying the health promotion needs specific to stroke patients, three tools, namely advocacy, enabling and mediation, can be utilized to achieve effective health promotion and address these needs. As part of health promotion, advocacy would be aimed at creating conditions which are favorable through the representation of the rights or needs of marginalized groups such as those disabled by a stroke. Health promotion attempts to enable, even the least socially and economically powerful e.g. the disabled, to achieve their fullest health potential. Mediation implies a coordinated action between the different sectors providing services to those at risk e.g. disabled people. The Ottawa Charter prioritizes certain action areas for health

promotion which include creating supportive environments, strengthening community action and developing personal skills. Health promotion for stroke patients, concerns quality of life, and will intervene to encourage healthy living and working environments which are safe, stimulating, satisfying and enjoyable. Strengthening community action (such as developing stroke support groups, launching stroke awareness campaigns), can aid in the promotion of health by allowing communities to be empowered and take control over their own activities and future. Health promotion supports personal and social development through information, education for health and building life skills. This will increase the options available to people in exercising more control over their own lives.

5.7 Relevance to physiotherapists and other rehabilitation professionals



Rehabilitation programmes have often focused primarily on instructing physically disabled individuals in the necessary techniques of mobility and activities of daily living sometimes neglecting the broader health needs (Carpenter, 1994). The results of the present study emphasize the importance of rehabilitation professionals including physiotherapists to broaden their services to include health promotion interventions in addition to their primary roles of improving functional independence. These health promotion interventions should include individualized programmes tailored to the stroke patient's needs such as identity and psychosocial adjustment issues, information on activities that stroke patients can safely participate in and information on the dangers of substance usage.

Rehabilitation professionals need to recognize that although functional independence is an important goal, resulting behaviours may be detrimental to the health and quality of life of patients who have suffered a stroke, if health promotion interventions are not implemented with urgency. Thus it is of utmost importance to note that education, social support and identity adjustment among physically disabled individuals with stroke have a significant impact on the health-related behaviours that they choose to engage in. Rehabilitation professionals therefore need to foster positive attitudes among these stroke patients and motivate them as well as offer relevant information to their family and friends during the rehabilitation process.



Considering the long period of time that individuals who have suffered a stroke spend with physiotherapists compared to other health professionals, there exists a responsibility and window of opportunity for the physiotherapist to initiate individualized health promotional strategies, early in the rehabilitation programme. These health promotion strategies should be designed to address all aspects of the stroke patients' individual needs including self-perception, psychosocial adjustment issues and health education. In addition it is important that physiotherapists and other rehabilitation professionals prepare individuals who have suffered a stroke for the attitudinal barriers that they will face once they are re-integrated back into society. Rimmer (1999) recommends a greater need to involve physically disabled individuals, and provide them with more attention

since they are the most vulnerable members in society. Given the urgency of the matter, policy makers need to focus their attention on promoting wellness-enhancing behaviours. In a recent review, Stanley (2001) indicated how vital it is to promote well-being through education, behavioural change and research involving the most vulnerable groups of people in society.

The essence of health promotion is an active and self-care strategy. Health care professionals should be involved, only to advise people with physical disabilities on the appropriate health-promoting behaviours. People with physical disabilities should spearhead all fundamental processes, including behavioural change, which seeks to promote and improve their quality of life.



The holistic approach to health promotion and behavioural change is a challenging one. Intervention strategies should take into account the interaction of major tasks to reverse the current situation. Educational programmes for stroke patients should be conducted at the most easily accessible places in the community such as the various community health centres, church or community halls. Educational programmes should be integrated into both existing and newly established stroke groups thereby exposing the individual to a holistic approach which incorporates both their physical and educational needs. The media should also become involved in strengthening community action by including educational programmes in magazines, newspapers and even on the radio.

Utilizing the radio to promote health behaviours of lower limb amputees in Rwanda, proved very effective (Mutimura, 2001).

However, one-to-one talks held by clinicians and rehabilitation therapists are more highly recommended. Zellwelder (2001) recommended that the one-to-one method be included in the promotion of appropriate healthy behaviours, such as the cessation of smoking in the daily practice of health care providers. Furthermore, Parrot, Godfrey and Raw, (1998) emphasized the usefulness and cost-effectiveness of one-to-one talk in health intervention against health-risk behaviours including alcohol abuse.

Health promotion interventions that encourage participation in health-promoting behaviours would certainly improve the quality of life of stroke patients'. Interventions would seek to include all people with physical disabilities. Such interventions would help to ameliorate or alleviate the effect of both the disability, modify certain risk factors, and set a path for a better quality of life in the future (Mutimura, 2001). Zajicek and Michaela (1998) suggested that health care professionals increase their commitment to promoting healthy lifestyles with a view to enhancing the disabled individuals' self-direction in making optimal life choices.

An interdisciplinary approach is vital to the successful implementation of health promotion strategies. Such an approach would need to maintain strong linkages

to research, evaluating the successes and failures of the programmes. Taking into account that some health promotion programmes, for example stroke groups providing exercises and information relating to stroke, have already been implemented at some Community Health Centres in the Western Cape, the current study serves as a 'process evaluation' for health promotion interventions among stroke sufferers.

Despite the possible constraints in resources, valuations of programme activities need to encompass process evaluation, impact and outcome assessments (Mutimura, 2001). According to Coulson, Goldstein and Ntuli (1998), both impact and outcome evaluations are essential in health promotion. In impact evaluation, the immediate effects of the interventions are often determined to ensure that the activities or interventions have the desired effects. Naidoo and Wills (2000), however mainly commend outcome evaluations. Although outcome evaluations are more costly and complex, these evaluations are more reliable since they indicate maintained changes over a longer period of time. In the majority of cases, outcome evaluations need to encompass control groups of participants who did not receive the interventions. Therefore the possibility of attributing all lifestyle behavioural changes to particular interventions is avoided.

CHAPTER SIX

SUMMARY, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

6.1 Introduction

In this final chapter, a brief summary of the study is provided. Details of the major issues in the study are given in the conclusion, limitations are discussed and thereafter recommendations arising from the study are proposed.

6.2 Summary



This study aimed to determine the health promotion needs of stroke patients' accessing community health centres in the Metropole region of the Western Cape. The study specifically explored the participants' health-related behaviours, factors that influenced their behaviours, and major issues that needed to be targeted in health promotion.

The study was carried out on the basis that there is a paucity of information regarding people with physical disabilities (including stroke sufferers) in South Africa. As a result the issues surrounding health promotion of these disabled individuals has not been significantly explored. Due to the presence of a primary disability, individuals who have suffered a stroke are at a significant risk for the

development of secondary complications such as pressure sores, contractures and emotional disorders. In addition, poor choices of lifestyles, such as physical inactivity and substance usage can further result in a deterioration of their status in life. Rehabilitation services have traditionally been designed mainly for individuals experiencing sudden on-set traumatic disabling conditions. Despite the potential of the rehabilitation process to impact on the disabled individuals' lifestyles, very few programmes have focused on issues to minimize the secondary complications of stroke by promoting health-enhancing behaviours. This has resulted in the physically disabled, especially those who have suffered a stroke, to face major challenges of promoting and maintaining their quality of life with little or no help from health care professionals (Stuifbergen & Rogers, 1997).



