

# **Social factors contributing towards heart disease: development of a social support model for heart patients**

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## **DECLARATION**

The reader is kindly requested to take note the contents of this thesis represent the author's own work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents the author's own opinions and not necessarily those of the North-West University (NWU).

The reader may also take note that the dissertation has been written in the NWU approved article format, which consists of an introductory chapter, chapter 2 (article 1), chapter 3 (article 2), chapter 4 (article 3) and the final chapter outlining the conclusions, limitations, and recommendations pertaining to the study.

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- All my nieces and nephews

## **DEDICATION**

I dedicate this study to my late sister Lindiwe Nhlanhla and my cousin Nonhlanhla Rikhotso who both passed away because of heart related diseases. This study is also dedicated to all the people across the globe who died of heart related diseases, and those who are living with heart conditions.

## **LIST OF ACRONYMS**

ADL: Activities of Daily Living

BMI: Body Mass Index

CVD: Cardiovascular disease

NCD: non-communicable disease

NDoH: National Department of Health

HBM: Health Belief Model

HD: Heart disease

HOD: Head of Department

HSFSA: Heart Stroke Foundation of South Africa

IADL: Instrumental Activities of Daily Living

MD: Medical director

STATS SA: Statistics South Africa

WHO: World Health Organisation

## TABLE OF CONTENTS

DECLARATION .....	i
ACKNOWLEDGEMENTS AND DEDICATION .....	ii
LIST OF ACRONYMS.....	iv
LIST OF FIGURES.....	xi
LIST OF APPENDICES .....	xii
GENERAL ABSTRACT / SUMMARY .....	xiii
CHAPTER 1: INTRODUCTION .....	1
1.1    Background to the study.....	3
1.2    Research problem.....	7
1.3    Research questions .....	8
1.4    Purpose of the study .....	9
1.5    Objectives of the study.....	9
1.6    Theoretical framework .....	10
1.6.1    The Health Belief Model.....	10
1.6.2    The Social Ecology Model.....	11
1.7    Research design.....	12
1.8    Literature review .....	12
1.9    Methodology .....	13

1.9.1	Sampling and research participants.....	13
1.9.2	Recruitment of participants .....	15
1.9.3	Data collection.....	16
1.9.4	Data analysis .....	17
1.10	Ethical considerations .....	20
1.11	Contribution of the study.....	21
1.12	Chapter division of the thesis.....	22
	REFERENCES.....	23
	CHAPTER 2: SOCIAL SUPPORT AMONG HEART DESEASE PATIENTS: A CRITICAL REVIEW OF THE LITERATURE.....	30
	ARTICLE 1 .....	30
	ABSTRACT.....	30
2.1	Introduction .....	31
2.2	Materials and methods .....	33
2.2.1	Inclusion and exclusion criteria.....	34
2.2.2	Literature and data sources.....	34
2.2.3	Study deletion.....	34
2.2.4	Data extraction and analysis.....	35
2.3	Results and discussion.....	39

2.3.1	Social support available to heart disease patients .....	39
2.3.2	Supportive actions beneficial to heart disease patients .....	40
2.3.3	Social factors contributing to heart disease.....	41
2.4	Conclusion.....	56
REFERENCES.....		59
CHAPTER 3: A QUALITATIVE EXPLORATION OF THE SOCIAL FACTORS THAT AFFECT THE QUALITY OF LIFE OF PEOPLE WITH HEART DISEASE.....		70
ABSTRACT .....		70
3.1	Introduction and background to the study.....	71
3.2	Methodology .....	74
3.2.1	Research design.....	75
3.2.2	Research setting.....	75
3.2.3	Sampling.....	76
3.2.4	The target population and final sample .....	77
3.2.5	Data collection.....	80
3.2.6	Ethical considerations .....	80
3.2.7	Data analysis .....	81
3.3	Findings.....	82
3.3.1	Poverty .....	82

3.3.2	Stress .....	84
3.3.3	Lack of knowledge .....	85
3.3.4	Lack of health education .....	87
3.3.5	Social support.....	89
3.3.6	Exercise .....	90
3.3.7	Smoking cigarettes and drinking alcohol .....	92
3.3.8	Diet.....	92
3.4	Discussion .....	93
3.5	Limitations of the study.....	104
3.7	Conclusion.....	105
3.8	Recommendations .....	106
	REFERENCES.....	108
	CHAPTER 4: DEVELOPMENT OF A SOCIAL SUPPORT MODEL FOR HEART PATIENTS	
	117	
	ABSTRACT.....	117
4.1	Introduction .....	117
4.2	Methodology .....	120
4.2.1	Theme 1: Poverty .....	121
4.2.2	Theme 2: Stress .....	123

4.2.3	Theme 3: Exercise .....	123
4.2.4	Theme 4: Lack of knowledge and health education.....	125
4.2.5	Theme 5: Social support.....	126
4.2.6	Theme 6: Diet.....	127
4.2.7	Theme 7: Cigarette smoking and alcohol drinking .....	127
4.3	Available models from the National Department of Health .....	128
4.3.1	Interventions strategies from the National Department of Health .....	128
4.4	A proposed social support model for heart patients.....	131
4.5	Recommendations .....	138
4.6	Conclusion.....	139
REFERENCES.....		141
CHAPTER 5: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS .....		146
5.1	Conclusions .....	146
5.2	Limitations of the study.....	152
5.3	Recommendations .....	154
REFERENCES.....		156

## **LIST OF TABLES**

Table 2. 1: Examined studies regarding social support for heart disease patients .....	37
Table 3. 1: Biographical details of the research participants (Patients) .....	77
Table 3. 2: Biographical details of the research participants (Health professionals).....	79

## LIST OF FIGURES

Figure 2. 1: Review flow chart.....	36
Figure 4. 1: Levels of intervention as outlined in the NDoH document for the prevention and control of non-communicable diseases (NCD, 2013 – 17) .....	129
Figure 4. 2: Diagram of socio ecological model .....	130
Figure 4. 3: A proposed social support model structure .....	134

## **LIST OF APPENDICES**

APPENDIX A: Invitation letter

APPENDIX B: Ethics clearance

APPENDIX C: Permission letters

APPENDIX D: Psychologists' letters

## **GENERAL ABSTRACT / SUMMARY**

Social factors, which themselves are also significantly influenced by culture, have been found to play a significant role in the etiology, progression and prognosis of heart disease. The present study therefore chose to focus on Black South African heart patients, a demographic group that has not been as widely studied as others and in which the role played by social factors and culture in the incidence of heart disease is less understood (Micklesfield, 2013; Fischler, 2011). Furthermore, while the etiology, progression, and management of this condition are particularly affected by social factors, most researchers have, however, tended to focus more on the bio-medical aspects of the disease, which has created a gap in terms of effective social support programmes for heart patients. In view of the foregoing, the main aim of the study was to use literature sources in conjunction with an exploratory qualitative study to identify the social factors relevant to heart disease, and to integrate these findings into a proposed social support model for Black South African heart patients. Majority of theories in relation to heart disease were crafted from a context of abundance especially in the West where the major issue was underpinned by the need for individual self-denial and restriction on some foods at their disposal. The poverty perspective therefore comes in as a new aspect that needs more research because it is also compounded with other factors that have been identified from a materialistic setting, e.g., stress. This in a way validates Fischler's (2011) notion of 'nutritional cacophony', where he argues that people who eat (have plenty) die and yet people who do not eat (poor) die too, but usually quite a bit faster. This further validates the significance of this study as it highlights a new dimension of how poverty and lack are key factors contributing to heart disease in resource poor Black African settings.

Firstly, the researcher conducted a review of literature to investigate the social factors contributing to heart disease with the aim of developing a social support model for Black South African heart patients. Findings revealed that Black South African heart patients who receive constant social support from peers, family members and community members show good progress with regard to their state of health. Compared to the health of heart patients who do not receive social support, which tends to deteriorate.

Secondly, an exploratory qualitative study was conducted in which data was collected by means of semi-structured interviews (i.e. qualitative approach) with Black South African heart disease patients (10 males and 9 females, ages 18 – 64 years) and professional health care practitioners (4 medical doctors, 6 nurses, 5 social workers and 4 care givers) from public hospitals in Tshwane. The findings also revealed that heart patients' quality of life is impacted by social factors such as stress, poor diet, lack of exercise, tobacco smoking, alcohol abuse and poverty. Health professionals concurred with these findings, further pointing to the fact that most Black South African heart patients as well as their families lived in poverty, which served as root source of many other compounding social factors.

Thirdly, the themes derived from the qualitative study as well as the literature review were subsequently collated and analysed with the use of ATLAS Ti 6.0 with the aim of developing a social support model for Black South African heart disease patients. The model outlines the various parties and institutions that are able to mediate the social factors related to heart disease and proposes possible ways in which they might supportively interact with each other in order to promote the well-being of Black South African heart patients. In particular, it suggests a number of ways that some government structures like the local government and the provincial government can be actively involved in providing medication and entrepreneurial support for those who cannot afford medication or healthy diets, and also outlines possible avenues through which the necessary education might be given to Black South African heart patients and the family members who live with them.

**Key terms:** Social support, heart disease patients, cardiovascular disease, coronary heart disease, social factors contributing to heart disease, social support model, qualitative research

## CHAPTER 1: INTRODUCTION

The term heart disease describes a range of conditions that affect the proper functioning of the human heart such as coronary artery disease, heart rhythm problems (arrhythmias), and heart defects (congenital heart defects), among others. This term is often used interchangeably with the term "cardiovascular disease" even though cardiovascular disease (CVD) generally refers to conditions that involve narrowed or blocked blood vessels that can lead to a heart attack, chest pain (angina) or stroke (National Heart, Lung and Blood Institute, 2014).

According to the World Health Organization (WHO, 2005), heart disease accounts for an estimated 9.2 percent of overall deaths in Africa, with an estimated 70 million people currently living with heart disease (WHO, 2014). Estimates also show that about 17 million people die every year of heart-related disease across the globe (WHO, 2009). In fact, heart disease is regarded as one of the main causes of death throughout the world (WHO, 2014). In South Africa alone, an estimated 195 people die each day as a result of heart-related disease (Maredza *et al.*, 2011). These statistics clearly show that heart disease constitutes a very significant social health burden. Despite being a medical condition, it has become increasingly clear that social factors play a very important role in the development, progression and treatment of this condition. As conceptualised within the context of this thesis, following Wilkinson and Marmot (2003), the term 'social factors' is used to describe the impacts of various facets of the social environment on the health of people living in a particular community. The most common social factors contributing to heart disease are tobacco smoking, excessive alcohol intake and unhealthy diet (Maredza *et al.*, 2011). While all individuals may be affected by these factors, they are, however, more often associated with people living in low socio-economic conditions. This calls for some intervention strategies in order to help current victims as well as reduce the incidence of heart

disease, especially among the millions of people living in low socio-economic conditions. Given that social factors have been found to play a significant role in the etiology, progression and prognosis of heart disease, and that the nature, prevalence and salience of such social factors are likely significantly influenced by culture, the present study chose to focus on Black participants. This decision was further motivated by the finding that comparatively few studies have been conducted that explore social factors and heart disease among Black South Africans. For this reason, this exploratory qualitative study was conducted in low income communities of Tshwane where data was collected by means of semi-structured interviews (i.e. qualitative approach) from Black South African heart disease patients (10 males and 9 females, ages 18 – 64 years) and professional health care practitioners (4 medical doctors, 6 nurses, 5 social workers and 4 care givers) from public hospitals in Tshwane.

Data was collected within community context because social support is considered as an intervention strategy that can play a pivotal role in helping patients to cope with their conditions while also reducing the incidence of heart disease. Many institutions, including non-governmental organizations, community associations, churches, family or patients' associations can play a pivotal role in rendering social support and so help improve the well-being of heart disease patients. Social support significantly affects people's health through behavioural, psychosocial and physiological pathways; and shaping health outcomes throughout the life course and, in the long term, having a cumulative impact on the health of heart disease patients (Umberson & Montez, 2010). Given that some social factors such as inactivity, unhealthy diet, and tobacco smoking play a significant role in directly or indirectly contributing to the prevalence and incidence of heart disease; social support has been found to play an important role in supporting those with heart disease, enabling them to live longer and contribute to society, despite their health status (Albus *et al.*, 2005). However, the role played by social support (and

the different types of social support) in complementing medical interventions to improve the health and general wellbeing of heart disease patients in low socio-economic settings is not well researched. This is a research gap that this study aimed to fill in by formulating a social support model that addresses the social factors contributing to heart disease.

This chapter outlines the background to the study, the research problem and the purpose of the study. The chapter ends with the theoretical framework as well as the research methodology.

## **1.1 Background to the study**

Heart disease is one of the major causes of death throughout the world (WHO, 2014). Although it is widely perceived as a purely medical condition, it starts (and continues) within a social context that has a significant effect on the risk of heart disease and the ability to manage it (WHO, 2012). Globally, an estimated 17.5 million people died from heart diseases in 2012, representing 31% of all global deaths (WHO, 2014). Of these deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke. In The United States of America, estimates show that over three quarters of heart disease deaths take place in low- and middle-income countries (American Heart Association, 2014b). Heart disease is caused by a myriad of risk factors, some of which are outlined below:

- Age. Aging increases the risk of damaged and narrowed arteries and weakened or thickened heart muscle (Finegold *et al.*, 2013).
- Sex. Men are generally at greater risk of heart disease. However, women's risk increases after menopause (Bots *et al.*, 2017).
- Family history. A family history of heart disease increases the risk of coronary artery disease, especially if a parent developed it at an early age (before age 55 for a male

relative, such as brother or father, and 65 for a female relative, such as mother or sister (American Heart Association, 2014a).

- Lifestyle. Cockerham (2010) stated that an unhealthy lifestyle and high-risk behaviour pose serious threats to an individual's health in general. This is particularly true in the case of heart disease. He further acknowledged that, smoking, a sedentary lifestyle, obesity, heavy alcohol consumption is singled out as social risk factors for cardiovascular diseases. Haywood *et al.* (1993) found that patients who complained of chest pains and eventually got diagnosed with heart disease were smokers, and that the majority of such people lived in relatively deprived socio-economic circumstances. Tobacco smoke contains nicotine which constricts the blood vessels, and carbon monoxide which can damage their inner lining, making them more susceptible to atherosclerosis, increasing the incidence of heart attacks in smokers compared to non-smokers (Go *et al.*, 2013). Heavy consumption of alcohol can increase the risk of diabetes and liver disease, and has also been shown to lead to hardening of the arteries, which is a marker for heart disease (Kurihara *et al.*, 2004).
- Poor diet. Nutrition and diet also play a role in increasing or decreasing an individual's vulnerability to heart disease. For instance, a diet that is high in fat, salt, sugar and cholesterol can contribute to the development of heart disease (Steyn *et al.*, 2001). Therefore, a diet that avoids risk factors such as excessive salt and fat consumption can modulate blood lipids and their tendency towards oxidation (Mera, 1994).
- High blood pressure. Uncontrolled high blood pressure can result in hardening and thickening of the arteries, narrowing the vessels through which blood flows (Seedat *et al.*, 2006).

- High blood cholesterol levels. High levels of cholesterol in the blood can increase the risk of formation of plaques and atherosclerosis (Steyn, 2006).
- Diabetes. Diabetes increases the risk of heart disease. Both conditions share similar risk factors, such as obesity and high blood pressure (Wild *et al.*, 2004).
- Obesity. Azizi *et al.* (2005), (cited in Morewitz, 2006), pointed at obesity as one of the factors that contribute to heart disease. Morewitz (2006) claimed that there is a close relationship between the body mass index (BMI) and systolic and diastolic blood pressure among female and male adolescents. Furthermore, patients who are overweight or obese are often diagnosed with type II diabetes, which also places them at a high risk of developing heart disease (Lu *et al.*, 2004). Excess weight typically worsens other risk factors (Go *et al.*, 2013).
- Physical inactivity. Lack of exercise also is associated with many forms of heart disease and some of its other risk factors, as well (Go *et al.*, 2013). According to Borodulin *et al.* (2005), a sedentary lifestyle can lead to a lack of physical fitness and foster obesity, both of which can lead to heart disease. In the 1960s and 1970s, Finland had one of the highest mortality rates attributable to heart-related disease. However, the country showed an impressive reduction in these rates between 1972 and 1992 because its citizens started to engage in physical exercise (WHO, 2012). This provided proof that physical fitness actually lowers high blood pressure and cholesterol levels, which are the greatest contributors to heart disease (Yusuf *et al.*, 2001).
- Stress. Psychosocial factors, including depression, stress, social isolation and inadequate social support have also been found to have an influence on the development of heart disease (Albus *et al.*, 2005; Rozanski *et al.*, 1999). Unrelieved stress may damage the arteries and worsen other risk factors for heart disease (Rosengren *et al.*, 2014).

- Poor hygiene. Not regularly washing hands and not establishing other hygiene habits (as is often the case among those living in poor socio-economic conditions) that could help prevent viral or bacterial infections can put one at risk of heart infections, especially if one already has an underlying heart condition (Holm *et al.*, 2014).

It is therefore of scientific value to determine and address, at the social level, the factors that lead to heart disease before addressing it as a medical condition. Albus *et al.* (2005) claim that lack of social support for a person who is suffering from heart-related disease can result in sudden cardiac arrest and death. This implies that both the degree and quality of social support that heart patients receive have a significant impact on their life expectancy. Cockerham (2007) states that most diseases are connected to social conditions, which can be taken to mean that the way in which people live, their relationships, and their economic situation can contribute to their exposure to health risks. In other words, social factors can contribute to illness or even directly cause it (as is the case in sexually transmitted diseases). However, these same social influences can also improve the prospects for preventing and managing disease. A society that is aware of this connection can promote the health of the community by raising awareness of risk and of how people suffering from illness, including chronic conditions such as heart disease, type II diabetes, stroke, HIV/AIDS, can be supported. Based on these considerations, this study proposes to adopt a medical-sociological perspective to investigate which socio-behavioural factors contribute to heart disease, with the aim of developing a social support model for heart patients.

Based on the above background to this study, the following section outlines the research problem for this study.

## 1.2 Research problem

In Africa, cardiovascular disease is among the top three causes of death in Sub-Saharan Africa with 215 people dying from heart disease every day (Byrne *et al.*, 2016; HSFSA, 2007). This is in agreement to the (WHO, 2014) estimates that South Africa has one of the highest rates of high blood pressure worldwide, with an estimate of 1 in 3 adults suffering from high blood pressure. Further, Zuhlke (2016) states that heart disease continues to be on the rise in South Africa because of a lack of awareness, which often means that the disease goes undiagnosed and untreated until it is too late. Estimates indicate that about 80% of deaths caused by chronic diseases in South Africa (including cardiovascular disease) occur before the age of 65 (Byrne *et al.*, 2016; Mpe, 2010). These are premature deaths which affect the workforce and have a major impact on the country's economy. Of course the problem statement of this research would not be complete without acknowledging the patterns of heart disease along demographic lines. For example, the American Heart Association (2016) points out that cardiovascular disease symptoms may be different for men and women, with men more likely to have chest pain while women are more likely to have symptoms such as shortness of breath, nausea and extreme fatigue. In the South African setting, Mpe (2010) observes that the highest death rates for heart and blood vessel diseases are found among Indian people, followed by Coloured people, while White and Black African people have the lowest rates. Although White and Black African people have similar rates for these diseases, their patterns differ considerably. White people mainly reflect a pattern of death caused by heart attacks, while Black African people mainly die of stroke, diseases of the heart muscle and high blood pressure (Mpe, 2010). The focus of this study, however, was on the majority Black South African heart patients between the ages of 18 and 64 years and residing in impoverished communities of Tshwane townships in Gauteng Province of South Africa. This was largely motivated by the fact that Black people constitute the highest

percentage of impoverished people in this setting (Rogerson, 1996; City of Tshwane Annual Report 2014/15) and also the fact that the incidence and prevalence of heart disease in this demographic group is currently under researched. As such, the need for the development of a social support model for heart patients in impoverished communities seems particularly well-warranted.

Additionally, a study conducted by Cobb (2005) found that heart disease patients who received proper social support (in the form of emotional (e.g., nurturance), tangible (e.g., financial assistance), informational (e.g., advice), or companionship (e.g., sense of belonging) and intangible (e.g. personal advice) appeared to have a better prognosis than those who did not. Similarly, numerous studies have shown that people with higher social support have an increased likelihood for survival (Holt-Lunstad *et al.*, 2010). For example, Alzi *et al.* (2014) argue that population studies have cited a lack of social support as common to all instances of premature death from heart disease. Albus *et al.* (2005) further state that with adequate social support, a patient can live longer and in greater comfort. However, there is a scarcity of reviews and research on the role played by social support to improve the quality of life of Black African heart disease patients. Furthermore, few social support models for heart patients appear to exist, despite the evident importance of such factors in the etiology, progression, management and treatment of the condition. The study therefore sought to fill in this gap, in addition to the aforesaid aims.

### **1.3 Research questions**

Based on the research problem discussed above, the main research question that arose was: Which social factors should be taken into account in a social support model for Black South African heart patients? The sub-questions of this study were as follows:

- What are the social factors that impact negatively on the quality of life of heart patients in general?
- What are the important social support activities/elements for supporting and improving the wellbeing of Black South African heart disease patients?
- What kind of social support model can be developed to serve as framework for improving the lives of Black South African heart patients?

#### **1.4 Purpose of the study**

The main purpose of this study was to develop a social support model for heart disease patients after investigating the social factors that contribute towards the management of heart disease, especially in terms of the type of support that heart patients would like to receive in order to improve their lives. The researcher intended to conduct an in-depth investigation into the factors associated with the outpatient care of heart patients, before developing a social support model that addresses the current shortcomings in this regard.

The objectives of the study are discussed below.

#### **1.5 Objectives of the study**

The research main research objectives were formulated as follows:

- To explore the social factors that impact negatively on the quality of life of heart patients.
- To identify and explore the social support activities/elements which are essential for improving the wellbeing of heart patients.
- To develop a social support model that will serve as framework for improving the lives of heart patients.

## 1.6 Theoretical framework

The researcher used two existing theories as the theoretical framework for this study: the health belief and the social ecology models, which are briefly described in the subsections below.

### 1.6.1 *The Health Belief Model*

Originally formulated to model the adoption of preventive health behaviors in the United States, the Health Belief Model (HBM) is one of the most widely applied theories of health behavior. It posits that six constructs predict health behavior: risk susceptibility, risk severity, benefits to action, barriers to action, self-efficacy, and cues to action (Johns *et al.*, 2015). Motivating people to avoid a negative health consequence is a key element of the HBM. The theory attempts to explain and predict the way in which people regard their health by focusing on the role of perceptions in determining their attitudes and beliefs (Decosas, 2002). According to Munro *et al.* (2007), people's behaviour when confronted by health issues depends on their perception of their personal susceptibility to that illness, the benefits of taking preventative action, and the disadvantages of doing so.

The assumption underlying the Health Belief Model is that behaviour related to health is often influenced by beliefs and attitudes together with the mechanism in order to reduce the occurrence of disease or illness within the social system (Parsa *et al.*, 2008). The model suggests that if a disease is perceived to be a threat, it often depends on how vulnerable an individual considers himself to be in relation to the disease and also on the seriousness of the disease (Hausmann-Muela *et al.*, 2003). This model helped the researcher to identify the social triggers that discourage or motivate people to heed information regarding factors that can make them susceptible to heart disease by either causing them to ignore or take seriously the need to change

aspects of their behaviour.

### ***1.6.2 The Social Ecology Model***

The Social Ecology Model describes five levels of social influence on behaviour in ascending order: individual, interpersonal, institutional, community and policy (UNAIDS, 1999). This model acknowledges the importance of the interplay between the individual and the social environment, as well as the influence of the latter on the individual's behaviour (Decosas, 2002). The Social Ecology Model correlates with the Health Belief Model (HBM) because it takes into consideration the individual's risk perception and the influence of subjective norms in behavioural change. The researcher used both micro and macro theories as a guideline for exploring the social factors contributing to heart disease. This framework was used in this study to examine contextual influences on social behaviour that can lead to heart disease.

According to Grizzel (2007), social contextual factors such as culture, familial support and institutional factors provide a crucial framework for understanding individual risk behaviour. This is very important in the context of the Social Ecology Model, as family support could form a key and a relevant component in the development of a social support model and it is imperative that social contextual influences on behaviour be considered. The Social Ecology Model enabled the researcher to identify the possible social factors that negatively impact both the life of heart patients and their environment.

Based on the above theoretical framework, as well as the objectives and research questions mentioned earlier, the following section describes the research design and methodology used in this study.

## **1.7 Research design**

A research design outlines how the researcher intends to conduct or has conducted a given study. In other words, it sets out the methods that the researcher used, for example, to select a sample that has relevance to the overall purpose, as well as to gather and analyse data (Mouton, 2009). In this study, in addition to a literature study (discussed in section 1.7), the researcher used an exploratory qualitative research design due to its ability to provide the opportunity to seek an in-depth understanding of complex experiences rather than seeking the breadth of findings that a quantitative design makes possible (Babbie & Mouton, 2001). The combined findings of the literature review and the qualitative study subsequently provided the foundation for the development of a model for the social support of heart patients. The method of Mackay (1969) referred to as ‘reasoning strategies’, was used to develop a model for effective social support. These strategies include analysis, synthesis, deductive reasoning and inductive reasoning. The analysis reasoning strategy assisted in coding of data analysis to identify concepts and their attributes. The synthesis strategy was used to construct relational statements and to describe tentative conceptual models using interrelated statements. The deductive reasoning strategy permitted the researcher to make logical predictions in the form of model assumptions based on the literature reviewed. These strategies were all used to develop a social support model for heart patients in the greater Tshwane area.

## **1.8 Literature review**

The literature search for articles was based on a selection of published literature predominantly in the field of social support of patients suffering from one or other form of heart disease. Studies were included regardless of publication date. Key words used to guide the search included ‘*social support*’, ‘*heart disease*’, and ‘*patients*’. The review adopted a qualitative meta-synthesis

approach (Kearney & O’Sullivan, 2003; Salter *et al.*, 2008). The researcher critically reviewed existing scholarly books and journal articles. No fieldwork was conducted during this part of the study. This article is therefore purely theoretical and literature-based. The researcher used a thematic approach for his analysis. Only papers which discussed social support among heart patients were selected. Papers with a qualitative research focus were included in the narrative review, whereas papers with a quantitative research focus were excluded. The literature search included published papers from several databases in English, namely EBSCOHOST, MEDLINE, SCIENCE DIRECT, ELSEVIER, and GOOGLE SCHOLAR.

## **1.9 Methodology**

Methodology refers to ‘the techniques that the researcher employed to carry out the research’ (Mouton, 2009). The rationale behind the researcher’s choice of a qualitative research approach was that it allowed him to develop valuable insights into the phenomenon under investigation (social attitudes towards illness and acceptance or denial of chronic diseases). In addition, this approach allowed the researcher to interpret and understand the meaning that the participants give to their everyday lives as described by De Vos *et al.* (2009). In the quest to develop a social support model for heart patients, the qualitative research approach helped the researcher to gain insights into what the participants’ views were, regarding what would be a suitable model for those living with heart conditions.

### ***1.9.1 Sampling and research participants***

Bless *et al.* (2006) defines sampling as a technique used to draw representative information from a population. In this study, the ‘population’ comprised patients with heart illnesses as well as nurses, social workers, caregivers and medical doctors treating patients with heart disease. The

researcher employed a purposive quota sampling technique. Creswell (2008) describes quota sampling as a non-probability sampling process whereby the assembled sample has the proportions of individuals that is similar to the entire populations with regard to the characteristics only a chosen sample had an opportunity to participate in the study. The researcher purposefully selected those participants who were most likely to provide him with reliable data. This strategy was supplemented by quota sampling, which involves the selection of equal or proportional numbers of participants from different categories salient to the study (Mouton, 2009). In the case of this study, the researcher selected male and female heart patients, medical doctors who treat them, social workers who help them, nurses who interact with them, and their caregivers to participate in the interviews. The specific inclusion and exclusion criteria that guided the sampling process are outlined below.

#### *1.9.1.1 Inclusion and exclusion criteria for patients*

- Patients who were invited to participate in the study were heart patients and Black South African citizens between the ages of 18 and 64 years old.
- Patients were selected on the basis that the supervising physician deemed them fit to take part in the study, and were unlikely to be negatively affected by their participation in the study.
- Patients were excluded if they were currently participating in another study.

#### *1.9.1.2 Inclusion and exclusion criteria of doctors, nurses, social workers and caregivers*

- Only medical doctors and nurses attending to heart disease patients for a period of not less than 2 years in the Tshwane region were selected to participate in the study.
- Only social workers and caregivers attending to heart disease patients for a period of 2 years or more in the Tshwane region were allowed to participate in the study.

- Health professionals who served as Heads of Departments or Managing Directors of the section where patients were recruited, or Doctors who assisted the researcher in recruiting participating patients were excluded.

### ***1.9.2 Recruitment of participants***

Equipped with an ethical clearance letter from the North-West University (see Appendix B), the researcher first approached the hospitals and clinics in the designated area and discussed the proposed study with the heads of department (HODs) and the medical directors (MDs), who were excluded from participating in the study, and sought permission to conduct interviews at the institutions by means of a written letter (see Appendix A). Once the permission was granted (see Appendices C-F) the researcher distributed consent forms to all participants (see Appendices K-M) to read, understand and sign it prior to their participation in the study.

Heart patients (who were outpatients and deemed fit to take part in the research by the physicians involved) were contacted indirectly via their supervising physicians. For those patients who agreed to take part in the research, the physician provided the researcher with the patient's contact details. Heart patients were then visited in hospital, with the help of health professionals who explained the nature of the study to them and helped to identify a suitable date and time for the interviews to be conducted. All interviews with patients took place in the hospital premises. The researcher ensured that all interviews were conducted in a quiet setting, and the researcher adhered to the principle of confidentiality.

The final sample included heart patients (10 male and 9 female Black South African citizens), 4 medical doctors, 6 nurses, 5 social workers and 4 caregivers.

### **1.9.3 Data collection**

The researcher collected data by means of semi-structured interviews. Babbie and Mouton (2001) describe semi-structured interviews as a data collection method that is administered by the researcher and is comprised of a set of open questions that prompt discussion in order for the interviewer to gain insight into the theme or phenomenon under investigation. The semi-structured interviews were employed for this study because the researcher wanted to gain the insight of health professionals by discussing with them the actual social factors that affect heart patients and by discussing with heart patients what kind of social support would work out well for them in an open-ended way. An interview guide was developed, which is an important instrument for the researcher to maintain consistency in terms of asking questions to participants, as described by Creswell (2008). Each participant was asked the same questions in the same order. Each interview was audio recorded with the permission of the interviewee to ensure consistency, and later transcribed for analysis. The following were the questions that the researcher asked heart patients:

- Who stays with you at home?
- Does she/he know about your health problem?
- Does she/he give you social support?
- What form does this social support take?
- What form of social support would you prefer and why?
- Who should provide you with this form of social support? How so?
- What are your daily activities?
- What are your main concerns regarding your heart condition?
- Do you know what factors lead to heart disease? If so, please list them.

Doctors and nurses were asked the following questions:

- What kind of social support is currently available for heart patients?
- What do heart patients need in order to improve their lives?
- What are the main elements involved in caring for these patients?
- Is there any need for social support for heart patients, and if so, what would this involve?
- Who should provide social support to the patients?
- When should social support be provided?

And, finally, caregivers and social workers were asked the following questions:

- How long have you been working with heart patients?
- What kind of social support is available for heart patients?
- What kind of support do you offer them?
- What do they need in order to improve their lives as heart patients?
- What factors most affect their quality of life?

The above questions were followed up with probes as necessary to explore participants' answers in greater depth.

#### **1.9.4 Data analysis**

The interviews were audio recorded with the consent of the participants who took part in the study. The researcher subsequently transcribed the recorded interviews verbatim after all the interviews were completed. The researcher went through the audio records against the transcriptions to verify that transcriptions were accurate. The transcribed interviews were then subject to thematic analysis, following the method outlined by Boyatzis (1998) who described

thematic analysis as a grouping of data into themes in order to identify common patterns or recurrent trends in the transcribed interviews. In line with these recommendations, the researcher commenced with open coding of the data, which involved assigning descriptive labels to segments of text in order to enable conceptually similar fragments of text to be identified and collated. This process was repeated through several cycles during which continual refinements were made to the coding system. During this process the wording of codes was refined as required to enhance their descriptive inclusiveness; redundant codes were deleted, and conceptually overlapping codes were merged. The coding process enabled the researcher to identify patterns in the data which in turn formed the basis of the next step, which entails grouping related codes into conceptually more abstract categories. In turn, where applicable, categories were grouped into overarching themes. The thematic analyses in previously published research projects and case studies provided a frame of reference for the researcher's own analysis of the information obtained from the interviews, and supported a deductive analytic approach. The entire process of data analysis was supported by the use of the ATLAS Ti 6.0 software package (Punch, 2011).

#### *1.9.4.1 Trustworthiness*

Research should have substance, show insight, demonstrate sensitivity, and be more than a repeat of "the same old stuff" to be regarded as of quality. According to Corbin and Strauss (2008), the pursuit for quality data within the qualitative paradigm necessitates trustworthiness, which includes credibility, dependability, transferability and conformability. The researcher made sure that each of these components was achieved in this study as articulated in the following subsections.

#### 1.9.4.1.1 Credibility

The findings of a study should be sufficiently detailed and well justified to enable the reader to determine whether or not the research is credible. A crucial requirement of credibility is that the study should contribute to the current body of knowledge (Rasmussen *et al.*, 2006). Openness and transparency are critical elements in qualitative research, and should be demonstrated at every stage of the research process. In this study, the full transcripts of the research participants' interviews were made available so that the reader could by himself or herself assess the credibility of the findings. In dealing with credibility the goal is to increase the possibility that the research produces credible results. This was achieved through prolonged engagement of the participants in the research.

#### 1.9.4.1.2 Transferability

According to Nieuwenhuis (2009), transferability in qualitative research is synonymous with generalizability, or external validity, and is established by providing readers with evidence that the research study's findings could be applicable to other contexts, situations, times, and populations. The researcher's core responsibility was to provide the data base that makes transferability judgements possible on the part of potential appliers. This was achieved through thick description, a technique in which a qualitative researcher provides a robust and detailed account of their experiences during data collection by making explicit connections to the cultural and social contexts that surrounded data collection. The researcher explained where the interviews occurred, and other aspects of data collection that help provide a richer and fuller understanding of the research setting.

#### 1.9.4.1.3 Dependability

The researcher ensured that the research process was logical, well documented and audited. The researcher assumes that if another researcher were to conduct a similar study from the same participants of the participants, he or she should find similar results. It was achieved by observing nonverbal cues and taking of field notes throughout the interview process (De Vos *et al.*, 2009).

#### 1.9.4.1.4 Confirmability

This refers to objectivity, accuracy, relevance or meaning of the data without emphasizing the researcher's views. This is done so to prevent excessive intrusion of the researcher's perspectives and opinions during interviews (Polit & Beck, 2008). The researcher ensured this by remaining neutral, and refraining from imposing his beliefs and interpretations on interviewees during the interviews.

### **1.10 Ethical considerations**

Research ethics are fundamental to any type of research, be it social, medical or educational. In general, they are intended to protect both the researcher and participants from any kind of harm (Bless *et al.*, 2006). The potential harm can take a variety of forms. For the participants in this study, asking questions that concern both medical details and social perceptions could have impinged on their privacy and cultural sensitivity. Therefore, great care was taken by the researcher to avoid giving offence, by explaining exactly what participation in the research entails and assuring the interviewees of strict confidentiality. Prior to participation in the study, each interviewee was given a written consent form setting out the nature of the project in which he or she has been asked to take part, so that he or she can make an informed decision (Neuman, 2000) (see Appendices K-M). The form, which was written in a language that is easily

understandable by the participant, described the study and outlined the risks and the benefits of participation in the study. The consent form contained a section explaining that the participant may withdraw from the study at any time without providing a reason (see Appendices K-M). Each participant was then asked to indicate in writing his or her willingness to take part (informed consent). Before the face-to-face interviews began, the researcher read out the procedure and purpose of the meeting to the research participants and gave them time to ask questions in order to clear up any misconceptions about the study. The researcher sought to ensure that the research participants were relaxed and ready for the interview, and patients were interviewed in with a psychologist on standby, but not inside the office where interview took place, for in case counselling was necessary (see Appendices G-J). This encouraged the participants to share insights that were very helpful to the researcher.

In order to prevent the interviewee from experiencing any fear of reprisal or pressure, the researcher ensured that every participant was physically safe and alone with him in the room where the face-to-face interviews were held. The interviewee was also assured that any information volunteered would be kept in confidence, as will his or her name. Confidentiality, according to Jurs *et al.* (2009), involves the duty of the researcher not to disclose anything that may identify the interviewee. The personal details of the participants are accessible only to the researcher and his supervisor, and, as promised in the consent form, all of the data has been kept confidential, and stored under lock as well as in a password protected computer.

### **1.11 Contribution of the study**

The researcher envisages that this study would represent a significant contribution in the field of medical sociology, specifically as it pertains to the social factors that affect those with heart-related illnesses, and that the findings obtained from this study stimulate further research in this

field. The literature review will aid in moving this field of inquiry forward by providing an integrated review of existing findings on the topic. The qualitative study would hopefully provide new insights into the social support needs of heart patients in a South African context, which would likely be of practical use in terms of better understanding the needs of this subgroup, and consequently in being able to better address such needs in a practical context. Finally, the social support model that the researcher developed for heart patients could be very useful if applied as framework in the context of community medicine, which might ultimately be of benefit to individuals suffering from heart conditions who rely on social support.

### **1.12 Chapter division of the thesis**

The article method, as approved by the North-West University, was followed in the writing of this thesis. The layout of this work is outlined below.

Chapter 1: Introduction

Chapter 2: Article 1 – Social factors contributing towards heart disease: A critical review of literature

Chapter 3: Article 2 – A qualitative exploration of the social factors that affect people with heart conditions

Chapter 4: Article 3 – Development of a social support model for heart patients

Chapter 5: Conclusion, limitations and recommendations

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## **CHAPTER 2: SOCIAL SUPPORT AMONG HEART DISEASE PATIENTS: A CRITICAL REVIEW OF THE LITERATURE**

### **ARTICLE 1**

#### **ABSTRACT**

**Aim:** The aim of this paper was to critically review the literature regarding social support for heart disease patients.

**Background:** Social support has been progressively associated with prognosis among heart disease patients. Psychosocial factors such as depression and low social support are established risk factors for patients with heart disease. Patients living with heart disease who receive proper social support have a better prognosis than those who do not.

**Methods:** This is a qualitative meta synthesis study. Thus, literature on social support for heart disease patients was searched and reviewed.

**Results:** Information about available social support, supportive actions, beneficial social support factors, and social factors contributing to heart disease, i.e. poverty, obesity, stress, physical inactivity, poor diet and social support challenges faced by patients with heart disease were identified and discussed.

**Conclusion and recommendations:** The paper concludes that information regarding social support available to heart disease patients, supportive actions beneficial to heart disease patients, social support factors contributing to heart disease and social support challenges faced by heart disease patients are all factors that are paramount for the development of a clinical assessment tool and support model for heart disease patients. The paper recommends that the information

identified should be used to develop a clinical assessment tool to obtain baseline social support information from every heart disease patient, to inform effective social support interventions.

**Keywords:** Social support, heart disease, available support, challenges, support factors

## 2.1 Introduction

Coronary heart disease is the major cause of morbidity and mortality in the world. An estimated 17.5 million people across the globe die annually of heart-related diseases (WHO, 2014). The WHO has predicted that heart-related disease is likely to be the leading cause of mortality by 2020. It is estimated that 70 million people in Africa live with heart-related disease (WHO, 2014), translating to an estimated 210 mortalities a day in South Africa alone (HSFSA, 2007). Psychosocial factors such as depression and low social support were established risk factors for poor prognosis in patients with heart disease (Barth *et al.*, 2010). Biccard and Nepaul (2010) assert that heart patients with low social support tend to be unemployed, smoke, abuse alcohol, are mostly divorced and live alone. Thomas (2014) argues that young women may be at an increased risk of low social support both at the time of their diagnosis with heart disease and during the course of recovery, which may place them at higher risk of adverse outcomes. In addition, women tend to receive less assistance with household duties from informal caregivers, yet household activities are more important to them than men (Lang *et al.*, 2012). Other social support challenges identified by Cohen *et al.* (1994) and Krause (1986) include difficulty finding a personal connection with someone with similar experience, non-availability of psychologist and social workers, no advice on available resources in the area, few social networks (particularly among males), and the absence of a caregiver at home on discharge of the patient, especially if there are children involved.

According to Jacobs (2016), after a heart diagnosis or heart surgery, the incidence of depression increases. Twenty percent of heart patients will have at least mild depression according to WHO (2012). One possible reason is that people are suddenly faced with their own mortality, which is very depressing. Depression itself is a risk factor for cardiac mortality after someone has had a cardiac event. Conversely, people who are well supported are less likely to become depressed. People who have social support are much more likely to adhere to their treatment regimen, go for cardiac rehabilitation, take medication and eat well (Jacobs, 2016).

In September 2014, a study of 3,432 patients aged 55 and younger (Dallas, USA) found that patients who had less social support were worse off immediately after the heart event and up to one year later (American Heart Association, 2014). Those with less support had significantly more symptoms of depression, poorer health, and lower quality of life (Robertson & Suinn, 1968). Similarly, a study conducted by Cockerham (2010) found that patients living with heart disease who received proper social support in the form of emotional (e.g., nurturance), tangible (e.g., financial assistance), informational (e.g., advice), and intangible (e.g. personal advice) support and/or companionship (e.g., sense of belonging) appeared to have a better prognosis than those who did not. Many studies have been conducted around the social factors contributing to heart disease, but social support studies of heart disease patients are scarce.

Based on the above, it is clear that lack or availability of social support plays a vital role in the development, progression and recovery of heart related illness (Uchino, 2004; Compare *et al.*, 2013). However, whilst a number of studies have been conducted that focus on various dimensions of social support, very few reviews have been conducted in an attempt to synthesise the findings that have been made thus far. This has given rise to a multi-faceted research gap. One of the dimensions of this gap arises when social support networks remain intact but are not

well suited to meet heart patients' support needs, such as a need for extended or highly personal instrumental support (Rook, 2009). The other dimension of this gap is birthed from the fact that social support has been defined purely within the paradigms of stress, implying that support is only relevant to health when individuals are stressed. As supported by others like Shumaker & Brownell (1984), it is the contention of the researcher that a clear, theoretical distinction needs to be made between the health sustaining and the compensating (i.e., stress buffering) aspects of social support. The researcher thus believes that social support is important to mental and physical health either in the absence or in presence of stress; but that support operates differently in these two situations. The researcher contends that failure to look at the social support gap from its different angles impedes efforts to develop effective social support models or interventions for heart patients as they tend to be unidirectional and reactive instead of them being multidirectional and proactive. This research was therefore conducted with a need to address this research gap by formulating a social support model which clearly outlines who renders which form of support and how.

The aim of this paper was therefore to give a narrative account of what is currently available, accessible and published, and written from a number of differing perspectives about social support for heart disease patients.

## **2.2 Materials and methods**

The review adopted a qualitative meta-synthesis approach (Kearney & O'Sullivan, 2003; Salter *et al.*, 2008). An interpretive meta-synthesis uses data which has been reported from previous studies as a basis to build a deeper understanding of a given phenomenon (Finfgeld, 2003). The researcher reviewed existing scholarly books and journal articles, and no fieldwork was conducted. A thematic approach was used for analysis such that literature search for English

language articles was based on a selection of published literature predominantly in the field of social support for heart patients. Such studies were included regardless of publication date. Key words used to guide the search included ‘*social support*’, ‘*heart disease*’, and ‘*patients*’, among others.

### **2.2.1 *Inclusion and exclusion criteria***

Only papers which discussed social support among heart patients were selected. Papers with a qualitative research focus were included in the narrative review, whereas papers with a quantitative research focus were excluded.

### **2.2.2 *Literature and data sources***

The literature search included published papers from several databases in English, namely EBSCOHOST, MEDLINE, SCIENCE DIRECT, ELSEVIER, and GOOGLE SCHOLAR, using key words such as ‘*heart disease patients*’, ‘*social support available*’, ‘*social support actions*’, ‘*social support factors*’, and ‘*social support challenges*’. Boolean operators were used to combine keywords such as ‘*social support*’ AND ‘*heart disease*’. The searches resulted in 642 references from Ebscohost, 446 references from Medline, 721 from Science Direct, 123 from Elsevier, and 352 from Google Scholar. All results were downloaded and stored in the references database program EndNote 7. From the total of 2284 references, 1769 references remained after deletion of duplicates.

### **2.2.3 *Study deletion***

Of the 1769 papers selected, 1640 papers were excluded by title and abstract as these were found to be irrelevant to the topic under investigation (Figure 2.1). Full texts of the remaining 129

papers were retrieved and screened for final inclusion. A further 25 papers were excluded due to lack of relevant information on the topic. The total number of papers that were deemed suitable for inclusion in the study was 104.

#### ***2.2.4 Data extraction and analysis***

For data extraction, a paper and pen extraction sheet was used. Four columns were drawn namely: social support available to heart disease patients; supportive actions beneficial to heart disease patients; social factors contributing to heart diseases; and social support challenges. Data from all included papers was independently coded by three data collection assistants into the four columns. After the initial coding, findings were compared and the differences were resolved by means of discussion. The final coding was based on mutual agreement. The main results and study flaws were summarised in a descriptive and narrative manner.