The findings of this study indicate that most of the participants were indeed involved in risky health behaviours including sedentary lifestyles and substance usage such as alcohol and smoking. Numerous factors were identified, that had an influence on the participant's choice of the behaviours that they were involved in. These factors included barriers such as lack of access to relevant information and psychosocial difficulties associated with the adjustment to a new identity.

Rehabilitation professionals therefore need to assume the roles of partnership with stroke patients to educate, research and provide relevant information about health promotion and how to overcome the identified barriers to health behaviours.

6.3 Conclusion

This study revealed that individuals who have suffered a stroke, had a number of health promotion needs, mainly resulting from their health-related behaviours. The findings of this study indicate that participants were involved in health risk behaviours, such as being physically inactive, smoking, consuming alcohol, not taking medication as prescribed by the doctor, and unhealthy eating habits. Health risk behaviours such as these are associated with the development of secondary complications such as pressure sores and contractures.

In addition, participants were vulnerable to emotional disorders due to low psycho-social status and self-perception. These appeared to be indicators of poor-socio-economic status and well-being, which could have likely predisposed to alcohol consumption or smoking. The qualitative findings indicated that such psych-social symptoms adversely increased participants' involvement in substance usage.

It can therefore be concluded that the impact of such lifestyle behaviours was detrimental to the participants' health status. Health promotion programmes, focusing on the identified health promotion needs of stroke patients, need to be implemented by health professionals as this would result in more patient centered, holistic rehabilitation services. Rehabilitation programmes encompassing health promotion will promote social and economic community development, particularly by empowering the disabled individual, their care-

givers and family. This will aid in reducing South Africa's health, welfare and economic burden, as a result of disabilities such as stroke.

6.4 Limitations of the study

1. Although a reasonably large number of stroke patients participated in this study, a response bias cannot be completely overlooked. The researcher included participants from all of the health districts, as well as from various socio-economic backgrounds in the current study for purposes of equal representation. However, despite these attempts, the study can only provide a generalization of the health promotion needs of stroke patients in the Metropole region of the Western Cape.



2. The questionnaire could not assess certain issues. For example, it could only assess the frequency of participation in physical activity or exercise but did not assess the intensity of participation.
3. Substance usage, which assessed the number of cigarettes smoked daily and frequency of alcohol consumption, did not include the frequency of illegal drug use.
4. Purposive sampling was used to select the participants for the qualitative part of the study. A smaller sample was preferred because of the kind of in-depth information gathered. The findings of the qualitative study cannot be

generalized to all individuals physically disabled as a result of stroke.

5. All qualitative interviews were in the English language. This may have limited the participants' expressions as opposed to if their own native language had been used.

Despite these few limitations, the study revealed some interesting insights about the issues surrounding the health promotion needs of stroke patients accessing community health centres in the Metropole region of the Western Cape.

6.5 Recommendations



Based on the findings of this study, a number of recommendations are made:

1. It is recommended that rehabilitation professionals expand their services to include individualized health promotion strategies in the rehabilitation programmes of individuals who have suffered a stroke.

Physiotherapists in particular, have window of opportunity for initiating health promotion interventions early in the rehabilitation programme. These health promotion interventions need to initially, be incorporated into the treatment goals of these individuals so as to address the specific needs of each individual. Once the stroke patient has completed the rehabilitation programme, follow-up workshops in the community can be organized to

assist in the formation of support groups where any questions can be answered, and progress can be monitored. Workshops such as these will ensure continuity of the health promotion practices.

2. Health care professionals, particularly physiotherapists, have an obligation to set up health promotion interventions aimed at increasing awareness of health-risk behaviours, such as physical inactivity, smoking, and alcohol consumption. All individuals with physical disabilities, particularly those who have suffered a stroke, should be encouraged to refrain from alcohol consumption, smoking and being physically inactive. It is often suggested that people should 'start exercising and quit smoking', in order to prevent a wide range of chronic disease of lifestyle. Secondly, health promotion interventions need to aim at identifying other health-risk behaviours of stroke patients.

3. Access to relevant information was found to be an important resource influencing participants' behaviours. Therefore, health care professionals need to empower physically disabled individuals with information to encourage health-promoting behaviours, while at the same time prevent health-risk behaviours. For example, adequate basic information needs to be offered to stroke patients' on how to prevent pressure sore development, which can significantly affect the quality of life of the individual. Practising health-promoting behaviours such as pressure

control, becoming more physically active and proper hygiene will help prevent such a secondary complication from developing.

4. Social support was found to be an important resource for choice of positive health-related behaviours. Given the importance attached to emotional support from family and friends, it is highly recommended that family and friends of stroke sufferers are involved from the commencement of the rehabilitation process. It is further recommended that informational support be aimed at increasing awareness about stroke, such as the causes and prevention of stroke, how to avoid health-risk behaviours which could expose one to further secondary complications, and how to take control over ones' health by practicing health-promoting behaviours. This information should also be availed to family, caregivers and close friends for sustenance.

5. A number of factors influenced participation in health-related behaviours. The majority of participants reported a number of barriers to health-promoting behaviours. One such example is the high cost of transport, which prevents many individuals with stroke attending stroke groups where they can partake in health-promoting activities such as physical exercises. A suggestion made by one of the participants is that the government operates an exclusive free 'taxi service' for disabled individuals in the communities. Disabled individuals should be able to book a place on the 'taxi', and it should transport them from their homes, to their respective health care appointments/ treatments

and back home again. A similar delivery service was also recommended, where repeat medication could be delivered to the stroke patients' home if they did not have access to transport. Therefore the above recommendations would aid in alleviating or eliminating such barriers.

6. It is further recommended that health policy makers consider the use of resources upstream, integrating health promotion and the prevention of complications into the rehabilitation process, instead of using resources only for expensive downstream care, after certain complications are irreversible.
7. The issues that were raised by the individuals who had suffered a stroke in this study, need to be studied further using a larger sample size. Studies need to focus more on the precise health-promoting behaviour profiles such as the physical activity of specific subgroups of individuals with physical disabilities. In addition, studies need to specifically establish barriers and determinants of involvement in various health-related behaviours. Future studies need to design and test intervention strategies to promote the various health-promoting behaviours.
8. An exploratory in-depth qualitative study is recommended to enhance the understanding of issues related to participants self-perception and involvement in health-risk behaviours.

9. The various health promotion needs of stroke patients' identified in the present study, must be incorporated in health promotion programmes, specifically developed for stroke patients.