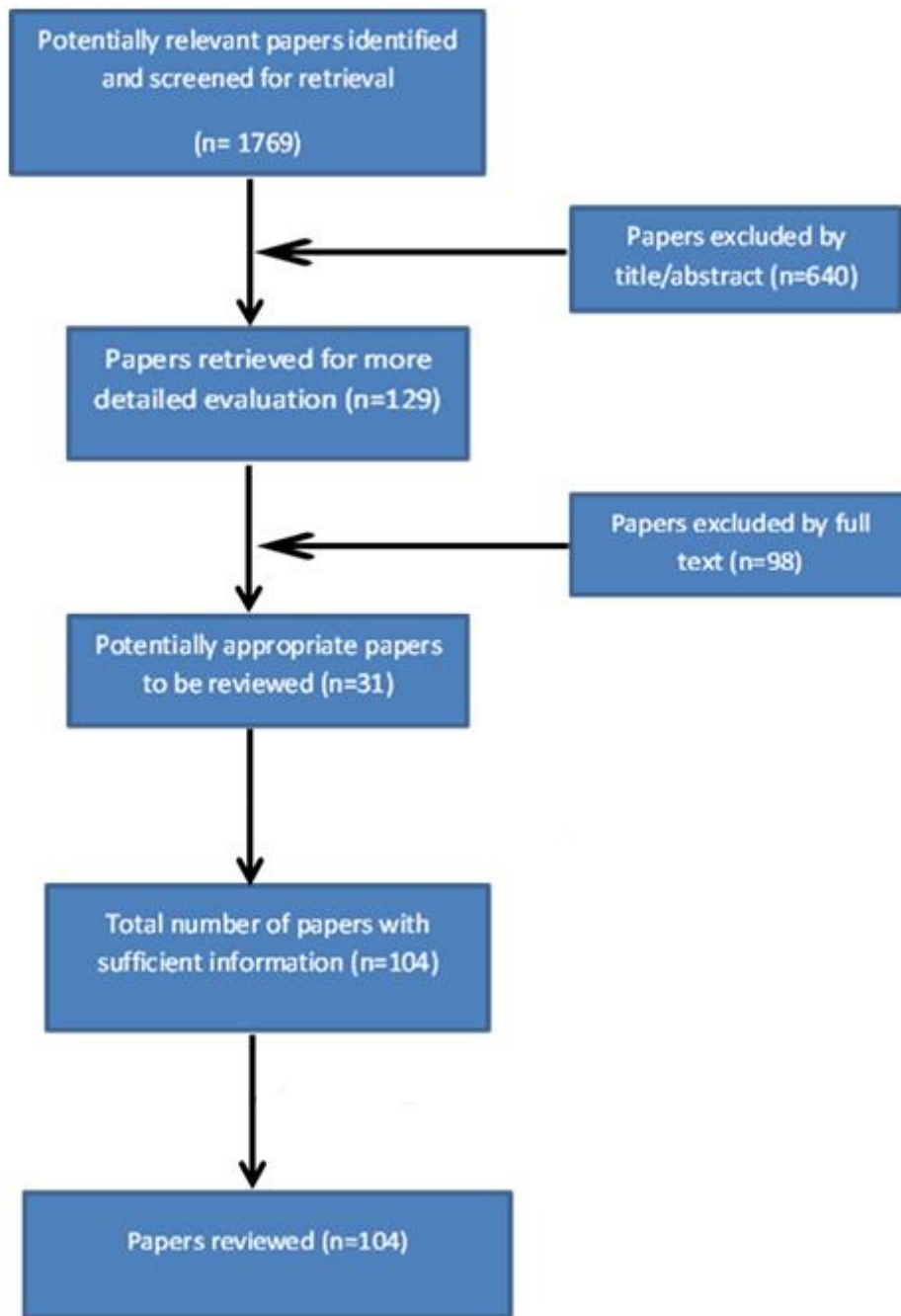


Figure 2.1: Review flow chart

**Table 2.1: Sample of examined studies regarding social support for heart disease patients**

Study	Area of focus
<p>(Alzi <i>et al.</i>,2014) . (Barth <i>et al.</i>, 2010). (Cardiovascular Health Network, 2008). (Chrysohoou <i>et al.</i>, 2014). (Cockerham, 2010). (Cramer <i>et al.</i>, 2015; Holm <i>et al.</i>, 2014 &amp; Alzi <i>et al.</i>, 2014). (Dimsdale, 2008; Folkman &amp; Lazarus, 1991). (Heather <i>et al.</i>, 2005). (Holm <i>et al.</i>, 2014). (Holt-Lunstad <i>et al.</i>, 2010). (Jiang &amp; Davidson, 2005). (Orth-Gomer <i>et al.</i>, 1993). (Pimple <i>et al.</i>, 2014). (Rubin, 2014). (Schroder <i>et al.</i>, 1998, Shwarzer &amp; Rieckmann, 1991). (Suita, 2015). (Teuteberg &amp; Teuteberg, 2016). (Uchino, 2004 &amp; Rozanski, 1999). (WHO, 2007).</p>	<p>Support available to heart disease patients; Support available to heart disease patients; supportive actions beneficial to heart disease patients.</p>
<p>(Barth <i>et al.</i>, 2010, Orth-Gomer <i>et al.</i>, 1993 &amp; Rubin, 2014). (Bourne <i>et al.</i>,2002). (HSFSA, 2007). Lee <i>et al.</i> (2012), (Nikpou <i>et al.</i>, 2013). (Oerkild <i>et al.</i>, 2011) (Owolabi <i>et al.</i>, 2014) (Paguntalan &amp; Gregoski, 2015); (Peer <i>et al.</i>, 2012).</p>	<p>Social factors contributing to heart disease;</p>
<p>(Borodulin <i>et al.</i>,2005). (Bradshaw &amp; Steyn, 2001). (Frantz, 2006). (Locker, 2008). (Pimple <i>et al.</i>, 2014). (Pretorius &amp; Sliwa, 2011). (Robert, 2002). (Rogerson, 1996). (Schneider <i>et al.</i>, 2009). (Vorster &amp; Kruger, 2007). (WHO, 2005). (Worrall <i>et al.</i>, 2005).</p> <p>(Albus <i>et al.</i>,2005) (Clark <i>et al.</i>,2003) (Go <i>et al.</i>, 2013) (Goedecke <i>et al.</i>,2005) (HSFSA ,2007) (Joubet <i>et al.</i>,2000) Kotzé <i>et al.</i> (2015) (Martinez, 2000) (Mayosi <i>et al.</i>, 2009) (Morewitz, 2006) (NDoH, 2015) (Noakes <i>et al.</i>,2015) (Sliwa <i>et al.</i>, 2008) (Stats SA, 2013). (Stats SA, 2014). (Steyn <i>et al.</i>, 2002).</p>	<p>Socio-economic conditions and poverty; obesity</p>

<p>Cockerham, 2010, De Logeril <i>et al.</i> (1999) (HSFSA, 2007, Hu &amp; Willet (2002). (Joubert <i>et al.</i>, 2000) (Kris-Etherton 1999, (Mera, 1994) (NDoH), 2015) Noakes <i>et al.</i> (2015) (Steyn <i>et al.</i>, 2001, &amp; Sunita 2015). (Trichopoulou, 2001). Trichopoulou, 2001 &amp; HSFSA, 2007). van der Vijver <i>et al.</i>, 2013 &amp; WHO, 2014)</p>	<p>Poor diet</p>
<p>(Azli <i>et al.</i>, 2014).( Di Pietro <i>et al.</i> 2004) (HSFSA 2007; Centre for Disease Control and Prevention, 2011). (Kolbe-Alexander <i>et al.</i>, 2006 &amp; Oldridge, 2008). (Kohl <i>et al.</i>, 2012; WHO, 2010). (Lee <i>et al.</i>, 2012). (Oerkild <i>et al.</i>, 2011). Paguntalan &amp; Gregoski (2015) (WHO, 1998 &amp; Thompson, 2011). (WHO, 2002; Chenoweth, 2005).</p>	<p>Physical inactivity; alcohol abuse</p>
<p>(Dalal ,2011) (Dvorak <i>et al.</i>, 2009; Holm <i>et al.</i>, 2014). (Go <i>et al.</i>, 2013). (Gu <i>et al.</i>, 2009). (Locker, 2008). (Pimple <i>et al.</i>, 2014). (Rosengren, <i>et al.</i>, 2014). (Rutledge <i>et al.</i>, 2000). . (Stein <i>et al.</i>, 2002). Steyn <i>et al.</i> (2005) (Stickley &amp; Carlson, 2009). (Wild <i>et al.</i>, 2004 &amp; Seedat, 2006)</p>	<p>Stress; tobacco smoking</p>

## **2.3 Results and discussion**

The findings from all the studies in the table above were thematically analysed and classified into four main themes namely: social support available to heart disease patients; supportive actions beneficial to heart disease patients; social factors contributing to heart disease; and social support challenges experienced by heart disease patients.

### ***2.3.1 Social support available to heart disease patients***

Social support can be rendered to heart disease patients in different forms which include functional support, structural support and psychological support. Functional support can be in the form of helping getting tasks done (instrumental support), providing information (informational support), helping to evaluate a situation (appraisal support), personal advice (tangible support), and creating a feeling of being loved (emotional support) (Cockerham, 2010; Heaney & Israel, 2008; Taylor, 2011; Langford, 1997). This kind of support can help heart patients cope with their state of health (Alzi *et al.*, 2014). Conversely, lack of, or inadequate social support might exacerbate the prognosis of patients with an established diagnosis of heart disease (Barth *et al.*, 2010).

Structural support is mostly determined by network size (number of contacts), frequency of contact, and membership of community groups and/or societies (Alzi *et al.*, 2014; Cramer *et al.*, 2015; Holm *et al.*, 2014). Psychological support, on the other hand, could be take the form of a combination of multiple strategies comprising emotional recovery, counselling sessions, regular cognitive therapy session, and caregiver support rendered by qualified personnel like doctors, nurses, psychologists and social workers. These strategies are often combined in the context of a single, holistic intervention ‘package’ (Holm *et al.*, 2014).

Other forms of social support available to heart disease patients include church or religious affiliation-linked support, spousal support (in the case of the married) and kinship support (Rubin, 2014). Social support that is rendered following a diagnosis of heart disease helps not only with physical recuperation, but also with emotional and psychological recovery too. Availability of social support has been shown to protect cardiac patients from negative prognostic consequences of depression (Pimple *et al.*, 2014). According to Alzi *et al.* (2014), unavailability of functional support is strongly associated with higher mortality in patients with heart disease. In addition, Chrysohoou *et al.* (2014) and Wills (1998) emphasise that support networks like the heart failure support group, peer-to-peer support, group meetings, and online support networks offer a place for patients to find and share emotional support with others who are going through similar experiences. Thus, sharing stories, experiences and practical advice can really make a positive impact in a patient's ability to cope with the challenges of heart disease.

### ***2.3.2 Supportive actions beneficial to heart disease patients***

Patients suffering from serious illness, including those suffering from heart disease, need support from family and friends, health care practitioners and the broader community where they live to help them cope with their conditions. Such support can be in the form of palliative care, also referred to as supportive care (Teuteberg & Teuteberg, 2016). This is a form of specialised care that focuses on improving the quality of life of the patients through relief of stress and symptoms (Dimsdale, 2008; Folkman & Lazarus, 1991). Knowing that there is someone to talk to and confide in can at times help people cope with medical conditions just as much as any treatment can (Holt-Lunstad *et al.*, 2010; Tilden & Weinert, 1987). Patients with a greater supportive care system, whether in the form of family or friends, therefore have a greater chance of coping with their conditions (Rozanski, 1999; Uchino, 2004). The immediate family in particular can play a

major role in offering support to their family member (Heather *et al.*, 2005). In order to be of support, family members must learn about cardiovascular heart disease so that they understand what their family member is experiencing (Cardiovascular Health Network, 2008). Knowledge will make them more helpful the patient in terms of following a prescribed treatment plan and coping (Jiang & Davidson, 2005). It is also important for family members to attend therapy sessions with their relative(s) if needed, and to encourage the patient(s) to follow recommended lifestyle changes and follow up with the proper health care providers.

Another legitimate response to a patient's difficulties is to mobilise social support to avoid or solve social and work concerns (WHO, 2007). Examples could include simple but consistent acts such as assistance with activities of daily living (ADLs) and instrumental activities of daily living (IADLs) in the form of getting children to school and back, cleaning, doing laundry, cooking and washing dishes (Sunita, 2015). In this process, family members and friends, nurses and doctors, and social workers and psychologists could offer guidance, advice and positive appraisal of prognosis which serve as coping assistance to patients (Gurung, 2006; Schroder *et al.*, 1998; Shwarzer & Rieckmann, 1991).

### **2.3.3 Social factors contributing to heart disease**

A study by Bourne *et al.* (2002) revealed that about 75% of heart-related diseases and deaths across the world result from social factors like lifestyle and behaviour, as compared to the 25% that are caused by genetic inheritance. In support of these findings, the Heart and Stroke Foundation of South Africa (HSFSA, 2007) also reports that more people die of heart-related disease induced by social factors as compared to the ones who inherited the disease genetically.

A variety of psychosocial factors such as social isolation, neglect, loneliness and absence of a confidante, depression, anxiety, worry, and chronic life and social stress predict the development, course and negative prognosis of heart disease (Barth *et al.*, 2010; Rubin, 2014). According to Lee *et al.* (2012), heart patients with low social support tend to experience risk factors such as high blood pressure and depression. Depression might further predispose them to risky lifestyles such as alcohol abuse and smoking, even sedentary lifestyle and poor dietary choices, which might potentially lead to obesity, further exacerbating their risk of heart disease (Nikpour *et al.*, 2013). Other social factors contributing to heart disease include: socio-economic conditions and poverty (Oerkild *et al.*, 2011); network dissatisfaction and perception of decreasing available support (Owolabi *et al.*, 2014); low levels of education/lack of information among isolated survivors (Paguntalan & Gregoski, 2015); peer pressure and gender differences (Peer *et al.*, 2012).

The HSFA further asserts that 9 out of 10 heart patients in South Africa have at least one of the following risk factors; high cholesterol, high blood pressure, diabetes, cigarette smoking, poor diet, obesity, alcohol abuse, physical inactivity, and stress. As it has already been mentioned, the disease is more significantly associated with lifestyle than with genetic factors. This implies that education and training of the general public regarding the effects of the social factors mentioned, and how to mitigate those social factors, is essential. It is the researcher's view that government departments like the Department of Health, the Department of Social Development, and the Department of Basic Education can take the essential step of integrating into their curricula lifeskills that can help in mitigating those negative social factors.

Given the importance of the social factors that contribute to heart disease in the context of prevention and the provision of support, the following sections are devoted to individually outlining each of these factors.

#### *2.3.3.1 Socio-economic conditions and poverty*

The concepts of socioeconomic conditions and poverty are interlinked in such a way that the former is used to describe an individual's social as well as economic position in the broader society. Research has found that disadvantaged people in society are more vulnerable to a variety of diseases because of their economic circumstances (Rogerson, 1996). They are more prone to risky health behaviour as they live in a less healthy social and physical environment as a result of poverty, which all conspire to increase their risk of developing chronic diseases such as cardiovascular disease (Schneider *et al.*, 2009). The indicators that are common with regard to socioeconomic conditions are the income of an individual, as well as his or her assets, occupation, and educational level (Robert, 2002).

In the case where individuals are subjected to adverse socio-economic conditions, they become stressed, and stress is therefore another risk factor which is associated with socio-economic conditions. Pimple *et al.* (2014) mentioned that there is a close relationship between stress and heart-related disease, which means that an individual who is always under stress might develop heart-related problems later in life (WHO, 2005). Stress is discussed in more detail below.

When an individual has a lack of or limited ability to meet his or her basic needs, poverty becomes a reality (Worrall *et al.*, 2005). The main point here is that these social factors have been treated in isolation in literature when they are, in reality, interlinked. As mentioned above, it is clear that a person who does not have an income will have less dietary choices to choose

from, which puts him or her at the risk of contracting a variety of dietary diseases, including heart-related disease.

Locker (2008) emphasises that disease and ill health can be caused and made worse by numerous risk factors, which range from social factors such as poverty and poor housing to genetic or physiological and behavioural factors. These risk factors lead to an increased level of stress among individuals, making them more prone to heart-related disease. As of 2011 in South Africa, poverty levels were at 45.5%, having dropped from 52% in 1996 (Bradshaw & Steyn, 2001). This translated to roughly 23 million people living below the upper-bound poverty line (Statistics South Africa, 2014). Pretorius and Sliwa (2011) showed that damaging food choices and potential nutritional deficiencies in a subgroup of urban Black African patients diagnosed with heart-related disease in Soweto were largely as a result of changing dietary patterns, low income levels and a probable lack of knowledge of what constitutes a healthy diet, and the contribution of these to cardiovascular disease. Vorster and Kruger (2007) postulate that the link between poverty and cardiovascular disease in South Africa can be explained by the high prevalence of under nutrition in children under 9 years old, the high prevalence of overweight and obese adults, as well as the negative trends in nutrient intake especially when Africans (the population group with the largest numbers of poor people) urbanise, acculturate and adopt westernised eating patterns that will increase CVD risk. These issues are discussed in more detail in the following sections.

#### 2.3.3.2 *Obesity*

Obesity refers to the state of imbalance between the intake of energy and its expenditure, and is significantly associated with heart disease (Morewitz, 2006). Stored excess fat is deposited to the walls of the arteries (atherosclerosis) and ultimately restricts the smooth flow of oxygenated

blood, which causes the heart not to function normally and effectively which, in turn, can result in the triggering of heart-related diseases such as coronary heart disease, hypertension and stroke (Albus *et al.*, 2005; Frantz, 2006; Goedecke *et al.*, 2005; Morewitz, 2006). In studies by Borodulin *et al.* (2005), Steyn *et al.* (2005), and Frantz, (2006), the majority of obese people were found to be suffering from coronary heart disease. Noakes *et al.* (2015) reiterate that there is a close relationship between obesity and chronic diseases, especially heart-related diseases. They emphasise and advocate for the need to reduce the intake of carbohydrates as a possible solution to obesity, thereby significantly reducing the risk of chronic disease, in this case heart disease.

The WHO (2012) defines overweight as having a body mass index (BMI) between 25 – 29.9, and obesity as having a body mass index of 30 and above. This is the same for both men and women irrespective of age, gender and race. The WHO (2012) also states that, for adults, the range that would be regarded as healthy for BMI is between 18.5 and 24.9. This can only be achieved by strictly adhering to good dietary principles and healthy living (Martinez, 2000), and represents a pathway for reducing the likelihood of heart-related conditions and diseases. At global level, conclusions by Albus *et al.* (2005) and WHO (2014) results confirm these trends on obesity.

According to Albus *et al.* (2005) and Go *et al.* (2013) most people who are diagnosed with obesity problems do not die of obesity, but rather of conditions such as cardiac arrest, heart-related disease and stroke triggered by obesity. Morewitz (2006) also argues that obesity plays a key role in contributing to heart-related disease across the globe. The WHO (2014) estimated that globally, almost 1.3 billion people are obese, with the majority residing in developing countries like South Africa, Mexico and other Latin American countries. The WHO attributes

this prevalence to under nutrition, because people in these countries are largely poor and, therefore, eat food that they can afford, even if it is food, which is not necessarily nutritious.

South Africa has approximately 4.8 million people who are obese, which is 2.6% of the total population of 54 million (Stats SA, 2014). While obesity affects people of all ages, race and gender, and particularly those who reside in urban areas as compared to their rural counterparts, Clark *et al.* (2003), cited in Goedecke *et al.* (2005) found that some Black South African women regard being overweight or obese as something that shows that they are happy, well looked after, free from disease and in general good health. Conversely, many White South African women appear to like being 'skinny' and not having a big body as compared to their black counterparts (Steyn *et al.*, 2002). As such, it is evident that when analysed by gender and ethnicity, there is a significant difference between these races as to how they perceive their body size, and that cultural norms and values thus play a significant role in understanding (and managing) the relationship between obesity and heart disease.

Mayosi *et al.* (2009) stated that around 50% of South African women are overweight or obese, and they attributed obesity to poor living conditions and poor health among most of the participants in the survey. These findings point to the fact that obesity is increasing, in particular among black urban dwellers. The findings of Mayosi *et al.* (2009) are in line with the findings of Sliwa *et al.* (2008), since they both attribute obesity to poor living conditions in South Africa, and regard this as being contributory to the incidence and development of heart disease. Obesity in South Africa is increasingly becoming a cause of concern as the majority of people are regarded as obese or overweight. Stats SA (2013) classified more than 29% of men and 56% of women as obese. Out of 7 726 South African women between the ages of 15 and 95 years who participated in a survey, black women, at 58%, had the highest prevalence of obesity compared

to other races. Women of mixed race were at 52%, white women at 49.2%, and Indian women at 48.9% (Stats SA, 2013). A follow-up survey in 2014 comprising 5401 South African men aged between 15 and 95 years found that white men had the highest prevalence of obesity at 54.5%, followed by Indians at 32.7%, men of mixed race at 31%; and black men at 25% (Stats SA, 2014).

HSFSA (2007) and Joubert *et al.* (2000) argue that people in South Africa consume too much fat, which results in them being obese or overweight. This makes them vulnerable to hypertension and, hence, to eventually developing heart-related diseases. A study by Sliwa *et al.* (2008) confirmed these results. This study was conducted in Soweto, South Africa, in 2006 on heart-related disease. It revealed that the majority of the women and men who participated in the study with confirmed heart-related conditions were obese even though it was done among people with confirmed heart conditions. It provided substantial empirical evidence of the association between obesity and heart-related disease (Sliwa *et al.*, 2008).

Recently, Kotze *et al.* (2015) conducted a study on genomic medicine and risk prediction across the disease spectrum in South Africa, and found the presence of heart disease as a result of obesity in both men and women. As a result of obesity, some people are prone to developing hypertension, which is currently ranked fifth among risk factors related to early death (NDoH, 2015). In South Africa, the prevalence of obesity has been associated with poor diet, especially among black South Africans. This issue is discussed in the following section.

### 2.3.3.3 *Poor diet*

Poor diet refers to the consumption of food that is poor in nutrients, and that does not help in maintaining a healthy body (WHO, 2014). It has been indicated by the WHO (2014) that unhealthy diets are widespread in poor countries. By contrast, foods such as fruits and vegetables

are recommended because of their fibre content which helps prevent cardiovascular disease (Mera, 1994) as it lowers the body's cholesterol levels (Steyn *et al.*, 2001; Sunita, 2015; WHO, 2014). As an example, the intake of fruits, vegetables and non-refined grains is emphasised in the Mediterranean diet as a way of minimising the chances of heart disease, and is also supported by the findings of Hu and Willet (2002) and Kris-Etherton (1999). This implies that following a healthy diet can prevent heart-related conditions.

De Lorgeril *et al.* (1999) suggest that in addition to the Mediterranean high fibre diet, people with heart-related problems should eat more fish and reduce their consumption of red meat, claiming that such a diet can reduce the impact of their conditions. The most significant characteristic of this particular diet is the inclusion of one to two glasses of wine with regular meals, daily. It has been said that certain properties, particularly the residue of wine, are important for fighting heart disease (Trichopoulou, 2001). Wine prevents the arteries of the heart from blocking, thereby allowing the free flow of blood all over the body as should be the case, and it also unblocks the blocked arteries of the heart, allowing the free flow of blood for those who are already suffering from heart-related conditions (HSFSA, 2007; Kris-Etherton, 1999; Trichopoulou, 2001.).

There are, however, other researchers who do not agree with the fact that a low-fat diet is recommended for reducing the risk of heart-related disease (WHO, 2003). For instance, Noakes *et al.* (2015) advance the view that the most important thing to consider when it comes to one's diet is reduced intake of carbohydrates and increased intake of fats, also referred to as a low-carb high-fat (LCHF) diet. They maintain that a low-carbohydrate diet ensures that cholesterol levels are reduced, since high levels of cholesterol are a major cause of heart disease. This statement represents a new perspective, as a number of scholars (Cockerham, 2010; HSFSA, 2007; Van

der Vijver *et al.*, 2013; WHO, 2014) have argued extensively that high fat intake is a cause of heart disease. However, most authors agree with Noakes when it comes to low carbohydrate intake as a good practice to reduce the challenges of heart-related disease. At this point we need to give research consideration to the theories of Noakes and his colleagues who are advocating a diet which is universally viewed as detrimental to people's health.

In a programme aired on Channel Africa and South African Broadcasting Corporation (SABC) channel news on 17 May 2016, health experts raised concerns over the rise of hypertension in South Africa when they estimated that 80% of South Africans might be prone to heart-related diseases, because they eat unhealthy foods that have high fat and salt content.

Perceptions from Vorster's publication in 2002 (15 years ago) indicate that heart disease was not a major issue in rural South Africa because it was characterised by poor fat content diets compared to the urban South Africa. In its 2007 report, HSFA stated that most South African township dwellers consume unhealthy food compared to healthy food from their rural counterparts. Poor people buy unhealthy food that is inexpensive and non-nutritious (National Department of Health, (NDoH), 2015) like bunny chow, fat cakes, and Chisa Nyama from popular places in townships where they sell red fatty barbecued salted and spiced meat.

The HSFA (2007), therefore, recommends a prudent diet as a preventative measure against heart disease. The HSFA (2007) stresses the reduction in consumption of saturated fats from animal products by limiting red meat and replacing it with fish, chicken and legumes as a source of protein as one the possible solutions for preventing heart-related diseases. This kind of a diet consists mainly of unrefined carbohydrates like whole grain products, as well as fruits and vegetables. On the contrary, most urban African diets nowadays contain high levels of salt and fat, and tend to be lacking in the intake of fruit and vegetables (HSFA, 2007). As observed by

Mayosi *et al.* (2009), the intake of fat and salt by South Africans increased from 16.4% to 26.2% between 2000 and 2009. Excess salt and high fat intake are two of the main causes of hypertension (Cockerham, 2010; HSFSA, 2007; Van der Vijver *et al.*, 2013). This affects especially those who do not yet know their status as far as heart-related conditions are concerned as the increased intake of fat and sedentary lifestyles make them more vulnerable to heart-related problems.

According to Sliwa *et al.* (2008), Mayosi *et al.* (2009), and Maredza *et al.* (2011), the majority (approximately 56%) of urban dwellers mostly consume unhealthy foods. These authors analysed the epidemiology, especially the impact of heart-related diseases, based on rural and urban dynamics, the overriding element of which is displacement or movement of people.

In summary, an increasingly high-fat diet has contributed to making many people in South Africa obese, and obese people are at higher risk of being affected by heart disease. Additionally, obesity affects physical activity in that obese people are highly unlikely to engage in any form of exercise, as they quickly get tired. This lack of exercise, or physical inactivity, in turn, contributes to heart-related disease, including the weakening of the heart muscle. The dangers associated with physical inactivity are discussed in the next section.

#### *2.3.3.4 Physical inactivity*

One of the most common social factors contributing to heart-related disease is physical inactivity, which is a state of laziness or of the body being at rest all the time, not moving around to keep it active ( Centre for Disease Control and Prevention, 2011; HSFSA 2007).

Physical inactivity is an independent risk factor for many chronic diseases, including heart-related disease (WHO, 1998; Thompson, 2011). The WHO (2014) argues that about 22% of

deaths globally are as a result of heart-related disease caused by physical inactivity, further predicting that 11.1 million people will die of heart-related disease induced by physical inactivity by 2020. This implies that physical exercise is vital for the improvement of the health of our bodies, including the prevention of heart-related diseases.

If exercise helps the body to detoxify, it follows that an inactive body is most likely to have more fat stored (Oerkild *et al.*, 2011). Borodulin *et al.* (2005) and Frantz (2006) stated that physical inactivity can contribute to heart-related disease and other diseases, and that a body that is not active tends to store more fats, thereby causing the body to be more vulnerable to many diseases, particularly cardiovascular disease. Paguntalan and Gregoski (2015) further explain that stored fats in an inactive body lead to the development of hypertension, whereby blood pressure is elevated, resulting in the arteries of the heart being damaged. It is important that the body is physically active to ensure protection from cardiovascular disease (Kolbe-Alexander *et al.*, 2006; Oldridge, 2008).

In South Africa, as in many countries, people, especially the younger generation, tend to lead sedentary lifestyles, driving instead of walking even short distances (HSFSA, 2007). When not at work, many people, young and old in an urban setting tend to spend most of their time in the house, with less physical activity, thus the concern over growing numbers of people who are hypertensive and developing heart problems (Azli *et al.*, 2014; Powell & Blair, 1994). This is different from their rural counterparts. For instance, as pointed out above, rural Black South Africans are less likely to develop heart-related diseases because they are most likely to engage in agrarian labour, hence keeping their bodies active (Vorster, 2002). Such activities help them to a great extent to fend off fat and contribute to the prevention of heart-related diseases. It has been found that reduction of physical inactivity, or engagement in some form of physical exercise

will increase life expectancy by 0.68 (range 0.41–0.95) years (Lee *et al.*, 2012). This highlights the health benefits for physically active people, who are thus more protected than the physically inactive from susceptibility to non-communicable diseases like heart disease. Physical inactivity carries about six per cent of the burden for heart-related disease, eventually resulting in people dying from heart problems (Kohl *et al.*, 2012; WHO, 2010). Physical activity is one of the most important factors in minimising the risk of chronic disease, including heart-related disease, among people of all ages (Chenoweth, 2005; WHO, 2002).

However, it should be noted that this problem is not peculiar to South Africa. The prevalence of physical inactivity among the population in Brazil and Malaysia increased between 2013 and 2014, with physical inactivity in Brazil estimated at 70.5% among males above the age of 18, and 81.9% among females above the age of 18 (WHO, 2014). In Malaysia, the prevalence was 83.7% among females 18 years and older, and 65.5% among males aged over 18 (Azli *et al.*, 2014).

Studies by Di Pietro *et al.* (2004) and Frantz (2006) have shown that, as a general rule, a minimum of 30 minutes of physical activity per day can help to improve the condition of a person with heart-related problems, as well as reduce the risk of many other chronic diseases (Di Pietro *et al.*, 2004; Go *et al.*, 2013). This assessment is supported by Frantz (2006) who recommends any form of physical activity, including walking, because it helps to reduce the risk of developing heart-related conditions. The rationale of this recommendation is that circulation improves with regular exercise and this prevents blockage of the arteries and clot formation.

#### 2.3.3.5 *Alcohol abuse*

Heavy consumption of alcohol is a prevalent social behavioural factor which contributes to heart-related disease (Cockerham, 2010). Alcohol may lead to hypertension, which, in turn, may lead

to the development of cardiovascular disease (Cockerham, 2010; Maredza, 2011; Stuck *et al.*, 1999). Research has shown that most people who are diagnosed with hypertension consumed alcohol excessively (Stuck *et al.*, 1999) and thus were not able to manage the hypertensive condition. As a result, a person with hypertension will eventually die of heart-related disease if it is left uncontrolled (Kurihara *et al.*, 2004; Stuck *et al.*, 1999).

A daily consumption of more than five glasses of beer, for example, is determined to be over the limit and can have damaging consequences for an individual's health (Stuck *et al.*, 1999). Moderate or low intake of alcohol (a glass or less of wine after regular meals) is not dangerous, and thus does not contribute to heart-related disease. On the contrary, as mentioned earlier in relation to consumption of alcohol, moderate or low consumption decreases the risk of heart disease by making sure that the blood vessels are capacitated to transport blood to the arteries of the heart, with a smooth flow of blood all over the body (Stuck *et al.*, 1999). Low intake of alcohol therefore not only does no damage to the arteries of the heart, but is viewed as a preventative measure against heart disease (Biccard & Nepaul 2010; Stuck *et al.*, 1999). Rubin (2014) supports this by noting the importance of moderate alcohol intake after dinner as a preventive measure against cardiovascular disease.

#### 2.3.3.6 *Stress*

Dalal (2011) argues that another social factor that can lead to cardiovascular disease is stress. Stress is induced by stressors, including socio-economic factors like poverty, unemployment and an unhealthy living environment (Pimple *et al.*, 2014). It usually arises when a person is consistently worrying about something that has become a problem that she or he cannot resolve. The body secretes hormones called adrenaline and cortisol when an individual is under stressful conditions. The secreted adrenaline increases the heart rate and, if the problem persists and is

unattended to or there is no solution to the problem over a period of time, the stress level goes up and develops into depression (Rosengren, *et al.*, 2014). The individual sufferer then develops hypertension, and eventually possibly a heart-related condition (Rutledge *et al.*, 2000). It is also during this state of depression that heart disease begins to manifest. During depression, the patient feels more down, sad and tired, loses interest in many things, eats inconsistently and sometimes indiscriminately, lacks concentration, struggles to sleep, views life as worthless and, hence, becomes suicidal (Locker, 2008). It is during this phase that the blood vessels get damaged, resulting in the arteries of the heart not functioning as normally as they should, which in turn leads to the development of heart-related problems (HSFSA, 2007; Seedat, 2006; Wild *et al.*, 2004.).

The HSFSA in its media data document of 2007 reported that in 52 African countries including South Africa, it has been found that people who had suffered from heart-related diseases, for example, heart attack and stroke, were reported to have been suffering from high levels of stress and depression. This is about 55% more frequently than people of the same age and gender who had not suffered from heart-related disease. This implies that management of stress is vital in the prevention and management of heart-related disease. Stress also triggers other factors; for instance, it induces some people to have constant, unusual cravings for food, thus leading them to become obese, which in turn contributes to heart disease (Go *et al.*, 2013).

Steyn *et al.* (2005) emphasise that in South Africa, urbanisation and lifestyle changes among the people have resulted in high levels of stress, with people eating a lot and not exercising because of challenges associated with urban life. Their research in the Western Cape Province revealed that the stress induced by urbanisation might lead to increased incidence of chronic lifestyle diseases such as heart disease.

### 2.3.3.7 Tobacco smoking

Many authors report that the most common social factor contributing to heart-related disease is tobacco smoking and many people who have died of heart disease were found to be tobacco smokers (Cockerham, 2010; Dvorak *et al.*, 2009; Holm *et al.*, 2014; Maredza *et al.*, 2011; WHO, 2014). It is one of the most important risk factors for cardiovascular disease, lung cancer and obstructive pulmonary disease (Stein *et al.*, 2002). Ingredients found in tobacco are addictive, making it difficult for most people to quit smoking. The number of people who died of smoking-related heart diseases in the 20th century has raised concerns, with around 100 million deaths reported worldwide (WHO, 2014). According to the WHO, it is estimated that 5.4 million lives were lost globally to heart-related disease between the years 2000 and 2013, most of which were due to tobacco smoking induced heart complications (Ezzati & Lopez, 2000). It has been reported that Russia, between 1980 and 2000, recorded about 5.8 million heart disease deaths induced by tobacco smoking, and since then, 300 000 tobacco-related deaths, predominantly men, have been reported every year in Russia (Stickley & Carlson, 2009). According to these authors, India also has a large proportion of smokers, especially men, who constitute the majority of victims of these diseases.

About 1.1 billion people across the world are tobacco smokers (Gu *et al.*, 2009; WHO, 2014). China is the world's leading country of tobacco producers and smokers with an estimated 350 million residents being tobacco smokers (WHO, 2014). About 230 million people in China are living with heart-related disease, with the majority of cases linked to tobacco smoking (WHO, 2014). In 2010, it was estimated that 154.8 per 100, 000 deaths in China were as a result of heart-related disease induced by tobacco smoking. The number of people suffering from heart-related disease in China is expected to increase by 50% between 2010 and 2030.

The country that has the least tobacco smoking prevalence in the world is Sweden, with only 14.5% of the entire population reported to smoke tobacco (WHO, 2014). The low prevalence of tobacco smoking in Sweden is ascribed to the fact that it has a strict tobacco law in place coupled with an ongoing educational programme enlightening people about the danger posed by tobacco smoking, which seems to be working well for the country. The total population of Sweden is about 9.8 million, and the prevalence of heart disease is low. Low tobacco intake is believed to be one reason for this low prevalence (WHO, 2014).

In the Southern African region, which includes Botswana, Lesotho, Swaziland, Zimbabwe, Mozambique, Malawi, Zambia and South Africa, South Africa has the leading smoking prevalence (Steyn *et al.*, 2001; WHO, 2012). According to Mayosi *et al.* (2009), tobacco smoking in South Africa is more prevalent among men than women. Statistics South Africa (Stats SA, 2014) reported that approximately 18.8% of South Africa's population of 54 million lost their lives due to smoking-related illnesses between 2009 and 2014.

## **2.4 Conclusion**

Social support has been increasingly associated with the prognosis of heart disease. Existing research strongly supports the notion that psychosocial factors such as depression and low social support are established risk factors for patients with heart disease. Patients living with heart disease who receive proper social support have a better prognosis than those who do not. Given the importance of such factors, and the fact that no comprehensive literature review on the subject could be located, the aim of this paper was to summarily review the literature pertaining to social support for heart disease patients. More specifically, a qualitative meta-synthesis strategy was adopted as basis for the review. A total of 104 articles were included in the review, and were analysed by means of thematic analysis. The findings of this literature review revealed that heart

patients' prognosis are affected by a variety of social support factors, which include: functional support; structural support; peer support and psychological support. From the literature, it is also evident that heart patients can benefit from supportive actions, which demonstrate love, such as frequent visits, strong ties, in-kind interventions, assistance with household chores, guidance and advice, and positive prognosis appraisal. However, from the literature it was also noted that social factors such as socio-economic conditions and poverty, obesity, unhealthy diet, physical inactivity, alcohol abuse, stress and tobacco smoking both contribute to heart disease and affect the quality of life of heart patients. All of these factors are associated with a negative prognosis in relation to heart disease, and as such, social support alone without taking into consideration the social factors leading to heart disease would not be enough. Whereas many studies have been conducted to identify the types of social support available to heart disease patients as well as the social support needs and realities of such patients in much of the developed world, no such studies have been carried out in South Africa and the social support available to heart disease patients in South Africa therefore remains undocumented. Future research should map and profile such supporting agencies and programmes nationally. In addition, there is a need for future studies to focus on the challenges faced by heart disease patients as well as their preferred social support actions. Such information regarding social support available to heart disease patients, supportive actions beneficial to heart disease patients, social support factors contributing to heart disease and social support challenges faced by heart disease patients are all factors that are paramount for the development of a clinical assessment tool and support model for heart disease patients. Overall, gaps that currently stand out in literature and that need to be addressed in future studies include research into the role of social factors in the development and progression of heart disease in poor resource settings, and how social support in these particular

settings helps to ease the effects of heart disease both among the victims and also among their caregivers.

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## **CHAPTER 3: A QUALITATIVE EXPLORATION OF THE SOCIAL FACTORS THAT AFFECT THE QUALITY OF LIFE OF PEOPLE WITH HEART DISEASE**

### **ARTICLE 2**

#### **ABSTRACT**

**Aim:** This paper sought to explore the social factors affecting the quality of life of Black South African patients with heart disease in the Tshwane Metro of Gauteng Province.

**Background:** Heart disease is a leading cause of death in adult South Africans, with 210 people dying every single day. Social factors have been found to play a significant role in affecting quality of life among those with heart disease, but this has not been sufficiently researched in a Black South African context.

**Method:** An exploratory qualitative design was employed using a sample of 4 medical doctors, 6 nurses, 5 social workers, 4 caregivers, 10 male heart patients (Black South Africans, 18 - 64 years old) and 9 female patients (Black South Africans, 18 - 64 years old) from 4 different public hospitals around Tshwane drawn by means of purposive and quota sampling. Ethical principles of research were observed. Face-to-face semi-structured interviews were conducted. Data were analysed thematically. Measures to ensure the trustworthiness of the study findings were employed.

**Findings:** Participants suggested that in order to improve their quality of life, heart disease patients should adhere to regular check-ups and treatment, reduce weight, stop smoking and drinking alcohol, be educated about their condition and its management, and that they should exercise.

**Conclusion:** The paper concludes that factors that affect the quality of life of heart disease patients include poverty, diet, obesity, smoking, drinking, physical inactivity, lack of social support, stress, treatment, and check-up default.

**Recommendations:** Tshwane township communities should have heart patient rehabilitation centres where heart patients could receive medication, nutritionally appropriate food, and medical check-ups on a regular basis. To facilitate awareness in impoverished communities, a database of heart patients could be created with complete profiles of their socio-economic status so that if need be, the government can allocate monthly food parcels to such people/homes so that Black South African patients are adequately looked after.

**Key words:** social support, social factors, heart disease, qualitative research.

### **3.1 Introduction and background to the study**

Heart disease is the leading cause of morbidity and mortality in high-income countries of the industrialised world, accounting for more than one third of total deaths (WHO, 2014). It is also the leading cause of death among low- and middle-income countries, accounting for almost 25% of total deaths and, by the year 2030, is projected to be the leading cause of death worldwide (Keatsoulas & Anand, 2010).

The epidemiological transition states of cardiovascular disease reveal that the first stage, known as ‘the age of pestilence and famine’ (Levenson *et al.*, 2002), is indicative of countries in the earliest stage of development, in which death from heart disease accounts for less than 10%, predominantly as rheumatic heart disease and cardiomyopathies due to infection and malnutrition (Levenson *et al.*, 2002). Geographical regions currently experiencing this transition state include sub-Saharan Africa and rural areas of South America and Asia (WHO, 2012).

During the second stage, known as ‘the age of receding pandemics’, infectious disease burdens are reduced, nutrition improved and, correspondingly, deaths attributed to heart disease increase to up to 35%, manifesting mostly as rheumatic heart disease, hypertension, coronary artery disease and stroke (Olshansky & Ault, 1986). Geographical regions currently experiencing this transition state include China and other Asian countries like Japan and Thailand. In the third stage – ‘the age of degenerative and man-made diseases’ - life expectancy continues to improve, diets include higher fat content, cigarette smoking becomes more prevalent and sedentary lifestyles become more common (Yusuf *et al.*, 2001). Not surprisingly, deaths attributed to heart disease continue to rise, accounting for 35% to 65% of total deaths, primarily manifesting as atherosclerosis, coronary artery disease and stroke, often at ages younger than 50 years (Yusuf *et al.*, 2001). Regions currently experiencing this stage include urban India, Latin America and former socialist eastern European block countries. In the developed world, most countries are in the fourth stage of transition referred to as ‘the age of delayed degenerative diseases’, in which up to 50% of deaths are attributed to heart disease and typically present as coronary artery disease and stroke or congestive heart failure at more advanced ages (STATS SA, 2014; & WHO, 2010). More recently, a fifth stage has been identified – ‘the age of health regression and social upheaval’ (WHO, 2012) – which is used to describe conditions of social upheaval or war, resulting in a breakdown of the health system in which there is a resurgence of diseases seen in transition stages one and two (e.g., rheumatic heart disease), while the cardiovascular diseases (CVD) common in the third and fourth stage (e.g., atherosclerosis) continue to persist (Keatsoulas & Anand, 2010). In total, approximately 35% to 55% of deaths are attributed to CVD, with a lower average life expectancy similar to what is experienced in Russia (Yusuf *et al.*, 2001).

In 2004 the INTERHEART study (Yusuf *et al.*, 2004) examined more than 27,000 cases and controls from 52 countries and found that more than 90% of the population-attributable risks for myocardial infarction could be explained by nine potentially modifiable risk factors: apolipoprotein B: apolipoprotein A ratio, smoking, diabetes, hypertension, abdominal obesity, psychosocial factors, fruit/vegetable consumption, physical activity and alcohol consumption.

Thus, it is reasonable to believe that modification of these individual risk factors will significantly improve cardiovascular health. The majorities of these risk factors are social, or at least contain a significant social component.

The term ‘social factors’ is used to describe the impacts of various facets of the social environment on the health of people living in a particular community (Wilkinson & Marmot, 2003). Specifically, they include the conditions in which people are born, grow, live and work, as well as their environment and ages, and are shaped by the distribution of money, power and resources at global, national and local levels (WHO, 2010). Such social factors (including the health care system) are mostly responsible for health inequities between and within countries. Now that the prevalence of heart disease risk factors (e.g., obesity, hypertension and diabetes) is rising worldwide (Keatsoulas & Anand, 2010), it is necessary to focus efforts on understanding the role of the ‘causes of the causes’ (i.e., the social factors) to help bring some awareness to the disease and its management. Positively oriented social support has been associated with beneficial effects on the state of cardiovascular disease patients and overall health and well-being (WHO, 2010).

However, cardiologists are accustomed to managing biological factors and lifestyle behaviours such as physical inactivity (Khayyam-Nekouei *et al.*, 2013). A few studies have been carried out to determine the association between social factors like socioeconomic status and cardiovascular

disease risk factors in South Africa (Mpe, 2010), but there is still sparse literature about these associations in this context. As already mentioned, the global progression of heart disease is at different stages with regard to the social factors associated with heart disease. This implies that the social factors associated with heart disease are likely to differ from one stage to the other and also from one country to the other. Resultantly, research done in countries that are at other stages of disease development, different from South Africa's, cannot be translated into the South African context. South Africa is a developing country with a unique socio-economic background shaped by inequality and poverty (Egbujie *et al.*, 2016) . This could mean that the social factors associated with heart disease in South Africa could be different from other countries where similar research has been carried out. This is especially considering that South Africa's historical and cultural differences play may be reflected in the nature of and extent to which social factors affects heart patients in this context of inequality, poverty and lack (Micklesfield, 2013). The lack of research on heart disease in the context of poor Black South African patients is therefore a gap that needs to be addressed. Based on this gap, the main aim of this paper is to explore the social factors affecting the quality of life of people with heart diseases in the Tshwane Metro of Gauteng Province, South Africa.

### **3.2 Methodology**

This study adopted an exploratory qualitative methodology. The rationale behind the researcher's choice of a qualitative research approach was to explore heart patients' subjective experiences and needs in relation to social support, as well as the views of health professionals about heart patients' social support needs. In addition, the design allowed the researcher to interpret and understand the meaning that the participants gave to the social support available to them (De Vos *et al.*, 2009).

### **3.2.1 Research design**

A research design refers to how the researcher is intending to conduct the study. In other words, it sets out the methods that the researcher will use, for example, to select a sample that has relevance to the overall purpose, as well as to gather and analyse data (Mouton, 2009). In this study, the researcher used an exploratory design, which provided the opportunity to seek an in-depth understanding of complex social support experiences (Babbie & Mouton, 2001). When a field is being explored, it means that not much is known about that field, so the researcher explores it in order to gain insight into the phenomenon under investigation (Henning et al., 2004). The rationale behind the researcher's choice of a qualitative research approach was to explore heart patients' subjective experiences and needs in relation to social support, as well as the views of health professionals about heart patients' social support needs. In addition, the design allowed the researcher to interpret and understand the meaning that the participants gave to the social support available to them (De Vos et al., 2009).

### **3.2.2 Research setting**

This study was conducted in the Greater Tshwane region in Gauteng Province, South Africa. This region is serviced by four public hospitals, namely Steve Biko Academic Hospital located in the Central Business District, Kalafong Hospital located to the west of Tshwane, Odi District Hospital located to the north of Tshwane, and Jubilee District Hospital also located to the north of Tshwane. This region was selected because Tshwane is an urban setting; research shows that people who reside in urban areas are more vulnerable to non-communicable diseases like heart disease as a result of lifestyle and socio-economic factors such as poverty and consequently, poor diet. Poverty is high in cities like Johannesburg and Tshwane, especially in the townships, hence the researcher's choice to conduct the study in Tshwane (Rogerson, 1996).

### 3.2.3 *Sampling*

A purposive quota sampling technique was employed to select participants for the study. This is a data gathering method which enables various groups of participants to be represented in the final sample. This is a non-random method when it comes to selection of participants (Creswell, 2008), and Bailey (1987) describes this as a non-probability sampling process that allows a researcher to use his or her own discretion to choose those participants or respondents who are most suitable for the study. This means that not all potential participants have an equal opportunity to participate in the study. Black South African male and female patients, as well as male and female medical doctors, male and female social workers, male and female nurses and male and female caregivers were selected. The researcher made sure that in all the different categories of participants both genders were represented, see Table: 1 and Table: 2 respectively.

The following set of criteria was used for inclusion and exclusion of patient participants:

- Black South African citizens between the ages of 18 and 64 years old who were living with a heart condition were eligible for inclusion in the study.
- Those whom the supervising physician deemed fit to take part in the study, and who were unlikely to be negatively affected by their participation in the study.

The following set of criteria was used for inclusion and exclusion selection criteria of doctors, nurses, social workers and caregivers:

- Only medical doctors and nurses attending to heart disease patients for a period of not less than 2 years in the Tshwane region were allowed to participate in the study.
- Only social workers and caregivers attending to heart disease patients for a period of 2 years or more in Tshwane region were allowed to participate in the study.

- Health professionals who were heads of departments or managing directors of the section where patients were recruited, or those doctors who assisted the researcher in recruiting participating patients were excluded.

### 3.2.3.1 Recruitment of participants

Permission letters from the Department of Health Gauteng province as well as ethical clearance from North West University were used to gain entry to the research sites. Heart patients (who were outpatients and deemed fit to take part in the research by the physicians involved) were contacted indirectly via their supervising physicians, who acted as mediators between the researcher and the patient. Invitation letters were then issued to the targeted participants in order for them to read and understand what the study was all about. When participants were satisfied and agreed to take part in the study, they signed the consent forms. The researcher and the participants then identified suitable dates and times for the interviews to be conducted.

### 3.2.4 The target population and final sample

The population of this study comprised Black South African heart disease patients, nurses, social workers, caregivers, and medical doctors treating patients with heart disease (see Table 3.1). The final sample was comprised of heart patients (10 male and 9 female Black South African citizens), 4 medical doctors, 6 nurses, 5 social workers and 4 caregivers. Tables 3.1 and 3.2 outline the characteristics of the participant group in greater detail.

**Table 3. 1: Biographical details of the research participants (Patients)**

Patient code	Age	Gender	Place where participant stays
FP1	41	Female	Atteridgeville
FP2	28	Female	Atteridgeville

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FP3	30	Female	Mamelodi
FP4	19	Female	Mabopane
FP5	25	Female	Hammanskraal
FP6	36	Female	Mabopane
FP7	35	Female	Mamelodi
FP8	42	Female	Mamelodi
FP9	47	Female	Hammanskraal
MP1	46	Male	Atteridgeville
MP2	52	Male	Mabopane
MP3	37	Male	Mamelodi
MP4	43	Male	Mamelodi
MP5	29	Male	Hammanskraal
MP6	35	Male	Atteridgeville
MP7	24	Male	Mabopane
MP8	33	Male	Mabopane
MP9	51	Male	Hammanskraal
MP10	41	Male	Mamelodi

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**Notes:** FP = Female patient and MP = Male patient

**Table 3. 2: Biographical details of the research participants (Health professionals)**

<b>Health professional code</b>	<b>Gender</b>	<b>Place where participant works</b>
MH1	Female	Kalafong Hospital
NH1	Female	Kalafong Hospital
NH2	Male	Kalafong Hospital
SW1	Male	Kalafong Hospital
CG1	Female	Kalafong Hospital
MH2	Male	Steve Biko Academic Hospital
NH3	Female	Steve Biko Academic Hospital
NH4	Male	Steve Biko Academic Hospital
SW2	Female	Steve Biko Academic Hospital
SW3	Female	Steve Biko Academic Hospital
CG2	Female	Steve Biko Academic Hospital
MH3	Male	Jubilee District Hospital
NH5	Female	Jubilee District Hospital
SW4	Female	Jubilee District Hospital
CG3	Female	Jubilee District Hospital
MH4	Male	Odi District Hospital
NH6	Female	Odi District Hospital
SW5	Female	Odi District Hospital
CG4	Female	Odi District Hospital

**Notes:** MH = Medical doctor - health professional; NH = Nurse - health professional; SW = Social worker; CG = Care giver; H1 = Kalafong Hospital; H2 = Steve Biko Academic Hospital; H3 = Jubilee District Hospital and H4 = ODI District Hospital

### **3.2.5 Data collection**

The researcher collected data by means of semi-structured face-to-face interviews. According to Babbie and Mouton (2001), semi-structured interviews are data collection tools that are administered by the researcher and they include a set of open questions that prompt the discussion in order for the interviewer to gain insight into the theme or phenomenon under discussion. The researcher employed semi-structured interviews for this study as he wanted to gain insight to the health professionals' and heart patients' perspectives of heart disease, its causes (social factors) and how best they think it can be managed. Each participant was asked the same questions in the same order. Each interview was audio recorded with the permission of the interviewee to ensure consistency. All interviews with patients took place in the hospitals' outpatient departments. The researcher ensured that all interviews were conducted in a quiet and private setting.