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UNIVERSITY *of the* WESTERN CAPE

Private Bag X17 Bellville 7535 South Africa

Telephone: (021) 959-2542/6 Fax: (021) 959-1217 e-Mail: mmarais@uwc.ac.za

DEPARTMENT OF PHYSIOTHERAPY

The Medical Superintendent
Community Health Services Organisation
Mountainview Road
Woodstock

9 May 2005

Re: Permission to conduct research

Dear Dr Rob Martell

I am a master's student at the University of the Western Cape (UWC), Physiotherapy Department. In partial fulfilment of my degree (MSc Physiotherapy) I need to conduct a research project. The title of my project is "Health Promotion needs of stroke patients accessing Community Health Centres in the Metropole region of the Western Cape". The higher degrees committee of the Faculty of Community and Health Sciences at UWC has accepted the proposal for this study.

I would therefore like to request permission to access the different Community Health Centres in order to conduct this project. Enclosed please find a copy of the proposal for this study.

Please don't hesitate to contact me should you have any queries regarding the above.

Hoping the above request will be considered favourably.

Yours sincerely

D. Biggs (student)

A. Rhoda (supervisor)

ENQUIRIES
SAVRAE
IMBIZO**DR R MARTELL**TELEPHONE
TELEFOON
IFOWUNI**460 9244**REFERENCE
VERWYSING
ISMAATHISODATE
DATUM
LWIBILA**11.05.05**

PROVINCIAL ADMINISTRATION: WESTERN CAPE

Department of Health

PROVINSIALE ADMINISTRASIE: WES-KAAP

Departement van Gesondheid

ULAWULO LWEPHONDO: INTSHONA KOLONI

Isebe Lezempilo

MS DEBBIE BIGGS
PHYSIOTHERAPY DEPARTMENT
UWC

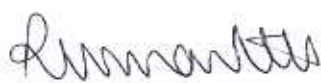
Dear Debbie

RE: Permission to conduct research

Permission is hereby granted to access the various Community Health Centres to conduct your research. When visiting the centres consent and co-operation must be obtained from the local manager and service delivery must not be compromised. Consent must also be obtained from each client and the clients' privacy must be respected.

Once the research is completed, please submit a report to this office.

Yours sincerely



Dr R Martell

Acting Senior Medical Superintendent

COMMUNITY HEALTH SERVICES ORGANISATION
GEMEENSKAPSGESONDHEIDSDIENTSTE-ORGANISASIE
PRIVATE BAG 7
WOODSTOCK 7915
TELEPHONE (021) 4609100
FACSIMILE (021) 471959
PRIVAATSAK 7
WOODSTOCK 7915
TELEFOON (021) 4609100
FAKSIMILE (021) 471959

Patient Information / Consent Form

Health Promotion Needs of Stroke Patients accessing Community Health Centres in the Metropole Region, of the Western Cape

Reference Number:

Statement by or on behalf of the participant;

I the undersigned, person who has suffered a stroke * or in my capacity as of the person who has had a stroke staying at acknowledges that:

1. I have been invited to partake in a study, which forms part of a Master's thesis undertaken at the University of the Western Cape.

- 2.1 It has been explained to me that the aim of the study is to determine the health promotion needs, through identification of the health-related behaviours of stroke patients receiving rehabilitation at the Community Health Centres in the Metropole Region of the Western Cape.



- 2.2 It has been explained to me that the study consists of two parts:

Part 1:

Information relating to your stroke, as well as your health-related behaviours and influencing factors, will be collected using a once off questionnaire.

Part 2:

Consists of a face-to-face interview with the researcher. The interview will be tape recorded and only twelve patients who have fully completed the questionnaire will be considered for the interview. Your privacy is guaranteed.

- 2.3 All data collected from the questionnaires and interviews will be treated with great respect to ensure my privacy. Every participating patient will get a code and confidentiality will be guaranteed.

- 2.4 It has been explained to me that I will not be incurring any additional costs by partaking in this study, and will not benefit financially from it.

- 2.5 It has been explained to me that the findings of this study will be presented in a thesis and could be published in a professional journal or presented as a professional report.

3. Voluntary and informed consent

I have the ability to understand the information on these pages and I choose freely to participate in this project. I have been informed that I am free to withdraw from this project at any time. This will have no consequences for my future treatment at the center or in other hospitals.

Signed

Date



Researcher

Date

QUESTIONNAIRE

#

SECTION A : SOCIO-DEMOGRAPHIC DATA

Please tell us about yourself

1. Age

2. Gender Female Male

3. Marital status (You may mark more than one option)

Single Married Divorced Separated Widowed Living together

4. Highest educational qualification (Fill applicable spaces)

None Sub Std Higher than Std 10 (Matric)

5. Were you employed at the time of your stroke? Yes No

If you answered yes, please answer question 6.

6. What type of work did you do? _____

7. Are you currently employed? Yes No

8. If yes, what work do you do now?

9. If no, why are you not employed? (Tick appropriate option)

Retired receiving pension Illness or disability (no disability grant)

Illness or disability (receiving disability grant) Unemployed

Looking after the home, no benefits

Other, please specify _____

10. How did you spend most of your days, over the past week?
(Tick appropriate option/s)

Visiting family/friends Watching T.V.

Doing chores around the house Doing nothing

Other, please specify _____

11. Where are you currently living?

My own house With a member of my family

Rented-house Old age home

Other, please specify _____

12. Which area do you live in?

13. Do you have access to transport? Yes No

14. If yes, mark below what you normally use

Public transport (taxi, bus, train) Private transport

15. If no, what do you do if you have to go somewhere?

Walk Use a wheel-chair Forced to stay at home

Other, please specify _____

SECTION B : INFORMATION RELATING TO STROKE

16. How long ago did you have a stroke?

Less than 3 months ago 3 to 6 months ago

More than 7 months ago but less than 12 months

More than 12 months ago

17. What side of your body is affected? (Tick appropriate option)

Left Right Both

18. Were you admitted to hospital at the time of having the stroke? (Tick appropriate option)

Yes No

19. If your answer was yes, which hospital? (Mark the appropriate block)

Tygerberg Groote Schuur Somerset
 Victoria G.F. Jooste False Bay
 Eersterivier Hottentots Holland Stellenbosch
 Westfleur Private Hospital

Other, please specify _____

20. Were you admitted to a centre for rehabilitation? (Tick appropriate option)

Yes No

21. If you answered yes, where were you admitted?

Western Cape Rehabilitation Centre Panorama
 Conradie Care Centre Booth Memorial

Other, please specify _____

22. How long did you stay at the rehabilitation centre?

Less than one week One week Between one and two weeks

Between two and three weeks Between three and four weeks

Longer than four weeks

23. Have you ever received any rehabilitation services?
(e.g. physiotherapy, occupational therapy, speech therapy)

 Yes No

If you answered yes, please answer questions 24 & 25.