The recorded personal interviews were transcribed verbatim. After the transcription of the data, they were selected and combined according to the different themes, through thematic analysis.

### **3.2.6 Ethical considerations**

Three basic ethical principles, namely, respect for human dignity, beneficence and non-maleficence, and justice, as described by Polit and Beck (2008) were applied to guide the researcher. Besides these principles, the researcher was careful of neither to disclose patients' identity nor to share the files content with anybody else.

All participants were accorded the right to self-determination, right to full disclosure, informed consent, voluntary participation, confidentiality and debriefing. They voluntarily signed the consent forms after the study and its objectives had been explained to them, and after they had made informed choices to be part of the study. To ensure confidentiality, the researcher assigned

a pseudonym to each participant to ensure that interviewees' real names remained unidentified. For debriefing, a psychologist working in the public health care institution was always available to deal with any emotional situation that could have arisen with the research participants.

### **3.2.7 Data analysis**

In a qualitative research data analysis can take distinct forms, normally it involves the breakdown of the data into themes (Babbie & Mouton, 2011). Since the interviews were audio recorded with the consents of the participants who took part in the study, the researcher later transcribed the recorded interviews verbatim after all the interviews were completed. The researcher then again went through the audio records and verified their accuracy by comparing them against the transcripts. The transcribed interviews were then subject to thematic analysis, following the method outlined by Boyatzis (1998) who described thematic analysis as a grouping of data into themes in order to identify common patterns or recurrent trends in the transcribed interviews. In line with these recommendations, the researcher commenced with open coding of the data, which involved assigning descriptive labels to segments of text in order to enable conceptually similar fragments of text to be identified and collated. Coding is an essential process that assists in breaking down the data into component parts as an initial stage of analysis (Charmaz, 2000). This process was repeated through several cycles during which continual refinements were made to the coding system. During this process the wording of codes was refined as required to enhance their descriptive inclusiveness; redundant codes were deleted, and conceptually overlapping codes were merged. The coding process enabled the researcher to identify patterns in the data which in turn formed the basis of the next step, which entails grouping related codes into conceptually more abstract categories. In turn, where applicable, categories were grouped into overarching themes. The entire process was supported by the frequent writing of analytical

memos in order to capture emerging reflections and insights in relation to thematic patterns underlying the data as well as in relation to possible relationships between various categories and themes. The thematic analyses in previously published research projects and case studies provided a frame of reference for the researcher's own analysis of the information obtained from the interviews, and supported a deductive analytic approach. The entire process of data analysis was supported by the use of the ATLAS Ti 6.0 software package (Punch, 2011).

The credibility, transferability, dependability and confirmability of the data were addressed by following the guidelines outlined by Kumar (2011). To ensure credibility, there was prolonged engagement with the participants (Mouton, 2009). In addition, the findings of the study were sufficiently detailed and well justified to enable the reader to determine whether or not the research was credible. The full transcripts of the research participants' interviews are available, on request, so that readers can assess the quality of the face-to-face interviews. Inclusion of different groups of participants enhanced the credibility of the findings (Kumar, 2011).

### **3.3 Findings**

The section is organised in terms of themes and sub-themes pertaining to the factors that most affect the quality of life of heart patients that emerged during data analysis. The themes that emerged are poverty, stress, lack of knowledge, lack of education, social support, exercise, smoking cigarettes, drinking alcohol and diet, as are discussed below.

#### **3.3.1 Poverty**

The thematic analysis of the interviews revealed that poverty is among the most significant social factors affecting the quality life of people living with heart disease. When health professionals were questioned about what social factors affect the quality of life of people living with heart

condition, poverty was found to negatively impact people living with heart disease in a number of ways which included not taking medication, and defaulting on check-up and treatment.

Findings from the interviews revealed that Black South African heart patients often default from taking their medication because of lack of food, and taking medication on empty stomachs can potentially cause damage to the walls of the stomach and intestines which can cause a person to become severely ill through complications other than the heart condition. This was clearly emphasised by participant CG from H4 who had this to say:

*‘Most of them (patients), when asked why they are defaulting, they say they do not have money to buy food for themselves and they cannot take medicine on an empty stomach. Some say they do not have money to collect their medicine from hospital or clinic, and that result in them defaulting. That affects their quality of life’.*

The findings further suggest that poverty often impedes heart patients from engaging in regular check-ups, due to the costs involved in transport to and from health clinics. In order for heart patients to improve their quality of life, they need to go for regular check-ups to be assessed by medical professionals on set dates. That helps the doctors to understand their prognosis status, but the main problem is that they cannot afford the transport fee to the health clinics where they can be checked by medical professionals. Participants MH and NH expressed this sentiment.

MH1 said:

*‘They need to come to hospitals for regular check-ups, but they often do not [cannot] afford the money [the fare] to come to hospital’.*

NH said:

*'Our patients do not come for check-ups and that makes them not to improve, but do not blame them most of them are unemployed and are from a poor background'.*

From the submissions of the participants on this theme, it would seem that poverty is a factor that is central to many of the challenges that heart patients face in relation to managing their condition.

### **3.3.2 Stress**

The findings also revealed that stress is a significant social factor affecting the quality life of people living with heart disease. Participants mentioned that stress, including stressors associated with socio-economic issues and poverty were found to impact the quality of life of people living with heart disease in various ways, most particularly in relation to their living environment.

According to CG from H2, Black South African heart patients often experienced stress as a result of characteristics in their surroundings, like living in an overcrowded environment with no peace of mind while, at the same time, there is no food. CG made the following submission:

*'They need to avoid a stressful environment. Most heart patients (they) come from overcrowded houses; they do not have peace of mind. In my experience most of them are from [a] poor background. [It] That makes them become so stressed when they do not have food'.*

She suggested that heart patients need an environment that is quiet in order for them and where food availability should not be a challenge. The main problem is that most Black South African heart patients (at least in this study) are (were) from a poor background and they could not afford better housing that is less crowded and with better amenities that would support their recovery.

CG expressed this concern when she said:

*'What affects their quality of life is the stressful environment where they find themselves. It is not conducive. Most of them that I have seen they deteriorate as heart patients. Medicine alone is not enough to improve their lives'.*

From the interview findings, it was clear that stress is a negative social factor that detracts from the quality of life of the heart patients. The major stressors that were identified in this study generally evolved around socio-economic deprivation and poverty which more often resulted in patients living in squalid, overcrowded conditions, and barely having enough food to sustain themselves. In response to their stressful environments, Black South African patients were observed to display certain behaviours like depression, anxiety, social isolation and in some cases, hostility. Such types of behaviours further worsened the severity of their heart conditions and negatively affected their capacity to cope with their heart condition.

### **3.3.3 Lack of knowledge**

Lack of knowledge was also identified as one of the factors affecting the quality of life of people living with heart disease. When participants were asked if they knew about heart disease and the social factors leading to heart disease, lack of knowledge was found to be among the factors that could impact people living with heart condition negatively, in a number of ways which included not knowing the social factors leading to heart disease, and thus not knowing how to manage this dimension of the disease.

In the process of interviewing the Black South African patients, their lack of knowledge of heart disease was noticed. For example, a number of heart patients indicated that they lack knowledge about the disease they suffer from and generally have no idea of the social factors leading to it.

For instance, FP2 said:

*'I don't know the factors which cause heart disease; not sure (shaking head).'*

while FP1 said:

*'No, I do not know of any factors contributing to heart disease.'*

and FP3 said:

*'The doctors told me my valves are not working, but I do not know of the factors leading to heart disease (shaking head). I need to learn more about that.'*

Findings further suggest that lack of knowledge about heart disease and its causes creates a problem for Black South African heart patients to manage the disease because they often do things that impact negatively on their lives due to this lack of understanding about the nature of the factors that are associated with heart conditions.

Participants MP1 from H2, MP2 from H4 and MP3 from H3 expressed this concern when they said:

*'No, I do not know the factors leading to heart disease. I need [some] education on this, which is why I said the government should create awareness on [of] heart conditions to make them [people] aware of the disease and also educate them on the prevention.'*

(MP1)

*'No, I do not know what causes heart disease. (Participant shaking head vigorously) I would like to know; [to] be educated on this. Maybe that will help me better my situation and look after myself much better'. (MP2)*

*'(Participant shaking head) No, I do not know. That is why I am stressing (on) formal education on this for both the care-givers and patients themselves. I do not know the factors [that] cause(s) heart [disease]'. (MP3)*

From the statements above, it would appear that lack of knowledge of heart disease among Black South African patients, especially in relation to its causes, and the social factors associated with, it is highly likely to negatively affect their quality of life, as their lack of understanding renders them unable to take effective steps to address these matters. The findings also clearly demonstrate that there was an eagerness and a need among Black South African heart patients to be educated about factors leading to heart disease.

#### **3.3.4 Lack of health education**

Causally associated with the theme of lack of knowledge, was that of lack of health education. It was found among the majority of patients, and appears to be a factor that weakened their ability to cope with their condition. This was also the case for many of the family members who were supposed to help their sick relatives, as they were often reported to be unable to do so effectively due to a lack of basic health education.

According to MH from H3, heart patients cannot look after themselves well and cannot manage their heart condition because they lack health education knowledge about the disease they suffer from:

*'Clinically, heart patients knowing their conditions ... they need to understand their heart conditions so that they can manage it. Most of them need to be taught (also) the importance of taking treatment regularly. On the other hand, socially they need to be taught lifestyle modification on how to manage the disease'. MH said: 'The most*

*important issue is education, the need to know the diagnosis of [your] heart condition. There should be (an) ongoing interaction between the doctor and the patient as well as members of the family. The patient has to be educated on a daily basis on the heart condition, and [so must] the family member’.*

The findings suggest that educating the patients about heart disease is important because when they leave hospital they go home and they need to know how to take care of themselves.

Much as other participants identified educating Black South African heart patients about the disease and lack of education as the reason why they do not easily carry on with their daily activities, other participants felt that even their families should be educated about the disease in order to be of help to them. Participants NH and SW expressed this concern. NH said:

*‘To be educated about the disease, because they do not have an idea about the disease, hence they cannot look well after themselves and to take care of themselves [at home] even after they have been released from hospital (at home)’.*

SW expressed a similar sentiment by saying:

*‘They need to be educated about their heart conditions so that they can take care of themselves in order to improve their lives they should also learn [about] the disease, they need to be given health education on a regular basis, and health education has to go [to] their families who stay with them at home’.*

From this theme, it was apparent that lack of health education is a social factor that is impacting negatively on the quality of the life of Black South African heart patients. It seems that educating heart patients as well as their families about the disease they suffer from could serve as an

important measure to better manage the illness.

### 3.3.5 *Social support*

Participants in this study revealed that lack of social support was found to impact negatively in a number of ways, like absence of financial support and care from family members and people living with heart patients. SW1 from H2, SW2 from H1 and SW3 from H4 concurred, saying heart patients lack social support because their family members are not always there to give them the necessary support and care. SW1 had this to say:

*‘In most cases, most of the patients lack social support because their families are not there for them’.*

SW2 concurred, and said:

*‘They must get social support from the families and learn [about] the disease’.*

Adding on, SW3 said:

*‘They need financial support, good family support’.*

Generally, participants seemed to suggest that lack of social support often impedes Black South African heart patients from getting better due to the absence of family members around them and other people to care for them. In order for Black South African heart patients to improve their quality of lives they need people around them always, especially family members to give them support in terms of caring for them, as social support among patients speeds up the healing process of the patients. For example, CG contributed by saying:

*‘Most of them that I have seen lack social support at home, medicine alone they cannot*

*improve their lives, support is what they need among their family members’.*

MH said:

*‘Most patients lack social support and there is a need for social support for heart patients, they need people around them, who can take care of them, make sure they are not stressed up support for this people is very important and it is necessary’*

From this theme, it is evident that although social support is important and necessary in helping Black South African heart patients cope with their conditions, many heart patients either do not get social support from family members at all or they do not receive it in sufficient quantities.

### **3.3.6 Exercise**

When participants were questioned about other factors affecting the quality of life of people living with heart condition, they pointed to lack of exercise as one of the factors affecting the quality of life of heart patients.

SW1 from H1, SW2 from H2 and NH from H1 all lamented that heart patients do not engage in any form exercise, whereas there is a need for them to do so. Separately, SW1 said:

*‘They should also exercise; they need [to] be active’.*

SW2 said:

*‘They need to exercise. Most of our cardiac patients, when you visit them, you find them sleeping’.*

And, NH said:

*'At the moment there is nothing formal; even when we demonstrate [to] them the exercise[s] at clinics; it is not (the) formal exercise[s], but just (the) passive ones, which is not sufficient.'*

The findings thus point to the fact that lack of exercise often exacerbates the condition of heart patients. In order for the heart patients to improve their quality of life they need to do regular exercise and be physically active. From the findings, it is evident that there is no formal professional help at the health institution that can assist Black South African heart patients on how to do proper exercises.

Several patients' statements illustrate this situation. For example, FP2 said:

*'I just do some basic things, like cooking or cleaning, whenever I feel better.'*

Another patient, FP3, said:

*'No exercise, because I cannot run fast.'*

Adding on, MP1 said:

*'I don't do anything at home. I just relax in most cases.'*

And, MP3 said:

*'I do some light work, not heavy work, because that is not good for my health, [my] condition.'*

From the views of the participants above, it is evident that sedentary lifestyles and consequent lack of exercise by heart patients is a social factor that is impacting negatively on the quality of

the life of these patients. It seems that exercise is important for Black South African heart patients but they do not seem to know or to understand its importance, and therefore commonly fail to engage in this activity to a sufficient degree.

### **3.3.7 *Smoking cigarettes and drinking alcohol***

Health practitioners in this study pointed at cigarette smoking and alcohol consumption as some of the most important and potentially harmful lifestyle habits that patients indulge in, for example, MH1 said:

*‘They should avoid smoking at all cost and take small quantity of alcohol not too much alcohol just small quantity [ties]’.*

MH2 said:

*‘I need to (first) classify the heart condition. This will enable [one] to tell the modality of the help the patient needs at a time. No smoking at all irrespective of the classification.’*

The findings thus suggest that smoking cigarettes and drinking can be harmful to heart patients and in return impede them from getting better. In order for the heart patients to improve their quality of life, they need to avoid smoking and drinking alcohol. There is need for Black South African heart patients to be educated about these social factors in order to improve their life.

### **3.3.8 *Diet***

Diet was also found to impact people living with heart disease negatively in a number of ways, especially in relation to eating unhealthy food. Findings from the interviews revealed that heart patients need to eat healthy food, but their socio-economic status prevents them from acquiring

the food that would improve their quality of life, like fruit and vegetables, and they end up consuming any food that they can get, just for survival. As a result, it does not help them improve their lives, but impacts their condition negatively. Participants were of the same view. For example, CG said:

*'They need healthy foods like fruits and vegetables. But people that I have seen they eat anything that they come across to make their stomachs full'.*

NH said:

*'They do not have a choice, especially those I have seen, because they are not working. Healthy food is important, but if they cannot afford [it] it is a problem'.*

Finally, MH said:

*'I need to (first) classify the heart condition. This will enable [one] to tell the modality of the help the patient needs at a time. Continued nutritional support is very important irrespective of the classification'.*

These findings point to the fact that lack of good diet is a social factor that is problematic for Black South African heart patients and one which impacts negatively on the quality of life of these patients. Health professionals cited the problem as being a socio-economic one, as many Black South African heart patients come from a poor background and are unemployed.

### **3.4 Discussion**

This study set out to explore the social factors that affect the quality of life of people afflicted by heart disease, using an exploratory qualitative research design. Thematic analysis of the semi-

structured interviews that were conducted with participants revealed several such factors, which include: poverty among Black South African heart patients, stress, lack of knowledge, lack of education, lack of exercise, poor diet, drinking alcohol, and tobacco smoking. The majority of these factors (such as tobacco smoking, poor diet, physical inactivity, and stress) have been frequently noted by previous studies as being associated with heart disease (Borodulin *et al.*, 2005; Cockerham, 2010; Di Pietro *et al.*, 2004; Frantz, 2006; Locker, 2008; Oerkild, *et al.*, 2011; Stein, *et al.*, 2002). ). However, there are also other factors that emerged from the interviews that are not commonly mentioned in existing literature as social factors that are associated with heart disease, which include socio-economic challenges such as unemployment and poverty. According to the assumptions of the health belief model (HBM) of behaviour change (Akinsola, 2006; Decosas, 2002), individuals can change or shape their behaviour if they are at risk. In this case, even if patients try to change their behaviour and avoid social factors that put their life at risk by adopting healthy lifestyles in terms of healthy diet, their socio-economic situation impedes them from doing so, as most of them live in poverty. In other words, most theories in relation to heart disease were crafted from a context of abundance especially in the West where the major issue was underpinned by the need for individual self-denial and restriction on some foods at their disposal. The poverty perspective therefore comes in as a new aspect that needs more research because it is also compounded with other factors that have been identified from a materialistic setting, e.g., stress. This in a way validates Fischler's (2011) notion of 'nutritional cacophony', where he argues that people who eat (have plenty) die and yet people who do not eat (poor) die too, but usually quite a bit faster. This further validates the significance of this study as it highlights a new dimension of how poverty and lack are key factors contributing to heart disease in resource poor Black African settings.

The findings of this study suggest that addressing poverty among Black South African

communities can be a major approach in addressing the heart disease burden in this demographic group, as opposed to the Western affluent context where the main focus tends to centre amongst other things on the reduction and or self-denial of intake of readily available foods deemed to pose a threat to cardiovascular health (Fischler's, 2011).

Stress is among the most significant social factors affecting the quality life of people living with heart disease (Dimsdale, 2008). Evidence suggests that chronic life stress, especially if compounded by other negative personality characteristics and social isolation, predicts the development, the course, and negative prognosis of coronary heart disease (CHD) (Rozanski *et al.*, 2005). However, it has often been realised that what patients call “stress” may actually be a reference to both “stressors” and/or patient “response” to those stressors (Bunker *et al.*, 2003). Literature has shown that ambulatory blood pressure (ABP) (blood pressure measurements collected in the natural environment) is relatively elevated during periods when a patient is exposed to stressors, which strongly links stress with CVD risk (Kamarck, 2012). The findings of this study are congruent with the arguments that have been put forth in literature in that the majority of heart patients who participated in this study came from stressful backgrounds characterised by poverty and overcrowding. This exposes the patients to perpetual stress which ultimately leads to negative prognosis of their heart conditions. It seems that these factors are particularly salient in the context of impoverished South African communities such as the one from which the sample for the present study was drawn. As such, any interventions aimed at addressing social factors associated with heart disease should emphasize measures aimed at mitigating the negative impact of these factors.

While education provides the most consistent results in relation to cardiovascular disease outcomes (Kaplan & Keil, 1993), lack of knowledge, where it concerns heart disease, is usually

independent of one's level of formal education (Fokazi, 2014). Notwithstanding lower levels of educational attainment are associated with a higher prevalence of cardiovascular risk factors, higher incidence of cardiovascular events, and higher cardiovascular mortality, independent of socio-demographic factors (Mensah *et al.*, 2005). While the association between high blood pressure and cardiovascular morbidity and mortality is well documented (Usman, 2006), lack of awareness is particularly very prevalent during the early stages when one develops hypertension which unfortunately, by itself, has no specific symptoms. As a result, a person who does not understand the importance of routine check on his blood pressure will leave it until late when they develop complications. The findings of this study suggest that this factor is likely to represent a particularly salient risk in the context of populations similar to those from which the sample for this study was drawn. Many participants indicated that they (and their relatives) had little awareness of heart disease and of the social factors associated with it, and were therefore unable to take appropriate remedial measures. Mackenbach *et al.* (2000) examined educational differences in ischemic heart disease, cerebrovascular disease, and total CVD mortality in the United States and 11 Western European countries and found higher mortality among individuals with lower education in all countries. It emerged from the findings of this study that most of the Black South African patients lack knowledge of both the social factors that lead to heart disease and how best to manage them. Compounding their circumstances is the fact that they also live with people who often do not understand the nature of their disease, which deprives them of the necessary support they would have obtained had their relatives been enlightened about the disease. Ironically, acquiring knowledge about preventive measures for CVD has not been prioritised (Zhao *et al.*, 2015). Through knowledge, it has been proven that the reduction in major cardiovascular risk factors such as tobacco use is estimated to account for more than 50% of the decrease in cardiovascular deaths (Di Chiara & Vanuzzo, 2009). Knowledge of the disease,

therefore, seems even more important because, beyond preventive measures, recognising the warning signs of myocardial infarction, for example, and knowing how to manage them can be lifesaving (Séguro *et al.*, 2016). The Health Belief Model (HBM) as described by Desosas (2002) and Akinsola (2006) states that if an individual knows the health benefit of changing his or her behaviour it is highly likely that he might change it to benefit health wise, in this particular study lack of knowledge and education revealed that most patients do not know much about heart disease and their risk factors associated with it, as such they still find themselves at risk to the disease because of lack of knowledge.

With regard to exercise and fitness, most of the Black South African heart patients indicated that they are physically inactive, predominantly because they do not realize the importance of exercising. This demonstrates the interconnectedness of education/knowledge attainment or lack thereof with other social factors that lead to, or worsen the severity of, heart disease. The majority of participants in this study indicated that they had sedentary lifestyles. Studies of exercise as a treatment for heart disease show a beneficial effect for both the prevention of coronary disease and for the improvement of existing coronary disease patients (Taylor *et al.*, 2004). While increasing physical activity may be the hardest health behaviour to sustain, it can be one treatment for two problems for people with depression or anxiety and heart disease. The demonstrated lack of physical activity by Black South African patients in this study suggests the need for education about the health benefits associated with physical activity, especially for people living with heart condition.

Social support has been said to be a major need for people living with heart conditions, with literature showing that even if a patient receives the best medication but lacks social support, that medication alone is not sufficient to contribute to the healing process of the patient (Cohen, 1994;

Crawford, 1984; Lang *et al.*, 2012). Some studies have found increased risk of cardiovascular mortality in men with low social activity or men who were socially isolated (Rosengren *et al.*, 2004). Theories of social support and its relationship to health and disease have seen considerable development and refinement since the 70s (Barth *et al.*, 2010). This has resulted in support being categorised into two main domains, “functional support” and “structural support” (Barth *et al.*, 2010). The former has been used to describe the aid and encouragement that is provided to the individual by the social network, and has been further categorized into different forms of support such as instrumental (help getting tasks done), financial, informational, appraisal (e.g., help evaluating a situation), and emotional (e.g., feelings of being loved). Functional social support was especially helpful in stressful situations (buffering model) (Barth *et al.*, 2010; Robertson & Suinn, 1968). This kind of support protects persons from the potentially pathogenic influence of stressful events (buffering effect). Structural support, on the other hand, refers to the characteristics of the network of people surrounding an individual and his/her interaction with this network and has been found to have a beneficial effect by providing positive experiences and stability in life situation, irrespective of whether persons are under stress or not. According to Grizzel (2007), social contextual factors such as culture, familial support and institutional factors provide a crucial framework for understanding individual risk behaviour. This is very important in the context of Social Ecology Model, as family support could form a key and a relevant component in the development of a social support model and it is imperative that social contextual influences on behaviour are exhaustively scrutinised.

In this study, the majority of patients mentioned that while they would prefer a stress-free environment, it was made nearly impossible by the fact that the people they live with usually do not have knowledge of the disease, making them less likely to render the necessary forms of support. Literature looks at social support as part of a holistic package for people living with

heart conditions (Cobb, 1981; Folkman & Lazarus, 1991). Findings of this study indicate that there is a lack of social support for the Black South African patients who participated, and they represent a potentially much wider group of people who are affected in the same way. The only social support that is given takes place through social workers. As was mentioned by the health professionals themselves, this kind of support only comes in when patients have to apply for food parcels or grant money, but it is nevertheless not formal support, but a system that runs and stops.