24. What rehabilitation services did you receive? (Tick appropriate option/s)

 Physiotherapy Occupational Therapy Speech Therapy

Other, please specify _____

25. Where did you receive rehabilitation services? (Tick appropriate option/s)

 Hospital Community Health Centre

Other, please specify _____

SECTION C : GENERAL HEALTH/LIFESTYLE

26. Do you smoke cigarettes at present?

 Yes No

27. If yes, about how many cigarettes do you smoke each day?

 1 - 5 6 - 10 11 - 20 21 - 30 Over 30

28. Did you smoke at the time of your stroke?

 Yes No

29. If you smoked at the time of your stroke but no longer do,
what made you stop smoking?

30. Do you drink alcoholic drinks at present?

 Yes No

31. Did you drink alcohol at the time of your stroke?

 Yes No

32. If you used to drink alcohol at the time of your stroke but no longer
do, what made you stop drinking?

33. If you answered yes to question 30, what alcohol do you normally drink?

 Beers Spirits Wine

Other, please specify _____

34. How much alcohol do you drink at one time on average?

One can of beer Two cans of beer Three or more cans of beer

One tot Two tots Three tots More than three tots

One glass of wine Two glasses of wine More than two glasses of wine

Other, please specify _____

35. How often do you drink these alcoholic drinks per week?

Everyday 3 - 4 times Once a week

A few times a month Hardly ever or never

36. Have you changed your eating habits / diet since having the stroke?

Yes No

37. If no, what are the reasons for not changing your diet?

Too expensive Did not know about changing my diet

Don't know how to change my eating habits/diet

Other, please specify _____

38. Do you have any of the following illnesses? (Tick relevant option/s)

Diabetes Hypertension/High blood pressure

Cardiac/Heart problems Obesity/Overweight

Other, please specify _____

39. Are you taking any medicine / tablets?

Yes No

40. What are you taking the medicine / tablets for?

41. Do you take your medicine / tablets as prescribed? (Tick appropriate option)

Yes No Sometimes

42. If you answered no, or sometimes, what are your reasons?

I forget Was never explained to me how I should take my medication

Was never explained to me how often I should take my medication

Other, please specify _____

SECTION D : KNOWLEDGE ABOUT STROKE

43. Were you ever given any information about stroke from health care professionals?

Yes No

44. If yes, who told you the information? (Tick relevant option/s)

Doctor Physiotherapist Community health worker
 Occupational Therapist Speech Therapist Nurse

Other, please specify _____

45. What information were you given about stroke? (Tick relevant option/s)

What is a stroke Causes of stroke How to prevent a further stroke
 How to prevent secondary complications such as pressure sores, contractures etc.

Other, please specify _____

SECTION E : SUPPORT

46. What support (emotional & physical) do you feel you need since having a stroke?

(emotional : e.g. do you need motivation and encouragement when you are feeling down?)

(physical : e.g. do you need extra help with bathing, dressing, or anything else around the home?)



47. Who do you think should be providing this support?
(Tick relevant option/s)

Stroke group Family/friends Church group Medical staff

Other, please specify _____

48. Do you feel you receive the support you need post stroke?

Yes No

49. If you do not attend a stroke group, what are the reasons for this?

Transport is too expensive No stroke group close to where I live
 Didn't know about stroke groups Don't need to attend a stroke group

Other, please specify _____

SECTION F : PHYSICAL MOBILITY

50. Are you receiving any form of physiotherapy at the moment?

Yes No

51. If you answered yes, is your physiotherapy treatment on an individual or group basis?

Individual Group

52. Do you participate in any kind of physical activity or exercises like walking, gym, exercising in a stroke group on a regular basis, for half an hour each time?

Yes No

53. If you answered yes, what exercises do you do?

54. How often do you participate in physical activity for at least half an hour each time?

Everyday 3 times a week Once a week
 Few times a month Hardly ever or never

55. If you do not participate in any kind of physical activity, what are the reasons? (Tick appropriate answer/s)

Cost of transport Do not know where to exercise Lack of motivation
 Have other health concerns Lack of energy/not sure I can manage

Other, please specify _____

56. Are you doing exercises at home to prevent stiffness as a result of stroke?

Yes No

57. Do you check the skin of your affected side for pressure sores, on a regular basis?

Yes No

SECTION G : PERCEIVED HEALTH-RELATED NEEDS

Please tell us what programmes you would like to learn more about, in order to improve your well-being.

Tick the programme/s you are interested in:

- Explanation about what stroke is and the causes of stroke
- Information on how to prevent a further stroke
- Teaching how to prevent pressure sores and contractures
- Educating family members/caregivers about stroke
- Guidance on how to cope with depression and lack of motivation
- Teaching about exercise options and programmes
- Teaching about weight management tips
- How you can stay physically active in daily activities
- Prevention/management of diabetes and hypertension
- Teaching how to manage stress
- Teaching how to stop smoking
- Your blood pressure and what you can do about it
- Learning about new ways to improve your health
- Teaching about HIV/AIDS awareness and prevention

State anything else you would like to be taught to improve your well-being.

Thank you for your participation.

Pasiënt Inligting / Toestemmingsvorm

Behoeftes vir Gesondheidsbevordering van Beroete pasiënte wat toegang tot Gemeenskapgesondheidsentrums in die Metropoolarea van die Wes-Kaap verkry

Verwysingsnommer:

Verklaring deur of namens die deelnemer:

Ek, die ondergetekende, persoon wat 'n beroerte-aanval gehad het * of in my hoedanigheid as van die persoon wat 'n beroerteaanval gehad het en by woon erken dat:

1. Ek genooi is om deel te neem aan 'n studie wat deel vorm van my Meestersgraad tesis, onderneem deur die Universiteit van die WesKaapland.
- 2.1 Dit is aan my verduidelik dat die doel van die studie is om behoeftes van gesondheidsbevordering te bepaal deur identifisering van die gesondheidsverwante gedragpatrone van beroete pasiënte wat rehabilitasie by die Gemeenskapgesondheidsentrums in die Metropoolarea in die Wes-Kaap ontvang.



- 2.2 Dit is aan my verduidelik dat die studie uit twee dele bestaan:

Deel 1:

Inligting rakende die beroerte-aanval, sowel as jou gesondheidsverwante gedragpatrone en inwerkende faktore sal versamel word deur 'n eenmalige vraelys te gebruik.

Deel 2:

Bestaan uit 'n persoonlike onderhoud met die navorser. Die onderhoud sal op band opgeneem word en slegs twaalf pasiënte ten volle die vraelys voltooi het, sal vir die onderhoud oorweeg word. U privaatheid word gewaarborg.

- 2.3 Alle versamelde data van die vraelyste en onderhoude sal met die grootste respek behandel word om privaatheid te verseker. Elke deelnemende pasiënt sal 'n kode kry en vertroulikheid word gewaarborg.
- 2.4 Dit is aan my verduidelik dat ek geen addisionele onkoste sal aangaan deur aan die studiedeel te neem nie en ook nie finansieel daarby sal baat nie.

2.5 Dit is aan my verduidelik dat die bevindinge van di studie in 'n tesis voorgelê sal word en dat dit 'n professionele joernaal gepubliseer of as professionele verslag aangebied kan word.