At the community level there are no social support structures. Health professionals mentioned that in the townships where the patients stay, patients are sometimes referred to NGOs for social support. However, not all the townships in and around Pretoria have relevant NGOs. NGOs in those townships that do have them, health professionals said, often do not have people who are trained to look after those who are living with heart conditions. The end result is that people living with heart conditions are not offered any support. Other patients pointed to the need for community centers where people living with heart conditions can attend sessions and have open conversations among themselves about their heart conditions, and support one another. This would translate into social integration, which is necessary for people living with heart conditions at the community and society levels. Social support has been found to act as a buffer against increased risks of cardiovascular disease associated with high levels of stress (Cohen *et al.*, 1994). Conversely, low or no social support has been found to lead to an increase in morbidity and mortality, chiefly because low social support may lead to the development or worsening of depression or heart disease (Compare *et al.*, 2013; Frasure-Smith *et al.*, 2000; Hemingway & Marmot, 1999; Lett *et al.*, 2005). Depression symptoms and the absence of social or marital support are significant risk factors for poor prognosis in cardiac patients and some evidence supports their independence in predicting adverse outcomes (Compare *et al.*, 2013). The association between social support and depression is particularly relevant because low social

support may lead to the development or worsening of depression while high levels of social support were shown to protect cardiac patients from the negative prognostic consequences of depression. The above is in line with the Social Ecology Model that family support is crucial because family members understand each other's culture as such understand the individual's needs (Grizzel, 2007). This can be of importance for heart patients to impede the prognosis posed by some risk factors.

With regard to alcohol consumption, observational studies have consistently demonstrated a J-shaped relation between alcohol consumption and total mortality attributed to cardiovascular disease, with the lowest mortality being observed among those consuming one or two drinks per day while it tends to astronomically increase among those consuming more than this "limit" (Pearson, 1996). However, because of the addictive and non-controllable nature of alcohol consumption and cigarette smoking, they both continue to be major health hazards, significantly contributing to cardiovascular morbidity and mortality (Ambrose & Barua, 2004). Heavy alcohol consumption (regardless of beverage type) is associated with alcoholic cardiomyopathy (Djousse & Gaziano, 2008) which denotes heart muscle disease from poisoning of the myocardium due to a chronically large alcohol intake (Klatsky, 2015; Piano, 2002). Research shows that among alcoholic patients, alcohol abstinence leads to improved survival in patients with alcoholic cardiomyopathy (Fauchier *et al.*, 2000; Gavazzi *et al.*, 2000). In addition to alcohol consumption, cigarette smoke, which contains approximately 4000 different chemicals (Zemann, 2011) that are relevant to CVD, is responsible for disease initiation, progression, and outcome (Messner & Bernhard, 2014). The observations and contributions made mostly by medical health practitioners in this study were in line with these assertions from literature. Health professionals who took part in the study pointed to the fact that among other social factors that negatively affect the life of heart patients is alcohol and cigarette smoking. Conversely, heart patients who

participated in the study demonstrated total ignorance of the social factors that contribute to heart disease. This exposes one of the weaknesses of the HBM, which is its failure to take into account behaviours that are habitual and thus fails to inform the decision-making process to accept a recommended action. Health actions are not always the main determinants in the decision-making process as it assumes, and as such some behaviors e.g. smoking may be performed for non-health related reasons such as social acceptability (Jones *et al*, 2015). In other words, beliefs may influence a person's decision to smoke but do not necessarily determine whether that person does develop heart disease because of indulging in lifestyle practices that are detrimental to their health. Summarily, the HBM is basically a descriptive model that helps health care practitioners develop educational and social awareness programs that can change behaviour, but does nothing to advance knowledge of how to treat various diseases or conditions once a person develops them. It is in this regard that this research looks into developing a social support model for patients already diagnosed with heart disease.

Lifestyle factors, including nutrition, play an important role in the etiology of CVD (Eilat-Adar *et al.*, 2013). Concerning the issue of diet, health professionals interviewed in the present study alluded to the fact that the majority of heart patients do not have knowledge of the correct diet, and mentioned that the majority of the patients eat high-salt foods, which has negative consequences for heart patients; a finding that is well supported by existing literature (American Heart Association, 2014; Sunita, 2015; WHO, 2014). While dietary advice regarding the prevention of cardiovascular disease is complex, the Mediterranean-style diet, as described by Hu (2003) has demonstrated superior benefits with regards to reduction in cardiovascular morbidity and mortality when compared with other diets like low-fat diet, low-carbohydrate diet or DASH diet (Parikh *et al.*, 2005). Contrary to the findings of Parikh and colleagues, the majority of patients in this study seemed to rely on a diet comprising red meat and fast foods,

which generally lack vegetables and fruits. However, Prof Tim Noakes is among the few authors who stated that it is not life-threatening to consume too much fat especially for people who are living with heart conditions. He does not agree that a high fat intake has a detrimental effect on patients with heart diseases. He has highlighted in his published articles and books, titled “low carb diet” (Noakes, 2015), “the real food evolution” (Noakes *et al.*, 2015), and “changing, but do they” (Noakes, 2016), the health benefit of consuming food with a high fat content and a low carbohydrate content. This is a new and, at present, controversial position to take. This might be an action that is hazardous to health and dangerous for people who are living with a heart condition. This remains an issue relevant to society that necessitates further research. While the benefits of a healthy diet are laid bare in literature as discussed above, the reality on the ground is usually different, if not totally opposite as demonstrated by the findings of this study where a combination of poverty and ignorance causes people to adopt diets that are detrimental to their health. On the other hand, the views and perceptions of health professionals who participated in this study were totally different to those of Noakes *et al.* (2015) with regard to the contribution of fatty food to heart disease. Contrary to what Noakes *et al.* believe, they were all of the view that high fat content is one of the factors that lead to the development of heart disease.

Low socio-economic status, otherwise called poverty, has been linked to increased risk of coronary heart disease as well as to poor social networking (Kaplan & Keil, 1993). The prevalence of poverty is high in the under-developed and developing countries, such as South Africa. Literature shows that poverty levels are high in the townships of South Africa around Pretoria, Johannesburg and the Vaal Triangle (Rogerson, 1996; World Bank Organization, 2014). What emerged from the submissions by participants was that most of the patients default on their medication because they cannot afford the transport fare to go for check-ups and to collect their medication from the hospitals. If patients cannot afford the taxi fare to collect

medication, it is difficult for them to raise money to buy good food to sustain them. Further, some of the patients would have medication but lack food to eat first before taking it. Although patients' health can improve if they are able to follow a balanced diet (for example, a Mediterranean diet) (HSFSA, 2007; Hu & Willet, 2002; Kris-Etherton, 1999; Trichopoulou, 2001), the recommended diet is expensive, and therefore beyond the scope of most residents of impoverished communities to achieve. According to the Health Belief Model (HBM) as described by Munro *et al.* (2007), people's behaviour when confronted by health issues depends on their perception of their personal susceptibility to that illness, the benefits of taking preventative action, and the disadvantages of doing so, in this regard patients might need to change their behaviour by getting their check-ups on time, eating healthy food, but their socio economic situations impede them from doing so. From the vantage point of the HBM, the suggestion seems to be that individuals could change their behaviour and opt to do away with lifestyles that harm them, but practically this is extremely difficult if not impossible in the context of poverty and lack in that even patients they may be willing to stop some habits they may lack the financial and other resources to do so (e.g. afford a diet that is less inimical to their cardiovascular health).

Because of poverty, the majority of patients also indicated that they live in small-overcrowded houses. Overcrowding creates stress, and literature has shown that stress aggravates the condition of a person living with heart condition (Pimple, 2014; WHO, 2005). Poverty directly induces stress, and prolonged distress or misery accelerates the development and progression of cardiovascular diseases through many pathways marked by a set of behavioural and biological mechanisms associated with exposure to depression, anxiety, and acute or chronic stress on the one hand, and with the outcomes of coronary heart disease and related conditions on the other (Albus *et al.*, 2005; Carney *et al.*, 2002; Dornelas, 2012; Rozanski *et al.*, 1999).

### **3.5 Limitations of the study**

The limitation of this particular study was that some of the research participants (only patients) did not express themselves as fully as they might have, although the researcher tried hard to make them feel comfortable and relaxed. They were simply not forthcoming in their responses although they were deemed fit to take part in the interviews by health professionals. Whilst the exact reasons for this remain unclear, future studies could take heed of this possible challenge by making use of alternative methods (such as projective methods, draw-and-talk approaches etc.) to gather data in a way that might bypass participants' reluctance to express themselves verbally.

Additionally, since this was a qualitative study, its findings cannot be generalised to other contexts. Also, almost all participants (patients) in this study were black, and came from poor communities, which leaves a probability that the outcome may have been different/might differ should participants from different racial groups or more affluent areas have been chosen. This warrants further research potentially involving quantitative studies in order to assess the degree to which the findings made in this study would be replicated in other South African contexts. Nonetheless, given that the context of the study has been described in reasonable detail, readers should be able to determine the extent to which the findings may be transferable to other contexts that bear similarity to the one that formed the focus of this study.

### **3.6 Implications of the study**

The findings of the study have a number of implications for theory and practice. As far as the former is concerned, the findings highlight the primacy of living conditions and socio-economic constraints as main sources of a number of other social factors that are associated with the

etiology and/or exacerbation of heart disease. Such factors include poor diet, lack of education, defaulting on medication, inability to travel to health care centres, and poor lifestyle choices. Whilst the role of poverty has indeed been noted in previous research (Kaplan & Keil, 1993), the findings of this study highlight its central importance in affecting the well-being of heart patients IN IMPOVERISHED South African communities such as those focused on in the context of the present study.

In terms of practice, the findings have a number of implications for the structuring and content of interventions aimed at improving the lives of patients afflicted with heart conditions. Specifically, the findings suggest that such interventions:

- Should take cognizance of the fact that poverty in all probability represents a social factor that results in or magnifies the effect of a host of other factors that are negatively associated with the well-being of heart patients;
- Should first and foremost seek to directly or indirectly address these social factors associated with poverty, such as nutrition, and transportation to health care centres among others that were identified, via educational initiatives, provision of food parcels, the establishment of mobile clinics or shuttle services to health care centres, etc.
- Should come up with self-empowerment measures/initiatives aimed at stemming the tide of poverty so that it does not perpetuate/fuel the cycle of other social factors that contribute to heart disease.

### **3.7 Conclusion**

Social factors that affect the quality of life of heart disease patients include poverty, obesity, cigarette smoking, alcohol consumption, physical inactivity, diet, lack of knowledge, lack of

social support, stress, treatment default, check-up default, and lack of health education. While the disease is not curable, people living with it can live longer and are able to function normally, as long as they can take good care of themselves and are taken care of by the people living with them. It emerged, from the research, that knowledge is key as knowledgeable patients would know the foods and habits that worsen their conditions and so are more likely to avoid them. Poverty also emerged as a primary factor from which many other social factors emanated, and as such, any interventions aimed at alleviating this problem should take cognizance of the extreme importance of addressing this limitation in order to empower Black South African heart patients to successfully manage their conditions. In other words, the HBM suggests the need to change people's negative behaviour as a means to redress and reverse the consequences of such habits, which in this case would be heart disease. Findings of this study, however, have pointed to poverty as one of the major social factors impacting the development, progression and treatment of heart disease among at least some Black African communities in South Africa, which suggests that any initiatives (as would seemingly be advocated by the HBM) that are merely aimed at targeting behavioural change might not suffice, as the poverty experienced by many heart patients serve as barrier that limits their capacity to effect these changes.

### **3.8 Recommendations**

Based on the findings of the study, it is recommended that the department of health and social development should reach out to communities with the services that the disadvantaged members of society are in need of but cannot access because of poverty. For example, every community around the township of Tshwane should ideally have a heart patients' rehabilitation centre where heart patients could receive medication, food, and medical check-ups on a regular basis, and do not have to travel to gain access to. Such a centre should ideally have a comprehensive approach

where all the health professionals are available to educate and look after the heart patients. This would be a long-term solution.

Socio-economic problems have emerged as central among the social factors leading to heart disease among people living with a heart condition. What can be further recommended is that the department of social development can, in conjunction with the department of health, create a database of heart patients in a certain locality with complete profiles of their socio-economic status so that if need be, the government can allocate monthly food parcels to such people/homes so that the patients are adequately looked after. This is something that is not done anywhere in and around the community of the greater Tshwane area, but it might be a viable short-term solution in response to a pressing health need.

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## CHAPTER 4: DEVELOPMENT OF A SOCIAL SUPPORT MODEL FOR HEART PATIENTS

### ARTICLE 3

#### ABSTRACT

**Aim:** This paper describes the development of a social support model for Black South African heart patients by drawing on a combination of existing literature as well as the findings of a qualitative study.

**Background:** Social support has been progressively associated with a favourable prognosis among heart disease patients. Psychosocial factors such as depression and low social support are established risk factors for patients with heart disease. Patients living with heart disease who receive social support have a better prognosis than those who do not. However, despite what has been said, there is still no clearly structured available social support model in South Africa, a gap which prompted the present article.

**Methods:** Data derived from a literature review were combined with that obtained via an exploratory qualitative study where semi-structured interviews were employed to investigate the social support needs of Black South African heart patients in order to subsequently formulate a social support model for heart patients.

**Key words:** social support, social factors, heart disease, support model

#### 4.1 Introduction

Social support models are models that have been created by social scientists for the purpose of

health intervention in societies, and for finding health-related solutions through these social support models or structures (WHO, 2010). While some models are meant to intervene at an international level, others are aimed at a national level, and yet others at local level (NDoH, 2017). The Social Ecology Model describes five levels of social influence on behaviour in ascending order: individual, interpersonal, institutional, community and policy (UNAIDS, 1999). This model acknowledges the importance of the interplay between the individual and the social environment, as well as the influence of the latter on the individual's behaviour (Decosas, 2002). The Social Ecology Model correlates with the Health Belief Model (HBM) because it takes into consideration the individual's risk perception and the influence of subjective norms in behavioural change. For the purpose of this study, the researcher aimed to develop a model that focused at both national and local levels. It is with this goal in mind that the researcher embarked on this study with the aim to elaborate a social support model tailored to Black South African patients with a heart condition. Given that social support can be particularly helpful in the management of non-infectious chronic diseases (Uchino, 2004), the potential value of such a program is fairly evident.

Heart disease (HD) are one of the major causes of death throughout the world (Stats SA, 2014; WHO, 2014). Although HD is widely perceived as a purely medical condition, they start and continue within a social context with a significant effect on the myocardium in the absence of or impaired ability to manage them (Cobb, 2005). According to Cockerham (2007), most diseases are connected to social conditions; defined as 'the way in which people live, their relationships, and their economic situation'. All these elements contribute to a variable degree of exposure to health risks. Albus *et al.* (2005) suggested that lack of social support for a person who is suffering from a heart-related disease could result in sudden cardiac arrest and death. This implies that both the degree and the quality of social support that heart patients receive have a significant

bearing on their life expectancy. It is therefore of scientific value to determine, at the social level, the factors that lead to heart disease before addressing HD as a medical condition.

Social support has been widely defined in different ways by different writers, which include that received from social networks, friends, family members, colleagues and neighbours (Cohen *et al.*, 1994; Lang *et al.*, 2012; Shwarzer & Rieckmann, 1991). In fact, the definitions of social support include two common elements irrespective of the social setting, which are:

- i. Coping assistance (Schroder *et al.*, 1998, Shwarzer & Rieckmann, 1991), and
- ii. Social integration (Cohen *et al.*, 1994; Lang *et al.*, 2012).

The definition of social support can emanate from these two elements and be narrowed to simple terms as ‘the perception and actuality that one is cared for, has assistance available from other people, and that one is part of a supported structure’. According to Wills (1998), ‘social support can be measured as the perception that one has assistance available, the actual received assistance, or the degree to which a person is integrated in a social network’. Uchino (2004) states that support can come from many sources, such as family, friends, pets, neighbours, co-workers and organisations, among others. The same author further stated that social support can come in four different forms namely emotional, tangible, informational, and companionship support.

A study conducted by Cobb (2005) found that heart patients who received proper social support in the form of emotional (e.g., nurturance), tangible (e.g., financial assistance), informational (e.g., advice), or companionship (e.g., sense of belonging) appeared to have a better prognosis than those who did not. Similarly, studies have shown that people with higher social support have an increased likelihood of survival (Holt-Lunstad *et al.*, 2010). At the moment, however,

as indicated in the previous chapter, where the findings of a qualitative study aimed at identifying social support needs of heart patients were reported, there are no social support intervention programmes available in any of the four hospitals where the researcher did the interviews. Health professionals at these institutions confirmed that there were no social support interventions available in the hospitals or in the communities where Black South African patients come from. This is in spite of the fact that social support plays a big role in coping and management of heart disease. A review of literature pertaining to the South African context did not show many of such models crafted for our environment. This is in the researcher's view, a significant gap that should be filled. In order to do so, the researcher drew on existing literature as well as on an exploratory qualitative study (reported in chapter 3) in order to develop and propose a model for the social support of heart patients.

The aim of this study was to develop a social model in view of supporting and improving the quality of heart patients' lives. The approach of this study is fully described in the methodology through thematic identification and building up of a structural representation. The researcher was guided in this process by the procedures and theories proposed by De Vos (2009), Mackay (1969) and Walker and Avant (2011).

## **4.2 Methodology**

This section will present the social support model as it emerged from i) secondary sources and ii) the results from a qualitative study that was conducted by means of face-to-face semi-structured interviews with Black South African heart patients, medical doctors, nurses, caregivers and social workers all from public hospitals in Tshwane (reported in chapter 3). Walker & Avant (2011) describe a model as a graphical representation of a theory while De Vos (2009) states that a model classifies concepts with the aim of discovering and exposing

relationships between them. The methods that Mackay (1969) called ‘reasoning strategies’ were used to develop a model for effective social support. These strategies include ‘analysis, synthesis, deductive reasoning and inductive reasoning’. The analysis reasoning strategy assisted in coding of data in order to identify concepts and their attributes. The synthesis strategy was used to construct relational statements and to describe tentative conceptual models using interrelated statements. The deductive reasoning strategy permitted the researcher to make logical predictions in the form of model assumptions based on the literature reviewed. During this process data derived from the interviews were thematically analysed together with those derived from existing literature with the initial aim of identifying themes that are salient to the social support of heart patients. Then, using the reasoning strategy method outlined above (Mackay, 1969), these themes were consequently used to develop a social support model for heart patients in the greater Tshwane area. The themes that were identified are briefly discussed in the sections that follow, along with the implications that each has for the development of the social support model.

#### **4.2.1 Theme 1: Poverty**

Poverty, as indicated from the findings of this study, resulted in an array of social factors that collectively contributed to the high incidence of heart disease among the poor. For instance, because of poverty, many people around the country’s townships still live in overcrowded small houses (Rogerson, 1996), conditions that lead to people living in stress, which is in itself an important predictor of heart disease. The findings of Carney *et al.* (2002) and Rozanski *et al.* (1999) indicate that stressful environments contribute to poor health among people who are in need of help in terms of quality health care. While such conditions are detrimental to the general well-being and prognosis of heart conditions, they are in most cases beyond the capability of the heart patients or their immediate family to rectify, contributing to premature death and prolonged sickness among heart patients.

It is because of poverty that many patients who were interviewed indicated that they could not manage to have regular meals, resulting in them failing to take their medication, especially when they have not eaten. Health professionals who took part in the study stated that regardless of the best medication being prescribed to a patient, the risk of relapse is becoming higher if that medication is not taken regularly as prescribed by the legal medical or health care practitioner. What compounds the woes of the Black South African heart patients is the fact that people living with a heart condition have to follow special diets, most of which tend to be expensive. As such, many heart patients are forced by poverty into adopting greatly sub-optimal diets that might prevent their condition from improving. Furthermore, even if medication is available, if there is no food, medication cannot be taken on an empty stomach as physiologically, that can cause further complications over and above the heart condition a heart patient suffers from (Chrysohoou *et al.*, 2014; Panagiotakos *et al.*, 2005).

The health professionals interviewed also indicated that the majority of Black South African heart patients they have been seeing were defaulting from taking their treatment, mainly because they are from poor backgrounds and are not often able to afford transport money to collect their medication or to go for check-ups. This was the second element that negatively affects their quality of life. This assertion correlates with studies done by Baum *et al.* (2006), Dalal (2011), and Pimple *et al.* (2014). These authors have shown that chronic poverty-related stressors, such as inadequate housing, water and sanitation, crowding, crime, air pollution, environmental conditions, low education, job insecurity, unemployment, and transportation needs are potential predictors of poor health status (Baum *et al.*, 2006; Dalal, 2011; Pimple *et al.*, 2014).

Poverty, therefore, has several implications for the development of a social support model for heart patients. Any proposed model, therefore, should firstly fully take cognizance of the

economic situation of the people who are living with heart conditions as well as the economic situation of the people living with them. A practical avenue towards the achievement of this aim would be to financially empower the people living with heart conditions, or the next of kin who is caring for them. Any family member entrusted with that responsibility should be entitled to i) collecting medication on behalf of the sick patient so as to prevent defaulting, ii) monitoring the intake of the medication, iii) providing food and making sure that the patient has eaten before taking the prescribed medication.

#### **4.2.2 Theme 2: Stress**

Health professionals revealed that stress is one of the major challenges that affect the quality of life of people living with heart conditions. This assertion is corroborated by literature based evidence which suggests that chronic life stress, especially if compounded by other negative personality characteristics and social isolation predict the development, course, and negative prognosis of coronary heart disease (CHD) (Dimsdale, 2008; Rozanski *et al.*, 2005). Stress usually arises when a person is consistently worrying about a problem that she or he cannot solve. This implies that management of stress by all members of society is vital in managing heart-related disease.

On account of this theme, an effective social support model for Black South African heart patients should take note of their stressors, and offer a solution that centres on stress management and on addressing stress-inducing aspects of patients' life situations.

#### **4.2.3 Theme 3: Exercise**

The findings from the interviews revealed that the majority of Black South African heart patients were physically inactive, despite the fact that health care professionals consistently expressed

the importance of physical exercise, and that this practice has proven to be beneficial to all adults irrespective of their health condition. Of note, the physical exercise programme should not be as strenuous as for professional athletes, but minimal to moderate and it should be executed on a regular basis. Evidence-based literature (Borodulin *et al.*, 2005; Frantz, 2006; HSFSA 2007; Paguntalan & Gregoski, 2015) also emphasises that exercise is crucial for people living with heart disease. However, one critical question is, “If they do not have food to eat before consuming medication, can they engage in physical activity?” They might lack the energy to exercise due to sheer weakness or lack of stamina. This is one of the challenges that are manageable if the Department of Social Development, in conjunction with the Department of Health, could assist by setting nutritional programmes in the communities to address the issue of food, which is not yet the case.

In light of the important role played by physical activity in terms of health promotion among heart patients, the noted lack of physical activity among Black South African heart patients studied has implications for the development of a social support model for heart patients, and suggests that it should incorporate contextually relevant strategies to ensure that exercise becomes an acquired habit for heart patients. The active involvement of assigned family members is crucial for the assistance of the heart patients. Therefore, the model should outline an appropriate physical education programme (PEP) and provide written guidelines on how to execute these exercises. Ideally, the support of designated relatives/family members should be an intrinsic part of this process in order to increase the likelihood of adherence. The efficiency of such programmes should then be measured by the reduction of biological parameters related to health, for example reduced weight, and normalised arterial blood pressure to name a few.

#### **4.2.4 Theme 4: Lack of knowledge and health education**

Contributions from both health care professionals and Black South African heart patients indicate that continuous and fairly comprehensive health education and training is an important aspect for heart patients in order for them to know the main social factors that lead to heart related disease and the factors (such as diet, adherence to medication regimens, that can be considered in order to improve their quality of life. Literature analysis revealed that patients who have knowledge of heart-related disease and its causes could much better take care of themselves than those who do not (Kaplan & Keil, 1993; Mensah *et al.*, 2005).

Both the findings of the researcher's study and evidence from literature review pointed to the lack of health education among many heart patients (Kaplan & Keil, 1993; Mackenbach *et al.*, 2000). Lack of health education was apparent among Black South African patients as they could not mention even one social factor that could lead to heart disease. This points out to the fact that heart patients are likely to unknowingly put their lives in danger by not avoiding some of the social factors that might affect their life negatively. Comprehensive and continuous health education and training for heart patients should be pursued as an important priority with the aim of overcoming this challenge. However, health professionals expressed a concern that while they would like to educate their patients about heart disease, they mostly could not do so because of high patient volumes. This suggests that a social support model for heart patients should incorporate additional strategies and channels of education that do not rely on physicians alone. Furthermore, a relevant social support model for Black South African heart patients should emphasise continuous health education, not only for heart patients, but also for those who are in a position to support them. To achieve this objective, heart patients, their relatives (family members) as well as whole communities should periodically attend these health education

programmes.