2. Vrywillige en ingeligte toestemming

Ek het die vermoë om die inligting op hierdie bladsye te verstaan en ek kies vryelik om aan hierdie projek deel te neem. Ek is ingelig date k vry is om enige tyd van die projek te onttrek. Dit sal geen gevolge vir my toekomstige behandeling by die sntrum of enige ander hospitale inhou nie.

Geteken

Datum

Navorser



Datum

VRAELYS

#

AFDELING A: SOSIO-DEMOGRAFIESE DATA Vertel ons asseblief van uself

1. Ouderdom

2. Geslag

3. Huwelikstatus (u mag meer as een opsie merk)

4. Hoogste opvoedkundige kwalifikasie (Voltooi toepaslike spasies)

Sub St.

5. Het u met die beroerte-aanval gewerk?

Indien ja, beantwoord asseblief Vraag 6.

6. Watter soort werk het u gedoen? _____

7. Het u op die oomblik gewerk?

8. Indien ja, watter tipe werk doen u?

9. Indien nee, waarom werk u nie? (Tik gepaste opsie)

Ander, dui asseblief aan _____

10. Hoe het u die meeste van u dae oor die afgelope week deurgebring?
(Tik gepaste opsie/s)

Ander, dui asseblief aan _____

11. Waar woon u tans?

Ander, dui asseblief aan _____

12. In watter area woon u?

13. Het u toegang tot vervoer? Ja Nee

14. Indien ja, dui hier onder aan wat u normaalweg gebruik

Openbare vervoer (taxi, bus, trein) Private vervoer

15. Indien nee, wat doen u indien u êrens moet gaan?

Stap Gebruik rolstoel Genoodsaak om tuis te bly

Ander, dui asseblief aan _____

AFDELING B : INLIGTING MET BETREKKING TOT BEROERTE

16. Hoe lank gelede het u die beroerte gehad?

Minder as 3 maande gelede 3 tot 6 maande gelede

Meer as 7 maande gelede, maar minder as 12 maande

Meer as 12 maande gelede

17. Watter kant van u liggaam is geaffekteer? (Tik gepaste opsie)

Linkerkant Regterkant Linkerkant en regterkant

18. Is u in 'n hospitaal opgeneem tydens u beroerte-aanval? (Tik gepaste opsie)

Ja Nee

19. Indien u antwoord "Ja" was, watter hospitaal was dit? (Merk gepaste blokkie)

Tygerberg Groote Schuur Somerset
 Victoria G.F. Jooste Valsbaai
 Eersterivier Hottentots Holland Stellenbosch
 Westfleur Privaat Hospitaal

Ander, dui asseblief aan _____

20. Is u in 'n reabilitasiesentrum opgeneem? (Tik gepaste opsie)

Ja Nee

21. Indien u "Ja" geantwoord het, waar is u opgeneem? (Tik gepaste opsie)

Wes-Kaap Reabilitasiesentrum Panorama
 Conradie Sorgsentrum Booth Gedenk

Ander, dui asseblief aan _____

22. Hoe lank het u in die reabilitasiesentrum gebly?

Minder as 'n week Een week Tussen een en twee weke

Tussen twee en drie weke Tussen drie en vier weke

Langer as vier weke

23. Het u al voorheen enige van die rehabilitasiedienste hier onder gekry?
(e.g. fisioterapie, beroepsterapie, spraakterapie)

Ja

Nee

Indien u "Ja" geantwoord het, doen asseblief 24 & 25.

24. Watter rehabilitasiedienste het u gekry? (Tik gepaste opsie/s)

Fisioterapie

Beroepsterapie

Spraakterapie

Ander, dui asseblief aan _____

25. Waar het u die rehabilitasiedienste gekry? (Tik gepaste opsie/s)

Hospitaal

Gemeenskaps-gesondheidsentrum

Ander, dui asseblief aan _____

AFDELING C: ALGEMENE GESONDHEID/LEWENSWYSE

26. Rook u tans sigarette?

Ja

Nee

27. Indien "Ja", hoeveel sigarette rook u per dag?

1 - 5

6 - 10

11 - 20

21 - 30

Meer as 30

28. Het u tydens die beroerte-aanval gerook?

Ja

Nee



29. Indien u tydens die beroerte-aanval gerook het, maar nie nou meer nie,
wat het u laat ophou rook?

30. Drink u tans alkoholiese drankies?

Ja

Nee

31. Het u alkohol tydens die beroerte-aanval gedrink?

Ja

Nee

32. Indien u tydens die deroerte-aanval alkohol verbruik het, maar nie nou meer nie,
wat het u laat ophou drink?

33. Indien u 'Ja' op vraag 30 geantwoord het, watter soort alkohol het u normaalweg
gedrink?

Biere

Spiritus

Wyn

Ander, dui asseblief aan _____

34. Hoeveel alkohol drink u gemiddeld op een slag?

Ander, dui asseblief aan _____

35. Hoe dikwels per week drink u hierdie alkoholiese drankies?

36. Het u van eetgewoontes/dieet verander tydens die beroerte-aanval?

37. Indien nee, om watter redes het u nie u dieet verander nie?

Ander, dui asseblief aan _____

38. Het u enige van die volgende siektes? (Tik relevante opsie/s)

Ander, dui asseblief aan _____

39. Neem u enige medikasie/tablette?

40. Waarvoor neem u medikasie?

41. Neem u die medikasie soos voorgeskryf? (Tik gepaste opsie)

42. Indien u 'nee' of 'soms' geantwoord het, wat is u redes daarvoor?

Ander, dui asseblief aan _____

AFDELING D : KENNIS OMTRENT BEROERTE

43. Het u ooit inligting oor beroerte van professionele gesondheidsorgbeamptes ontvang?

Ja

Nee

44. Indien "Ja", wie het die inligting verskaf? (Tik relevante opsie/s)

Geneesheer

Fisioterapeet

Gemeenskaps-gesondheidswerker

Beroepsterapeet

Spraakterapeet

Verpleegster

Ander, dui asseblief aan _____

45. Watter inligting het oor beroerte gekry? (Tik relevante opsie/s)

Wat is beroerte

Oorsake van beroerte

Hoe om beroerte-aanval te voorkom

Hoe om sekondêre komplikasies soos druksere, sametrekings, ens. te verhoed

Ander, dui asseblief aan _____

AFDELING E : ONDERSTEUNING

46. Watter ondersteuning (emosioneel en liggaamlik), dink u, het u sedert u beroerte-aanval nodig?



47. Wie, dink u, moet hierdie ondersteuning verskaf?

Beroerte-groep

Familie/vriende

Kerkgroep

Mediese personeel

Ander, dui asseblief aan _____

48. Dink u dat u hierdie ondersteuning na die beroerte kry?

Ja

Nee

49. Indien u nie 'n beroerte-groep bywoon nie, wat is die redes daarvoor?

Vervoer is te duur

Geen beroerte-groep naby my woonplek nie

Het nie geweet van beroerte-groepe nie

Hoef nie beroerte-groep by te woon nie

Ander, dui asseblief aan _____

AFDELING F : FISIESE BEWEEGLIKHEID

50. Kry u tans enige fisioterapie?

Ja Nee

51. Indien u "Ja" geantwoord het, is die fisioterapie op 'n individuele of groeppbasis?

Individueel Groep

52. Neem u op 'n gereelde basis, vir 'n halfuur elke keer, aan enige fisiese oefening soos muuroefeninge in 'n beroerte-groep deel?