#### **4.2.5 Theme 5: Social support**

Interview responses from all participants seemed to converge on the fact that medicine alone is not enough to assist heart patients, rather pointing to the fact that the most effective treatment regimen should be a combination of medicine and a comprehensive and holistic social support model. Social support is associated with increased psychological well-being in response to important life events. Barrera (1986) believes that in stressful times, social support actions help people reduce psychological distress (e.g., anxiety or depression). Social support has been found to promote psychological adjustment in conditions with chronic high stress such as acute and chronic pain variables (Folkman & Lazarus, 1991). Thus, according to Cobb (1981), people with low social support report more sub-clinical symptoms of depression and anxiety than do people with high social support. In addition, people with low social support levels have higher rates of major mental disorder, including post-traumatic stress disorder, panic disorder, social phobia, major depressive disorder, dysthymic disorder, and eating disorders. Similarly, people with low support have more suicidal ideation, and alcohol and illicit prescription drug problems (Robertson & Suinn, 1968). According to Grizzel (2007), social contextual factors such as culture, familial support and institutional factors provide a crucial framework for understanding individual risk behaviour. This is very important in the context of Social Ecology Model, as the family support could form a key and a relevant component in developing of a social support model and it is imperative that social contextual influences on behaviour.

The interview findings together with the literature on social support seem to suggest that social support is a factor that supersedes all the other social factors. Therefore, if a proper social support structure is put in place for heart patients, it is likely that the quality of the lives of Black South

African heart patients could be improved. As such, strategies for enhancing the quality and quantity of social support should feature prominently in a support model for heart patients.

#### **4.2.6 Theme 6: Diet**

In this research, findings revealed that Black South African heart patients need to eat healthy food, but that their socio-economic status prevents them from accessing the food that would improve their quality of life, like fruits and vegetables. From literature, good diet is important for people who are living with heart disease. Fruits and vegetables are recommended because of their high fibre content, which helps to prevent cardiovascular disease as it lowers the body's cholesterol level (Sunita 2015; WHO 2014). The intake of fruit, vegetables and non-refined grains is emphasised in the Mediterranean diet as a way of minimising the chances of heart disease, and is supported by the findings of Kris-Etherton (1999) and Hu & Willet (2002).

The (WHO, 2014) has indicated that dependence on unhealthy diet regimens is widespread in poor countries. As such, a social support model for heart patients in impoverished communities should take this limitation into account, and should outline strategies for maximizing the nutritional value of patients' diets within the limits imposed by their socio-economic circumstances. An effective model could therefore assign certain family members to support the provision of a healthy diet, and should ideally seek to avoid keeping the heart patients in a dependence relationship for food hand-outs. The complementary aspect of the model is to empower the poor to generate their own income and food (e.g. via vegetable gardens).

#### **4.2.7 Theme 7: Cigarette smoking and alcohol drinking**

Health care professionals in the present study emphasised that cigarettes smoking and alcohol consumption can exacerbate the condition of heart patients. However, they revealed that some

of their patients did smoke and drink, and that, against medical advice. Similar to these findings, previous research shows that among alcoholic patients, alcohol abstinence leads to improved survival in patients with alcoholic cardiomyopathy (Fauchier *et al.*, 2000; Gavazzi *et al.*, 2000). In addition to alcohol consumption, cigarette smoke, which contains approximately 4000 different chemicals (Zemann, 2011) that are relevant to cardio-vascular diseases (CVDs), is to a significant extent responsible for disease initiation, progression, and outcome (Messner & Bernhard, 2014). This observation is important because it justifies the need for an ongoing health education, raising awareness on CVD prevention in both patients and the general population, and as such, should also feature prominently as part of a social support model for Black South African heart patients.

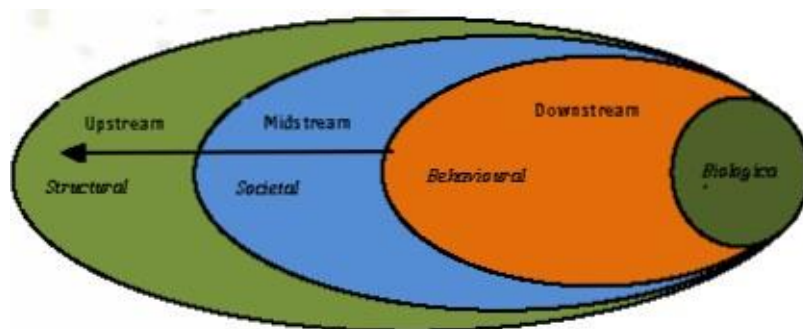
### ***4.3 Available models from the National Department of Health***

In developing a social support model for heart patients, the next step was to identify existing models of support for heart patients. Looking at the institutional models, two such models were found, both developed by the National Department of Health; the interventional model and the socio-ecological model. These models are meant to intervene with regard to the management of non-communicable diseases, though there is no record to prove that any of these models has ever been implemented, much less evaluated. The models are outlined in Figure 4.1 and Figure 4.2 respectively.

#### ***4.3.1 Interventions strategies from the National Department of Health***

The document of the National Department of Health (NDoH) known as the strategic plan for the prevention and control of non-communicable diseases (NCD, 2013 – 17) was aimed at curbing the mortality and morbidity of non-communicable diseases. The document has an intervention

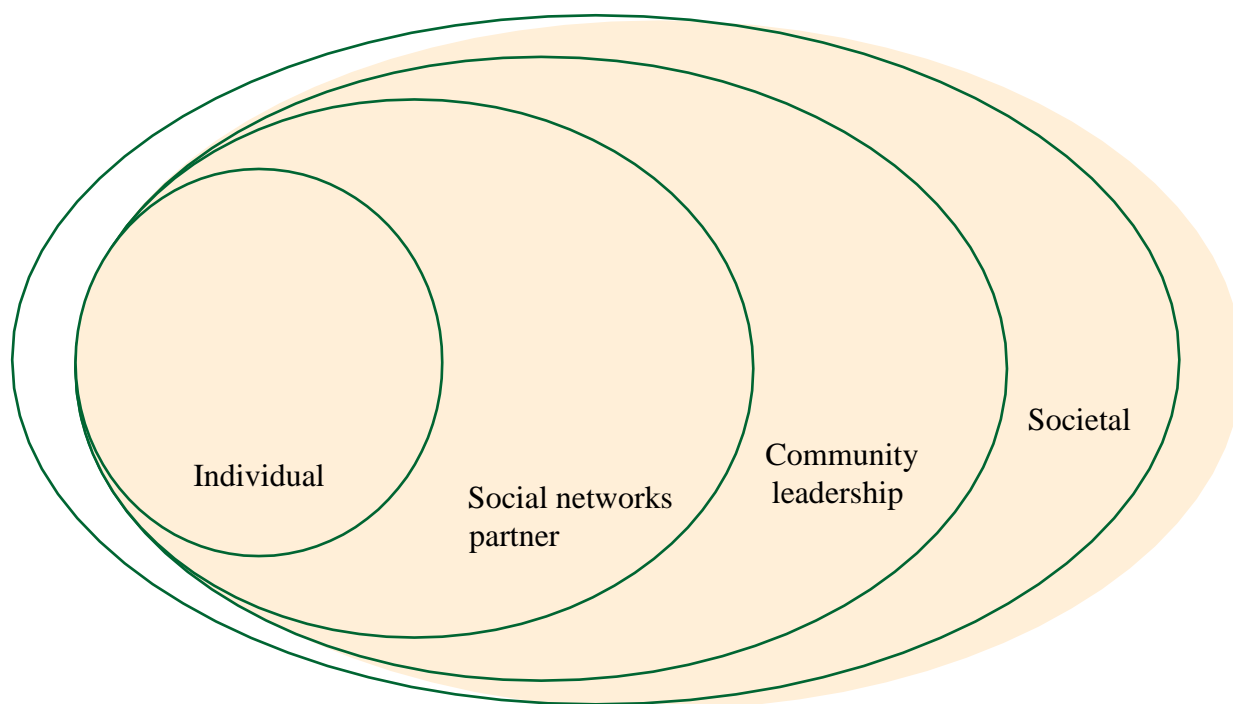
framework which was meant to reduce morbidity and mortality from NCD in South Africa as a whole. The interventions are categorised into three components as seen in **Figure 4.1**.



**Figure 4. 1: Levels of intervention as outlined in the NDoH document for the prevention and control of non-communicable diseases (NCD, 2013 – 17)**

The first component is called downstream interventions, which is meant to target individuals. The second one is midstream, which targets groups, communities or institutions and the last component involves the upstream interventions, which focus on the society at large (NDoH, 2017). However, the document has neither specifications as to how the plan was to be implemented nor indications as to which minimal percentage of improvement the plan is supposed to achieve. Likewise, the model refers to non-communicable diseases in general, without categorising them since they are many, and the model does not consider that people need special interventions as per their category of NCD they suffer from. The plan did not illustrate, for example, the difference between the social support need for a cancer patient compared to that of a heart disease patient. Furthermore, the NCD model does not explain exactly the kind of interventions it would undertake and who should do what and how. As it is, the model does not express any kind of social support intention in any of the streams mentioned in the model. Thus, the model has not had any impact in the communities and in the country at large despite it having been in existence from 2015 till to date.

There is yet another document from the NDoH, which centres on the National Health promotion policy and strategy 2015 – 19. It is based on a socio-ecological model, and has four phases. The first, or individual component, focuses on behaviour and intention, knowledge and belief. The second component focuses on social networks, family relationships and trust. The third component focuses on community leadership and collective participation while the fourth component focuses on societal and national leadership (**Figure 4.2**). This model, however, has no specifications on how the plan is to be carried out.



**Figure 4. 2: Diagram of socio ecological model**

This model is mainly directed towards disease prevention and reduction of mortality in the country. This category of diseases includes NCDs like cancer, hypertension and diabetes mellitus. However, it does not specify under each category of disease what should be specifically done to support the people who are already suffering from the diseases. The model also does not outline the steps in a sequential manner on how to reach the target or the intended affected members of the community. At the end, this model seems to be more disease-centred than

patients-oriented.

It therefore appears that the incongruities between the aims and the outcomes of these two models have defeated their otherwise well-intentioned purpose. This gap informed the main aim of this article, which was to draw on a combination of existing literature as well as on interviews with Black South African heart patients and health professionals working with heart patients in order to develop and propose a social support model for heart patients that would address concerns about the inoperability and lack of practical value that existing programmes appear to have. By assessing the heart patients' predicaments, and identifying the negative factors that hinder their well-being, the researcher made a proposal for a social support model that integrates different social, economic and environmental variables to, theoretically, reach an optimal level of functioning.

#### **4.4 A proposed social support model for heart patients**

Social support models involve many role players, including health professionals, family members, and community members. Moreover, for social support to be effective it needs to be a continuous process as opposed to a once-off intervention. When health care professionals were asked during the interviews as to when social support for heart patients should start, they mentioned that social support for heart patients should be an ongoing process, which must begin at the moment the patient is diagnosed with a heart problem. Therefore, all the stakeholders need to be available and well acquainted with their respective roles as early as possible.

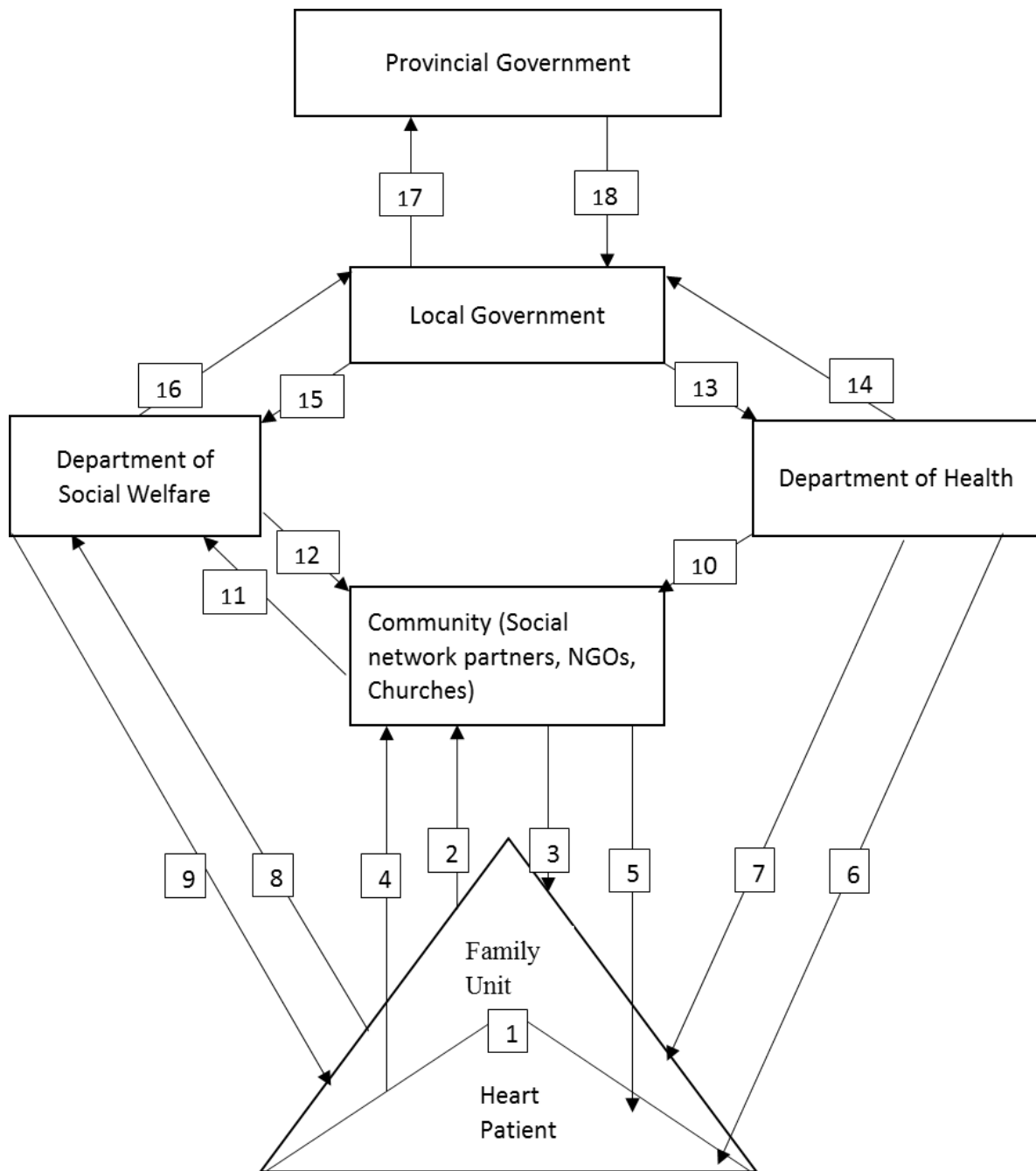
Based on a review of existing literature as well as on a cluster of themes derived from semi-structured interviews with heart patients, medical doctors, nurses, social workers and caregivers, a number of overall themes were identified which have relevance to the development of a social

support model for Black South African heart patients. The researcher synthesised the deductive and inductive reasoning strategies applied to the identified themes before presenting the structure of this model.

This model caters for outpatients as an ongoing process. Its starting point is that a patient should never be considered as an isolated entity, but rather as an integrated element of the whole community. Its ultimate goal is to insure a good quality of life. The patient, being part of a family, will need to interact at that level with at least one identified and trustworthy family member. The family needs to function as a team. Many families functioning together form a community, and so it is essential that the family be actively integrated into the community, as this environment will serve as a pillar for emotional, spiritual and material support. The next level of engagement should be assumed by the local authorities, the main players of which could be the Department of Social Welfare and the Department of Health, with these entities getting support from the provincial government as a prime custodian of the welfare and wellbeing of the entire community.

All the stakeholders at these different levels should ideally function as an integrated network, which would ideally lead to mutual synergy which reinforces the cohesion among the different components of the society. Like a pyramid, the model has a base, sides and an apex; it begins with the family unit with the patient as the core constituent of this institution at its base, to the community (churches, NGO's, social partners), then to the local government and ultimately to the provincial government. Direct or indirect support in relation to the themes outlined in this article could be provided in one format or another by each of the role players identified here. For example, via direct encouragement, family members could support heart patients in improving their diets and exercise habits whereas at community level NGOs and other institutions (such as

churches) could offer structured exercise opportunities for these patients. Stakeholders higher up in the pyramid might provide their support more indirectly, via providing financial or policy based support, etc. Specific tasks allocated to each stakeholder will likely vary from region to region. However, the broad model developed here, which outlines the relevant role players and their interrelationships, is visually depicted below in Figure 4.3 and subsequently discussed in the following section, using the numeric indicators on the model as reference.



**Figure 4. 3: A proposed social support model structure**

1) *Family-patient interaction and support:* The family should play the primary role as concerns care-giving and emotional support of heart patients. Similarly, the patient should be considerate of the efforts of the family and openly communicate with his family members. This will build the basis of a mutual support. In particular, family members can assist by

ensuring that the patient takes his or her medication, eats the best possible diet as economic circumstances allow, engages in regular exercise, does not smoke or drink alcohol excessively, and could also help the patient deal with stress. Furthermore, the family is likely to play a primary role in providing socio-emotional support.

2-3) *Family-community engagement*: The community comprises not only family units brought together, but also social and spiritual institutions like churches, sports clubs, social welfare organisations (mostly NGOs) and social partners. The family, therefore, needs to actively engage with the community for moral, spiritual and, where needed, material support. Such ties reinforce the sense of ‘security’ to both the family and the patient. Family-community engagement should go a long way in dealing with some of the issues/themes identified as contributors of heart disease. For instance, NGOs may help not only the affected families but the patient themselves to have income generating activities by providing starting financial and knowledge capital. This lessens the material burden on all the concerned relatives and it specifically releases the constant stress on the care provider while it directly tackles poverty. Addressing the issue of poverty in this manner breaks the most vital chain that intricately links all the other social factors together and would hopefully go a long way in improving the quality of life.

4-5) *Patient-community interaction*: The patient’s interaction with the community need not be limited to initiatives made by the family unit. The patient needs to be an active member of the community, participating in community initiated sports and wellness activities (like a mass jogging every Saturday morning), which directly deals with issues concerning lack of exercise. Other interactions could involve church attendance (for spiritual and moral support) which has been claimed to physiologically lower stress levels and improve coping. A study

conducted by Bruce *et al.* (2017) using data from National Health and Nutrition Examination Survey (NHANES III) (1988–1994) in the United States of America showed that religiosity (church attendance) significantly reduced allostatic load (AL) (a physiologic measure of stress) and all-cause mortality in middle-aged adults (40–65 years) compared to non-church goers who had significantly higher overall mean AL scores and higher prevalence of high-risk values for 3 of the 10 markers of AL. In yet another study conducted by Reyes-Ortiz *et al.* (2008) in Mexico, their results showed that church attendance appears to be beneficial for maintaining cognitive function of older persons in addition to moderating the impact of clinically relevant depressive symptoms on subsequent cognitive function.

6-7, 10) *Health education by the Department of Health (DoH)*: Following the old adage that “Prevention is better than cure”, instead of waiting only to deal with diseases when they manifest in sickness, the DoH can carry out community outreaches with the aim of educating the public not only about the causes but also about coping with heart related disease. In this respect, knowledge is indeed power. Dysfunctional beliefs could be addressed in that people could be taught that visiting a health institution is not only for the “sick”, as some people may be sick while outwardly looking “healthy”. Also, in addition to giving medication to the sick, the DoH may have mechanisms in place to ensure monitoring of patients, e.g., by offering health education and counselling (psychological support) to both the patient and the immediate family members who will then knowledgeably offer support to the patient while also taking good care of themselves. Such outreach programmes could directly tackle the problem of lack of health education, which is one of the themes raised by participants in our study as one of the social factors contributing to heart disease.

8-9, 11-12) *Social support from the Department of Social Welfare (DoSW)*: Affected families

who cannot cope need to utilise their direct as well as indirect (via community) links with the DoSW to seek assistance, which in most such instances is material and psychosocial. The department, in turn, should have adequate work force and material resources to deal with challenges arising in the area of its jurisdiction, as its mandate is to assess the needs in the community and to intervene accordingly (Pocket Guide to South Africa 2015/16). Such interventions can be made either directly to the affected families or via the community, depending on the route through which such requests were made.

13-14, 15-16) *The role of the Local government (LoG)*: Based on the theme of lack of exercise which was identified in the interviews, it seems clear that a social support model needs to have access to functional recreational facilities. The LoG is a key player in terms of providing and managing essential infrastructure for recreational facilities to communities. Functional recreational facilities will be beneficial in helping to increase physical activity not only of those who are already heart patients but even the “seemingly healthy”, and so help reduce the incidence of heart disease. In addition, the LoG must be in a position to provide adequate funding to both the DoH and the DoSW if they have to meet their obligations as already outlined above. These departments must also make sure to provide LoG with their budgets in time, taking into account the state of affairs in communities that they service so that they will not site lack of adequate funding as a reason why they cannot meet their obligations, like oversee grants pay-outs.

17-18) *Local Government (LoG) - Provincial Government (ProG) interaction*: The ProG must provide resources to LoG to all intervention programs initiated as a response to the themes that were raised both in the interviews (this study) and in literature. For example, as an antidote to poverty (which is one of the themes identified in this study), LoG can help people

start income generating projects by allocating start-up capital while other stakeholders provide knowledge capital. This becomes a better method of creating self-sustaining communities as opposed to providing monthly handouts which tends to create a dependency syndrome. However, ProG must also receive proper and timely feedback from the LoG (which in turn gets its information from the grassroots) if this model is to be efficient and sustainable.

It is hoped that this model could serve as a useful conceptual framework for approaching the care and social support of heart patients. By outlining the various roles assumed by different players and the interrelationships between them, this model forms a basis for evaluating existing programmes, as well as for identifying and addressing possible causes of less than optimal care for heart patients. The model also serves to guide thinking in terms of planning specific interventions for heart patients. Each role player could be assessed in terms of how it could facilitate support in relation to one of the themes outlined earlier in the article, such as promoting a healthier diet, exercise, social support, medication adherence, education in relation to this condition, and so on. Given their different positions in the social structure, different role players are likely to approach and execute these aims differently, yet ideally in mutually interdependent and reinforcing ways. The model also provides an outline for how interventions centred on one role player could be supported by other role players, thus enhancing overall impact.

#### **4.5 Recommendations**

The model outlined in the previous section is proposed in the spirit of serving as initial step towards a more integrated framework for understanding social support for heart patients, and as such, it is hoped that subsequent research would further modify, refine and improve on this model. It is also recommended that the proposed model, which at this stage is more of a conceptual framework than an intervention strategy, be further refined in terms of how it can be

used to practically guide the development and implementation of intervention strategies by clearly defining who does what, when and how, and what the relationships between various role players might be in this process. Additional research could be channelled into identifying the areas of overlap and possible cooperation between NGOs and other role players like local government to effectively tackle each of the themes that were identified in this study so as to improve the lives of Black South African heart disease patients as well as reduce the incidence of heart disease in impoverished communities. It is also hoped that the model could serve as useful framework for approaching future research on the topic of social support in relation to heart patients, as it might enable a more holistic, comprehensive and systemic view to be taken of this phenomenon. Finally, future research could explore the possible value of this model as framework for understanding and/or approaching other types of health problems in which social dimensions feature prominently.

#### **4.6 Conclusion**

Consistent with the findings from the review of literature and the qualitative study reported in chapter 3, the clear conclusion emerged that although heart disease is a medical condition, it nonetheless progresses along socio-economic fault lines. Among the social factors identified as contributory to heart disease were poverty, stress, excessive alcohol consumption, lack of physical exercise, lack of health education, poor dietary choices, obesity and cigarette smoking. However, social support emerged as one of the pillars on which positive prognosis of heart disease rests. Significantly, therefore, the study found that the most holistic approach to managing heart disease is to integrate medication and social support into the treatment regime. Despite these conclusions, however, interview findings revealed that the City of Tshwane seems not to have a structured social support model either for heart patients in the hospitals or in the

communities where the patients reside. This led to the development of a proposed social support model which the researcher hopes, with further refining, can be used to implement some intervention strategies aimed at improving the quality of life of people living with heart disease.

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## **CHAPTER 5: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS**

This chapter is aimed at drawing conclusions from the present study, which was aimed at exploring social factors associated with heart disease among Black South African heart patients, with the aim of developing a social support model for such patients. Following this, the limitations encountered during the study are outlined. Finally, recommendations for future studies are proposed.