Ja Nee

53. Indien u "Ja" geantwoord het, watter oefeninge doen u?

54. Hoe dikwels neem u aan fisiese aktiwiteite, vir ten minste 'n halfuur elke keer, deel?

Elke dag 3 maal 'n week Een keer 'n week
 n Paar maal 'n maand Amper nooit of nooit nie

55. Indien u nie aan enige tipe fisiese aktiwiteit deelneem nie, wat is u redes? (Tik gepaste opsie/s)

Koste van vervoer Weet nie waar om te gaan oefen nie Gebrek aan motivering
 Het ander gesondheidsprobleme Gebrek aan energie/ onseker of ek dit sal kan hanteer

Ander, dui asseblief aan _____

56. Doen u tuis oefeninge om styfheid as gevolg van die beroerte te voorkom ?

Ja Nee

57. Onderzoek u op 'n gereelde basis die vel van die geaffekteerde kant vir druksere?

Ja Nee

AFDELING G : WAARGENOME GESONDHEIDSVERWANTE BEHOEFTES

Lig ons asseblief in van watter program/me u meer wil leer om u welstand te verbeter.

Tik die program/me waarin u belangstel:

- Verduideliking wat beroerte is en die oorsake daarvan
- Inligting hoe om beroerte te voorkom
- Leer hoe om druksere en sametrekings te voorkom
- Lig familieledede/versorgers in oor beroerte
- Leiding oor hoe om depressie en gebrek aan motivering te hanteer
- Leer van oefening opsies en programme
- Leer van gewigsbeheerwenke
- Hoe u in daaglikse aktiwiteite fisies aktief kan bly
- Voorkoming/ Beheer van diabetes en hipertensie
- Leer van stresbeheer
- Leer hoe om op te hou rook
- U bloeddruk en wat u daaromtrent kan doen
- Leer van nuwe maniere om u gesondheid te verbeter
- Leer van MIV / VIGS-bewustheid en voorkoming

Meld enige iets anders wat u graag wil leer om u welstand te verbeter

Dankie vir u deelname.

Ulwazi ngoMguli / Ifomu yokunika imvume

Iimfuno zokuphuculwa kweMpilo yabagula si-stroke benokufikelela kumaziko eMpilo kwiNgingqi yeSixekokazi, eNtshona Koloni

INombolo yeSalathiso:

Ingxelo eyenziwa ngumthathi-nxaxheba okanye eyenziwa egameni lakhe;

Mna, lo usayine apha ngezantsi,nothe wahlaselwa si-stroke
* okanye ngokwegunya endinalo njenge/owomguli ohlaselwe
si-stroke, nohlala ndiyavuma ukuba:

1. Ndibiziwe ukuba ndithabathe inxaxheba kuphando, oluyinxalenye yethisisi yezifundo zeeMasters, eziqhutyelwa kwiYunivesithi yeleNtshona Koloni.
- 2.1 Ndiye ndacaciselwa ukuba injongo yolu phando kukufumana iimfuno zezempilo, ngokuthi kuchongwe iindlela ezithile zokuziphatha zabantu abahlaselwe si-stroke, nabafumana unyango kumaZiko ezeMpilo yoLuntu kwiNgingqi yeSixekokazi kwiPhondo leNtshona Koloni.
- 2.2 Ndicaciselwe ukuba olu phando lunezigaba ezibini:

ISigaba sokuqala:

Ulwazi ngokuphathelene ne-stroke sakho, kunye neendlela zokuziphatha ezinxulumene nempilo, kunye nezinto ezinefuthe, luya kuthi luqokelelwe kusetyenziswa iphepha lemibuzo elinye kuphela.

ISigaba 2:

Sinodliwano-ndlebe olwenziwa ngqo nguMpandi. Olu dliwano-ndlebe luza kushicilelwa ze kuqwalaselwe kuphela abaguli abali-12 abathe bagcwalisa ngokupheleleyo amaphepha emibuzo. Uyaqinisekiswa ngobumfihlelo beempendulo zakho.

- 2.3 Lonke ulwazi oluqokelelweyo kwiphepha lemibuzo luya kuhlonelwa kakhulu ukuqinisekisa ubumfihlelo. Wonke umguli othabatha inxaxheba uya kufumana inani eliyimfihlo ze kuqinisekiswa ubumfihlelo.

- 2.4 Ndicaciselwe nokuba andiyi kuzenzela tyala lingaphezulu ngokuthi ndithabathe inxaxheba kolu phando, yaye andiyi kufumana nanzuzo kulo.
- 2.5 Ndicaciselwe nokuba iziphumo zolu phando ziya kunikezelwa kwithisisi, yaye zisenokupapashwa kwiphepha-ndaba elisisigxina.

3. Isivumelwano esinganyeliswa nesenziwa ngonolwazi.

Ndiyakwazi ukuluqonda ulwazi olukula maphepha yaye ndizikhethele ukuthabatha inxaxheba kule projekthi. Ndazisiwe ukuba ndinakho ukurhoxa kule projekthi nangalo naliphi ithuba. Oko akuyi kuchaphazela unyango lwango lwam kwixa elizayo kwiziko lezonyango okanye nasiphi na esinye isibhedlele.

Isayiniwe:.....

Umhla:.....



UMphandi.....

Umhla:.....

ICANDELO A: ULWAZI NGENTLALO NAMANANI ABANTU ABAZELWEYO ABABHUBHILEYO
NABAGULAYO NJALO NJALO **Nceda usixelele ngawe**

1. **Ubudala**
2. **Isini** ndingowasetyhini ndingumntu oyindoda
3. **Ubume bomtshato (ungaphawula ngaphezulu kwesinye)**
 anditshatanga nditshatile Ndahlukene nomlingane wam ndahlukene neqabane lam
 ndaswelekelwa liqabane lam ndiyahlalisana
4. **Elonga banga liphezulu uliphumeleleyo esikolweni (Vala izikhewu ezifanelekileyo)**
 Alikho Liphantsi Ibanga Ngaphezulu kwebanga le-10 (i-Matric)
5. **Ingaba wawuphangela ngethuba ufunyanwa si-stroke ?** Ewe Hayi
Ukuba uphendule ngo-ewe, nceda uphendule umbuzo 6.
6. **Wawusenza msebenzi mni?** _____

7. **Uyasebenza xa kungoku?** Ewe Hayi
8. **Ukuba uyasebenza, wenza msebenzi mni?**

9. **Kutheni ungasebenzi nje?**
 Ndithathe umhlala phantsi, ndamnkela indodla 
 Kungenxa yesigulo okanye ukukhubazeka (andifumani ndodla yokukhubazeka)
 Ngenxa yokugula okanye ukukhubazeka (ndamnkela indodla yokukhubazeka) Andiphangeli
 Ndjonge ikhaya, andifumani zibonelelelo
 Esinye isizathu, nceda ucacise _____
10. **Uluchithe njani uninzi lweentsuku zakho, kule veki iphelileyo? (Phawula impendulo efanelekileyo)**
 Bendityelela usapho/abahlobo Bendibukela umabonakude
 Bendisenza imisetyenzana yasekhaya Bendingenzi nto
 Omnye umsebenzi, nceda ucacise _____
11. **Uhlala phi ngoku?**
 Endlwini yam Nelungu losapho lwam Kwindlu eqeshiweyo
 Kwikhaya labadala
 Kwenye indawo, nceda ucacise _____
12. **Uhlala kwisiphi isithili?**

13. **Uyakwazi ukufikelele kwizinto ezikhwelwayo?** Ewe Hayi

14. **Ukuba uyakwazi, phawula ngezantsi uhlobo lwento ekhwelwayo odla ngokuyisebenzisa?**

Isithuthi sikawonke-wonke (itekisi, ibhasi, itreyini)

Isithuthi sabucala

15. **Ukuba awukwazi, wenza njani xa kukho indawo ekufuneka uye kuyo?**

Uhamba ngeenyawo

Usebenzisa isitulo esinamavili

Uyanyanzeleka ukuba uhlale ekhaya

Kwenye indawo, nceda ucacise _____

ICANDELO B: ULWAZI NGOKUPHATHELENE NE-STROKE

16. **Kulithuba elingakanani sikuhlasele i-stroke?**

Kwisithuba esingaphantsi kweenyanga ezintathu ezidlulileyo

Kwisithuba esiphakathi kweenyanga ezintathu nezintandathu ezidlulileyo

Ngaphezu kweenyanga ezisixhenxe ezidlulileyo, kodwa kwisithuba esingaphantsi kweenyanga ezili-12

Ngaphezu kweenyanga ezili-12 ezidlulileyo

17. **Liliphi icala lomzimba wakho elichaphazelekileyo? (Phawula elichanekileyo)**

Lelasekhohlo

Lelasekunene

Zombini

18. **Ingaba walaliswa esibhedlele ngethuba ufumene i-stroke? (Phawula impendulo echanekileyo)**

Ewe

Hayi



19. **Ukuba impendulo yakho ngu-ewe, walaliswa kwisiphi? (Phawula esichanekileyo)**

E-Tygerburg

E-Groote Schuur

E-Somerset

E-Victoria

E-G.F.Jooste

E-False Bay

E-Eersterivier

E-Hottentots Holland

E-Stellenbosch

E-Westfleur

Kwsibhedlele sabucala

Kwesinye isibhedlele, nceda ucacise _____

20. **Ingaba wawulalisiwe kwiziko lokubuyiselwa kwimeko yesiqhelo? (Phawula impendulo echanekileyo)**

Ewe

Hayi

21. **Ukuba uphendule ngo-ewe, wawulaliswe phi?**

E-Western Cape Rehabilitation centre

E-Panorama

Iziko lonyamekelo laseConradie

E-Booth Memorial

Kwelinye iziko, nceda ucacise _____

22. **Wahlala ixesha elingakanani kweli ziko?**

23. **Ingaba wakhe wafumana enye yezi nkondo zokubuyiselwa kwimeko yesiqhelo zidweliswe ngezantsi apha?**

Ukuba uphendule ngo-ewe, nceda uphendule umbuzo 24 no-25.

24. **Ziziphi iinkondo zokubiyeselwa esiqhelweni othe wazifumana? (Phawula echanekileyo ibenye okanye ngaphezulu)**

Olunye unyango, nceda ucacise _____

25. **Ingaba wazifumana phi ezi nkondo zokubuyisela imo yempilo esiqhelweni? (Phawula indawo echanekileyo ibe nye okanye ngaphezulu)**

Kwenye indawo, nceda ucacise _____

ICANDELO C: UBUME BEMPILO JIKELELE OKANYE INDLELA YOKUPHILA



26. **Uyawutshaya umdiza ngoku?**

27. **Ukuba uyatshaya, utshaya imidiza emingaphi ngosuku?**

28. **Ukuba uphendule ngo-hayi kumbuzo 21, ingaba ubutshaya ngethuba ufunyanwa si-stroke?**

29. **Ukuba ubutshaya ngethuba uhlaselwa si-stroke, kodwa awusatshayi ngoku, wayekiswa yintoni?**

30. **Uyazisela iziselo ezinxilisayo?**

31. **Ubusela ngethuba ufunyanwa si-stroke?**

32. Ukuba ubukade usela iziselo ezinxilisayo ngethuba uhlaselwa si-stroke, kodwa awusaseli ngoku, wayekiswa yintoni?

33. Ukuba impendulo yakho ngu-ewe kumbuzo 30, udla ngokusela esiphi isiselo esinxilisayo?

libhiya Ibhranti okanye iwiski lwayini

Obunye utywala, nceda ucacise _____

34. Usela utywala obungakanani ngexesha ngokomyinge?

Itoti enye yebhiya Itoti ezimbini zebhiya Itoti ezimbini nangaphezulu zebhiya
 Ithamo elinye Amathamo amabini Amathamo amathathu
 Ngaphezu kwamathamo amathathu Iglasi enye yewayini Iglasi ezimbini zewayini
 Ngaphezulu kweeglassi ezimbini zewayini

Omnye umlinganiselo, nceda ucacise _____

35. Udla ngokuzisela kangaphi ezi ziselo zinxilisayo ngeveki?

Yonke imihla Kathathu okanye kane Kanye ngeveki
 Amaxesha ambalwa enyangaeni Mangapha-nqapha okanye awuseli kwaphela

36. Ingaba uyitshintshile indlela yakho okanye uhlobo lokutya okoko wathi waba ne-stroke?

Ewe Hayi



37. Ukuba impendulo ngu-hayi, ziziphi izizathu ezibangela ukuba ungatshintshi indlela nohlobo lokutya okutyayo?

Kuxabisa kakhulu Bendingazi ukuba kufuneka nditshintshe indlela nohlobo lokutya
 Andiyazi indlela yokutshintsha kuleyo ndiqhele ukuyisebenzisa yokutya

Esinye isigulo, nceda ucacise _____

38. Ingaba unaso esinye sezi zigulo zilandelayo? (Phawula impendulo echanekileyo ibe nye okanye ngaphezulu)

Isifo seswekile Uxinzelelo lwengqondo / unxinzelelo lwegazi
 Iingxaki zentliziyo Ukutyeba kakhulu okanye ukuba nobunzima obugqithisileyo

Esinye isigulo, nceda ucacise _____

39. Ingaba akho ameya owasebenzisayo?

Ewe Hayi

40. Ingaba uwasebenzisela ntoni la mayeza?

41. Ingaba uyawasebenzisa njengoko uyalelwe la mayeza?
(Phawula impendulo echanekileyo)

Ewe Hayi Maxawambi

42. Ukuba uphendula ngo-hayi okanye maxawambi, nika izizathu?

Ngamanye amaxesha Andizange ndicaciselwe indlela emandisebenzise ngayo amayeza

Andizange ndicaciselwe amaxesha okutya amayeza

Enye impendulo, nceda ucacise _____

ICANDELO D: ULWAZI NGE-STROKE

43. Ingaba wawukhe wanikezwa naluphi na ulwazi malungane-stroke ngabantu abaqeqeshiweyo bezempilo?

Ewe Hayi

44. Ukuba wawukhe walunikwa, ngubani owakunika ulwazi? (Phawula iimpindulo ezichanekileyo)

Ngugqirha Uqgirha onyanga abaguli ngokubenzisa imithambo

Ngumsebenzi woLuntu kwiCandelo lezeMpilo

Ngugqirha onyanga ngokunika abaguli imisebenzi ebafaneleyo

Ingcali yokunyanga izigulo ezichaphazela ukuthetha Ngunesi

Ngomnye umntu, nceda ucacise _____

45. Luluphi ulwazi owalunikwayo malunga ne-stroke? (Phawula impendulo echanekileyo ibe nye okanye ngaphezulu)

Yintoni i-stroke? Izinto ezibangela i-stroke

Ulwazi malunga nendlela yokuthintela ukuqhubekela phambi kwe-stroke

Indlela zokuthintela iingxaki ezifana nezilonda ezibangelwa luxinzelelo, ukuqina kwamalungu omzimba, njalo njalo.

Olunye ulwazi, nceda ucacise _____

ICANDELO E: INKXASO

46. Yiyiphi inkxaso (ngokwasemphefumleni nangokwasemzimbi uyayidinga okoko uthelwe si-stroke? (ngokwasemphefumleni: umz. ingaba udinga inkuthazo xa uziva udakumbile?) (ngokwasemzimbeni : umz. ingaba udinga uncedo olungaphezulu xa uhlamba, unxiba, okanye usenza nantoni usekhaya?)

47. Ucinga ukuba ngubani omakakunike le nkxaso?
(Phawula impendulo echanekileyo ibe nye okanye ngaphezulu)

Ngomnye umntu, nceda ucacise _____

48. Ucinga ukuba uyayifumana inkxaso oyidingayo emva kokuba ufunyenwe si-stroke?

49. Ukuba awuyi kwiqela labantu abane-stroke, nika izizathu ezibangela oko?

Esinye isizathu, nceda ucacise _____

ICANDELO F: UKUKWAZI UKUHAMBA

50. Ingaba lukho naluphi na unyango olufumanayo lokwenza imisebenzi ekufaneleyo xa kungoku?

51. Ukuba uphendule ngo-Ewe, ingaba unyango lwakho lokwenza imisebenzi ekufaneleyo ulufumana uwedwa okanye niliqela?



52. Ingaba ukhe uthabathe inxaxheba kuwo nawuphi na umsebenzi osebenzisa umzimba okanye wenze imithambo, efana nokuhamba-hamba, ukuzilolonga, njalo njalo; ukwenza imithambo niliqela labantu abane-stroke rhoqo, isiqingatha seyure ngexesha ngalinye?

53. Ukuba uphendule ngo-Ewe, yiyiphi imithambo oyenzayo?

54. Ingaba uyithabatha kangaphi inxaxheba kwimisebenzi yokushukumisa umzimba kangangesiqingatha seyure ubuncinane xesha ngalinye?

55. Ukuba awuthabathi nxaxheba kulo nuphi na uhlobo lomsebenzi wokushukumisa umzimba, nika izizathu? (Phawula impendulo echanekileyo ibe nye okanye ngaphezulu)

Esinye isizathu, nceda ucacise _____

56. Ingaba uyayenza imithambo ekhaya ukuthintela ukuqina kwalungu omzimba ngenxa ye-stroke?

57. Ingaba uyaluhlola ufele kwicala elichaphazeleke si-stroke, ujonge izilonda, rhoqo?



ICANDELO G: IIMFUNO EZICINGELEKAYO ZEMPILO

Nceda usixelele ngenkqubo okanye iinkqubo ongathanda ukufunda ngazo, ukuphucula impilo yakho.

Phawula inkqubo okanye iinkqubo onomdla kuzo:

- Ingcasico malunga ne-stroke nezinto ezingunobangela waso
- Ulwazi malunga nendlela yokuthintela ukuqhubekela phambi kwe-stroke
- Ukufundisa malunga nendlela yokuthintela izilonda ezibangelwa luxinzelelo, kunye nokuqina kwamalungu omzimba
- Ukufundisa amalungu osapho okanye abantu abajongene nabantu abagula si-stroke malunga naso
- Isikhokhelo malunga nendlela yokumelana nokudakumba nokuswela inkuthazo
- Ukufundisa malunga neendlela onokuzikhetha zokuzilolonga kunye neenkqubo zazo
- Ukufundisa malunga neengcebiso zokulawula ubunzima bomzimba
- Indlela onokuhlala ukwazi ngayo ukwenza imisebenzi yamihla yonke
- Ukuthintela okanye ukulawula isifo seswekile okanye i-hypertension
- Ukufundisa malunga nendlela yokulawula ukudakumba
- Ukufundisa ngendlela yokuyeka ukutshaya
- Uxinzelelo lwegazi nonokwenza ngalo
- Ukufunda malunga neendlela ezintsha zokuphucula impilo yakho
- Ukufundisa malunga noGawulayo neNtsholongwane yakhe neendlela zothintelo

Chaza nayiphi ennye into ongathanda ukuba uyifundiswe ukuphucula impilo yakho.

Siyakubulela ngenxaxheba othe wayithabatha.

Qualitative Interview Guide

Tell me what it is like for you to live with a stroke?

How does stroke affect your life?

What are your thoughts on your lifestyle now after having a stroke?

- 1) What are your views on smoking?
- 2) What are your views on excessive alcohol use?
- 3) What kind of food do you normally eat? Do you consider your diet to be a healthy one, and if yes why?
- 4) What kind of physical activity (if any) do you do in an average day?
- 5) Medication usage?

How does your current lifestyle compare to before you had the stroke?



Tell me if anyone has ever talked to you about stroke? If so who and when did they speak to you?

If you can remember, please tell me exactly what information they told you about stroke?

How has this information benefited you in your everyday life?

Do you feel it's important for individuals who have suffered a stroke to be taught about stroke?

Do you feel you received (are receiving) all the support you needed (need) from health care professionals at the time of your stroke?

Please tell me whether you receive any support from your family/friends?

Do you think this type of support is important? Why?

Please tell me about any problems you are experiencing since having the stroke
(physical, emotional)

How do you think these problems can be resolved?

What are your views on programmes being implemented, so that you could learn
to improve your lifestyle and learn more about your condition?