### **5.1 Conclusions**

Heart disease is a term used to describe a range of conditions that include coronary artery disease, heart rhythm problems (arrhythmias), and heart defects (congenital heart defects) among others (National Heart, Lung and Blood Institute, 2014). Although it is widely perceived as a purely medical condition, it starts (and continues) within a social context that has a significant effect on the risk of heart disease and the ability to manage it (WHO, 2012). Heart disease is thought to account for an estimated 9.2 percent of overall deaths on the African continent per year, and an estimated 17 million global mortalities per year (WHO, 2009), with over 70 million people currently living with heart related conditions worldwide (WHO, 2014). Compared to other non-communicable diseases, heart disease is caused by several social factors which include, among them, tobacco smoking, excessive alcohol consumption, poor diet choices, lack of physical exercise, lack of knowledge, obesity and stress (Albus *et al.*, 2005; Rozanski *et al.*, 1999). Over three quarters of heart disease deaths take place in low- and middle-income countries (American Heart Association, 2014b). In South Africa alone, an estimated 195 people die each day as a result of heart-related disease (Maredza *et al.*, 2011). These statistics clearly show that heart disease constitutes a very significant social health burden. While all individuals may be affected by these factors, they are, however, more often associated with low socio-economic conditions,

which calls for some intervention strategies aimed at helping current victims as well as reducing the incidence of heart disease, especially among the millions of people living in low socio-economic conditions.

Literature largely points to social support as one such intervention strategy that can play a pivotal role in helping patients cope with their conditions while also reducing the incidence of heart disease (Lang *et al.*, 2012; Barth *et al.*, 2010). Institutions of social support may include public administration, non-governmental organizations, community associations, churches, family or patients' associations. Social support has been noted to influence behavioural, psychosocial and physiological pathways; thereby shaping health outcomes throughout the life course and, in the long term, having a cumulative impact on the health of heart disease patients (Umberson & Montez, 2010). Additionally, social support has been found to help heart disease patients to live longer and contribute to society, despite their health status (Albus *et al.*, 2005).

There is evidence that lack of social support for a person who is suffering from heart-related disease can result either in sudden cardiac arrest and death (Albus *et al.*, 2005) or that it might exacerbate the prognosis of patients with an established diagnosis of heart disease (Barth *et al.*, 2010). A society that is aware of this connection can promote the health of the community by raising awareness of risk and of how people suffering from illness, including chronic conditions such as heart disease, type II diabetes, stroke, HIV/AIDS, can be supported. However, whereas many studies have been conducted to identify the types of social support available to heart disease patients in much of the developed world (Barth *et al.*, 2010; Cockerham, 2010), no such studies have been carried out in South Africa and the social support available to heart disease patients in South Africa therefore remains undocumented. Based on these considerations, this study adopted a medico-sociological perspective to investigate which socio-behavioural factors

contribute to heart disease in the South African context. The main aim of the study, therefore, was to develop a social support model for heart disease patients after investigating the social factors that contribute towards the management of heart disease, especially in terms of the type of support that heart patients would like to receive in order to improve their lives, and to explore the social support elements available to heart patients by critically reviewing the literature. The review aspect adopted a qualitative meta-synthesis approach which allowed the researcher to critically review existing scholarly books and journal articles. Data analysis was then done following a thematic approach where only papers which discussed social support among heart patients within a qualitative framework were selected. For the exploratory qualitative study, the researcher collected data by means of semi-structured interviews and subsequently analysed the data by means of thematic analysis, which helped him to gain insight into the health professionals' and heart patients' perspectives of heart disease, its causes (social factors) and how best they thought it could be managed. Finally, for the social support model development, the researcher employed the 'reasoning strategies' as described by Mackay (1969) to develop a model for effective social support. These strategies included 'analysis, synthesis, deductive reasoning and inductive reasoning'. The analysis reasoning strategy assisted in coding of data analysis to identify concepts and their attributes. The synthesis strategy was used to construct relational statements and to describe tentative conceptual models using interrelated statements.

Review and analysis of literature based sources revealed that heart patients have a variety of social support choices at their disposal that can be of help in improving their quality of life. These stemmed from different phases of support as was explored and discussed in detail in previous chapters, namely: functional support, which helps with the emotional care of patients; structural support, which assists with membership in the community, and peer support and psychological support, which help with care giving support. It was also evident that heart patients can benefit

from supportive actions which demonstrate love such as frequent visits, maintenance of strong family ties, in-kind interventions, assistance with household chores, guidance and advice, and positive prognosis appraisal. With regard to the social factors that are both contributory causes of heart disease as well as negatively affect people with heart disease, findings pointed to poverty, obesity, cigarette smoking, alcohol consumption, physical inactivity, poor dietary choices, lack of knowledge, lack of social support and stress, all of which were deemed to have a negative prognosis and, as such, social support alone without taking into consideration the social factors leading to heart disease was deemed insufficient. Findings further revealed that while the disease is not curable, people living with it can live longer and are able to function normally as long as they can take good care of themselves and are taken care of by the people living with them. It emerged, from the research, that knowledge is key as knowledgeable patients would know the foods and/or lifestyle habits that could potentially worsen their conditions and so are more likely to avoid them. Poverty also emerged as a central factor on which many other social factors are rooted and as such, any mitigatory interventions aimed at addressing the causative social factors should address poverty both in the short and long term in order to empower heart patients to successfully manage their condition while also limiting the incidence of the disease. While most heart patients may be affected by poverty, it is, however, more often associated with low socio-economic conditions, which calls for some intervention strategies aimed at helping current victims as well as reducing the incidence of heart disease, especially among the millions of people living in low socio-economic conditions.

Despite the clear evidence of the potential value that a social support model might have for heart patients, the findings from face-to-face interviews revealed that the City of Tshwane does not to have a structured social support model either for heart patients either in hospitals or in the communities where the patients reside. While health care professionals who participated in the

study were able to highlight the social factors that negatively impact on the quality of life of heart disease patients, and some social support interventions that are necessary to assist heart patients to improve their life, the patients themselves did not have knowledge of the social factors that contribute to heart disease. Apart from those factors already mentioned above (from literature sources), both health care professionals and patients pointed to lack of knowledge, treatment default, check-up default, and lack of health education as some of the social factors which worsened the quality of lives of people living with heart related disease. Additionally, most patients pointed to lack social support, either from their families or larger society as one of the factors that increased their stress levels as they would find themselves lonely. Poverty emerged as the top-most factor which affected almost the entirety of patients who were interviewed as all other factors like overcrowding, poor diet, failure to go for medical reviews or failure to take medication on time seemed to be linked to poverty. Closely linked to poverty was ignorance/lack of health education as some patients continued to indulge in social activities which exacerbated their conditions, such as smoking and excessive alcohol consumption. Based on the interview outcomes, the researcher then formulated a social support model which, if correctly applied, would serve as a useful framework for the understanding and development of intervention strategies for heart patients. The model emphasises the importance of improved administration, effective family and community ties, the two-way (bottom-up and up-bottom) flow of information and, most importantly, economic empowerment (as opposed to dependence) of heart disease patients so as to deal with poverty and lack of health education.

Congruent with the findings of this study as provided by the interviewees, literature is also awash with evidence that links tobacco smoking (Dvorak *et al.*, 2009; Holm *et al.*, 2014), excessive alcohol intake (Kurihara *et al.*, 2004; Stuck *et al.*, 1999), obesity (Goedecke *et al.*, 2005; Morewitz, 2006), poor dietary choices (Steyn *et al.*, 2001; Sunita, 2015; WHO, 2014), lack of

physical activity (Kolbe-Alexander *et al.*, 2006; Oldridge, 2008) and stress (Pimple *et al.*, 2014; Rosengren, *et al.*, 2014) to the development of heart disease. However, what came out as new in this study was the elucidation of the intricate inter-linkage between poverty and other social factors which ultimately contributes to negative prognosis of heart disease. For instance, the findings were able to elucidate the linkages between poverty and treatment defaulting, check-up defaulting and poor dietary choices. Additionally, while most of the social factors linked to heart disease have been understood from the setting of the developed world, this study has contributed to an enhanced understanding of the role and contribution of these factors to heart disease in an impoverished setting. In developing countries like South Africa, the adoption of westernised lifestyles has disrupted the old eating habits in rural and semi-rural communities. Further, socio-economic conditions have left low income families vulnerable to lack, with practically no choice with regard to the available types of diets. This limitation has repercussions on health and in particular on patients with heart-disease. Patients may have some inkling as to how detrimental a diet with a lot of fat and salt might be, but their socio-economic situation renders them unable to effectively act on this awareness. Hence, socio-economic conditions, added to lack of resources, have put many families in unfavourable living conditions. Such environments cause stress, which results in heart-related problems and affects the patients' quality of life. While social factors remain the leading cause of heart-related diseases across the world, patients in developing countries may experience difficulties in accessing transport and to afford the commuting fees to attend regular follow-ups for either medical assessment or medication while patients in developed countries may have long passed that stage, and are therefore, theoretically speaking, experiencing social challenges of a different nature and context.

Literature shows that through knowledge, reduction in major cardiovascular risk factors such as tobacco use is estimated to account for more than 50% of the decrease in cardiovascular deaths

(Di Chiara & Vanuzzo, 2009). Knowledge of the disease, therefore, seems even more important because, beyond preventive measures, recognising the warning signs of myocardial infarction, for example, and knowing how to manage them can be lifesaving. However, the interviewed patient population in this study proved to the lack of knowledge on both the social factors contributing to heart disease or how to manage the disease. In practice, therefore, the study highlighted the need to have a structured social support model that combined functional support and structural support with educational initiatives both by the department of health and also through the educational curricula as a wholesome package aimed at assisting patients in coping and minimizing the social factors that may negatively impact on their quality of life. It is in this hope that the researcher developed a social support model outlining different role players who could be assessed in terms of how they could facilitate support in relation to each of the themes outlined in earlier chapters of this thesis, such as economic empowerment, promoting a healthier diet, exercise, social support, medication adherence and promoting health education. Given their different positions in the social structure, different role players are likely to approach and execute these aims differently, yet ideally also in mutually interdependent and reinforcing ways. The model also provides an outline for how interventions centered on one role player could be supported by other role players, thus enhancing overall impact.

## **5.2 Limitations of the study**

While the study provided meaningful insights into the social factors contributing to heart disease, the flow of such information was in some instances hindered as the majority of research participants, in particular heart patients, could not express themselves to the satisfaction of the researcher although the researcher tried hard to probe them. The researcher suspects that his presence during data gathering, which was unavoidable, could have affected the subjects'

responses. The findings and inferences drawn from this research are, therefore, limited to what the participants felt was necessary to share with the researcher. Potentially, this may have led to the researcher losing some otherwise helpful information which could have contributed to the development of a better social support model than was finally developed.

In the context of any qualitative inquiry, it is acknowledged that the researcher is not able to approach any study from a fully neutral and objective position, as all understanding is held to be interpretative in this context (Sarantakos, 2013). As such, it should be acknowledged that the interpretations, observations and conclusions of researcher may have been influenced by his personal experience and knowledge of the research problem.

This particular study was qualitative in nature, implying that the aim of its analysis was a complete, detailed description. No attempt was made to assign frequencies to the linguistic features which were identified in the data, and rare phenomena received the same amount of attention as more frequent phenomena, a limitation that is also documented in Anderson (2010). Additionally, Atieno (2009) points out that ambiguities are inherent in human language, which taken in the context of the present study implies a potential that such ambiguities could have been incorporated in the analysis. For example, the word "stress" could have been used by the researcher to refer to the human physiological response to a "stressor" while the respondent could have used it in the context of a stressor, without the researcher knowing about it.

The researcher also recognises that the scope of the study was limited as it only focused on the experiences of participants in some parts of Pretoria. As such, (and partly due to the limitations inherent in a qualitative design) the findings cannot be generalised to the point of applying them to either the entire country or to the whole of Pretoria mainly because the study targeted only one racial group (Black South Africans) living in a certain socio-economic setting (impoverished).

There is great possibility that if the same study were conducted targeting participants from two or more races and involving participants from different socio-economic settings, the results could be different. This warrants further research potentially involving quantitative studies to be able to be representative of many communities of South Africa. However, given that the context of the study has been described in reasonable detail, readers should be able to determine the extent to which the findings may be transferable to other contexts that bear similarity to the one that formed the focus of this study.

### **5.3 Recommendations**

Based on the limitations outlined above, it is recommended that future research be conducted to determine the extent to which the findings made in this study would generalise to other South African regions and racial groups.

The model which was developed during the course of this study is intended as an initial step towards the creation of a framework that might be of use in better understanding the role of social factors in relation to heart disease from a systemic and holistic perspective, and thereby be of use in guiding the development and implementation of interventions aimed at improving the lives of heart patients. As such, it is hoped that future research and intervention activities to this end will be undertaken.

This research recommends that the department of health and social development should reach out to communities, especially in the face of evidence of patients being unable to reach health institutions because of poverty and sheer lack. For example, every community around the township of Tshwane should have a heart patients' rehabilitation centre where patients can access medication, medical check-up and advise and, in need be, food parcels. During the interviews,

social workers alluded to the fact that they sometimes visit patients at home with food parcels, but they do not do it regularly, and, in any case, such a routine is not a formal one since it runs whenever there is a budget and stops when there is not. The proposed centres could be where heart patients would receive services on a regular basis, because the study findings showed that what affects the quality life of heart patients most are the factors associated with socio-economic issues. So a centre with a comprehensive approach where all the health professionals are available to look after the heart patients, and where they do not have to travel to town, and have awareness about heart disease could make a difference in the lives of heart patients. This would be a long- term solution. Future research should map and profile such supporting agencies nationally. In addition, there is a need for future studies to focus on the challenges faced by heart disease patients as well as their preferred social support actions.

Socio-economic problems have emerged as central among the social factors leading to heart disease among people living with a heart condition. What can be further recommended is that the department of social welfare can, in conjunction with the department of health, create a database of heart patients in a certain locality with complete profiles of their socio-economic status so that if need be, the government can allocate monthly food parcels to such people/homes so that the patients are adequately looked after. This is something that is not done anywhere in and around the community of the greater Tshwane area, but it might represent a viable and urgently needed short-term solution.

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NORTH-WEST UNIVERSITY  
YUNIBESITI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT

## INVITATION LETTER

I kindly invite you participate in my study entitled: *Social factors contributing towards heart disease: Development of a social support model for heart patients.*

**The main purpose of this study is to develop a social support model for heart patients by investigating the social factors that contribute towards the management of heart disease.**

Your participation in this study will help us develop a social support model for heart patients.

**To be able to achieve the above purpose, we invite anyone who meets any one of the following criteria to collaborate:**

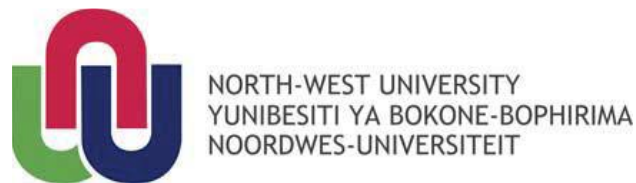
1. You are a heart patient and a black South African citizen between the ages 18 and 64 years old. Furthermore, your supervising physician indicated (or will do so) that your health status is such that you are fit to take part in the study and that you are unlikely to be negatively affected by your participation in the study.
2. You are a medical doctor, and you have worked with heart patients for at least 2 years.
3. You are a qualified nurse, and you have worked with heart patients for at least 2 years.
4. You are a social worker, and you have worked with heart patients for at least 2 years.
5. You are a caregiver (to heart patients), and you have worked with heart patients for at least 2 years.

If you believe you fit the above criteria, and are interested in taking part in the study, please contact Dr Mojalefa Koenane who is facilitating recruitment to this project. He will email you with information and consent documents. If/when you return the signed consents to him, he will ask the researcher (Mr Phillip Nhlanhla) to contact you.

Dr Koenane's contact details:

Dr Mojalefa Koenane - Tel: 012 429 6876; e-mail: [koenaMLJ@unisa.ac.za](mailto:koenaMLJ@unisa.ac.za)

## APPENDIX B



### ETHICS APPROVAL CERTIFICATE OF PROJECT

Based on approval by **Humanities and Health Research Ethics Committee (HHREC)**, the North-West University Institutional

Research Ethics Regulatory Committee (NWU-IRERC) hereby approves your project as indicated below. This implies that the

NWU-IRERC grants its permission that, provided the special conditions specified below are met and pending any other

authorisation that may be necessary, the project may be initiated, using the ethics number below.

**Project title: Social factors contributing towards heart disease: Development of a social support model for heart patients.**

**Primary Investigator: Mr Philip Nhlanhla**

**Supervisor: Prof HW Nell**

**Ethics**

**number:**

**N W U - HS - 2 0 1 5 - 0 1 2 3**

Institution Project Number Year Status

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

**Approval date:** 2015-10-16 **Expiry date:** 2018-10-16 **Category** N/A

Special conditions of the approval (if any): None

General conditions:

*While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:*

*The project leader (principle investigator) must report in the prescribed format to the NWU-IRERC:*

*- annually (or as otherwise requested) on the progress of the project,*

*- without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.*

*The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary*

*during the course of the project, the project leader must apply for approval of these changes at the NWU-IRERC. Would there be deviated*

*from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.*

*The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new*

*application must be made to the NWU-IRERC and new approval received before or on the expiry date.*

*In the interest of ethical responsibility the NWU-IRERC retains the right to:*

*- request access to any information or data at any time during the course or after completion of the project;*

*- withdraw or postpone approval if:*

*· any unethical principles or practices of the project are revealed or suspected,*

*· it becomes apparent that any relevant information was withheld from the NWU-IRERC or*

*that information has been false or*

*misrepresented,*

*· the required annual report and reporting of adverse events was not done timely and accurately,*

*· new institutional rules, national legislation or international conventions deem it necessary.*

The IRERC would like to remain at your service as scientist and researcher, and wishes you

well with your project. Please do

not hesitate to contact the IRERC for any further enquiries or requests for assistance.

Yours sincerely

**Prof Linda du Plessis**

*Chair NWU Institutional Research Ethics Regulatory Committee (IRERC)*

Private Bag X6001, Potchefstroom

South Africa 2520

Tel: (018) 299-4900

Faks: (018) 299-4910

Web: <http://www.nwu.ac.za>

**Institutional Research Ethics Regulatory**

**Committee**

Tel +27 18 299 4849

Email [Ethics@nwu.ac.za](mailto:Ethics@nwu.ac.za)

Linda du

Plessis

Digitally signed by Linda du Plessis

DN: cn=Linda du Plessis, o=NWU,

ou=Vaal Triangle Campus,

email=linda.duplessis@nwu.ac.za,

c=ZA

Date: 2015.10.19 22:11:30 +02'00'

**APPENDIX C**



**GAUTENG PROVINCE**  
HEALTH  
REPUBLIC OF SOUTH AFRICA

**KALAFONG HOSPITAL  
PRIVATE BAG X396  
PRETORIA  
0001  
16 APRIL 2015**

**ENQUIRIES : DR D. UBOMBA  
TEL : 012 318 6503  
FAX : 012 373 9021**

**To Mr Nhlanhla Phillip**

**RE: PERMISSION TO CONDUCT RESEARCH**

**Title: Social factors contributing towards heart disease: Development of a social support  
model for heart patients\_**

Permission is hereby granted for the research to be conducted at Kalafong Hospital. This approval is given on the condition that ethics clearance will be obtained from the training institution ethics committee.

Upon completion of the project. Please send a copy of the research report to my office.

  
**DR D. UBOMBA  
MEDICAL MANAGER  
KALAFONG HOSPITAL**



**Permission to do Research at Steve Biko Academic Hospital**

To: Chief Executive Officer  
Dr. M.E. Kenoshi

From: The Investigator  
Mr. Phillip Nhlanhla

Re: Permission to do the following research at Steve Biko Academic Hospital

I am a student at North-West University – Vaal Triangle Campus studying towards my PhD degree.

The focus of my study is on exploring social contributing towards heart disease, with the aim of developing a social support model of heart patients. The information that will be gathered in relation to do the research will help in the development of a social support model for heart patients. The study will be qualitative in nature, and will involve semi-structured interviews with relatively factors that are relevant in the social support for patients with heart-related conditions.

Yours sincerely



Mr. Phillip Nhlanhla

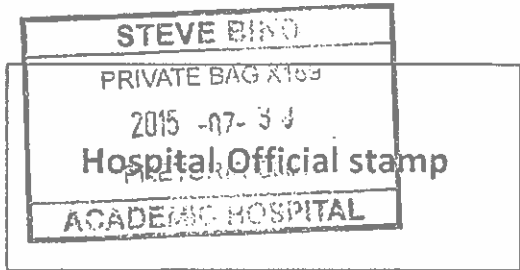
Permission to do the research study at this hospital and to access the information as requested is hereby approved.

Chief Executive Officer : Steve Biko Academic Hospital




DR. M.E. KENOSHI  
DEPUTY CEO  
STEVE BIKO  
ACADEMIC HOSP

Signature: Dr. M.E. Kenoshi



STEVE BIKO  
PRIVATE BAG X109  
2015 -07- 30  
Hospital Official stamp  
ACADEMIC HOSPITAL

	<b>TSHWANE/METSWEDING REGIONAL RESEARCH ETHICS COMMITTEE (TMRREC)</b>	
Document No:	<b>RESEARCH APPLICATION FORM</b>	Date: 27/03/2015

**NOT TO BE COMPLETED BY VENDORS/SUPPLIERS**

**INTRODUCTION**

- The TMRREC will treat all the information you furnish as strictly confidential.
- The TMRREC reserves the right to request additional information if required.
- The TMRREC reserves the right to perform an audit to confirm/verify any of the information in this application.
- Ensure that this application is signed before returning it to the TMRREC
- Please respond to all sections, as incomplete forms will not be processed.
- **Only original documentation will be accepted.**

**CONTACTS**

Should you experience any problems in completing this application, please do not hesitate to contact the Secretary of the TMRREC at Tel 012 4519124.

**MANDATORY CONDITIONS**

- *Attach a research proposal (Annexure 2 is guidelines that can be used for the protocol)*
- *Attach the ethical research approval by an approved ethical committee.*
- *MMC registration number or approval number for medicine trials is needed.*

***If Funding is needed the following mandatory conditions are also applicable:***

- *All banking requirements must be attached to this application (Page 3) if funding is needed.*
- *Attach a certified copy of your ID.*
- *Internal and external entities (payroll) must attach a personal printout signed by the team leader and/or director, as well as a date stamp, if funding is needed.*
- *Persal applications: Attach a certified copy of your latest salary advice if funding is needed.*
- *Doctors' practices: Attach the most recent original tax clearance certificate to the application.*
- *Provide a certified copy of VAT103 if applicable.*

**ANNEXURES TO THIS FORM**

- *Annexure 1: Approval forms signed by the clinic manager or CEO of the hospital to give preliminary permission for the research to be conducted in their facilities. (Researcher must talk to clinic and hospital as part of the research investigations for the proposal)*
- *Annexure 2: Guidelines for the structure of your research proposal*

- The researcher must submit a detailed costed business plan and budget that specifies cost per line item, hourly rate and fieldwork expenses if applying for government funding.

### SECTION A

#### PERSONAL PARTICULARS OF RESEARCHER

ID NUMBER	PRACTICE NUMBER	VAT/TAX CLEARANCE NUMBER	PERSAL/PAY NUMBER (if a public servant)	OTHER (STATE)
7507225333084	N/A	N/A	N/A	

Title	NW
Surname	MHLA MHLA
First name(s)	PHILLIP
Initials	P
Name of firm or organisation	NORTH WEST UNIVERSITY (N.W.U)

#### ADDRESSES

Physical address	Postal address
NO. 8 BRUIDJIE AVENUE KAREN PARK	SAME AS RESIDENTIAL ADDRESS
Postal code: 0182	Postal code:

#### CONTACT TELEPHONE NUMBERS

Business telephone number	0826794028
Telephone number - other	012-429 3275
Mobile number	0826794028
Fax number	N/A
Email address	nhlamp@unisa.ac.za

#### PARTICULARS IF A PHARMACEUTICAL COMPANY IS INVOLVED

Name of company or firm	N/A
Managing director of company	
Telephone number of Managing Director	
Address of company	

### SECTION B

(Only to be completed if funding is needed)

BANKING DETAILS: TO BE VERIFIED BY THE BANK (if funding is needed)

#### MANDATORY REQUIREMENTS

- FOR CHEQUE/CURRENT ACCOUNTS, ATTACH AN ORIGINAL CANCELLED BLANK CHEQUE.
- FOR TRANSMISSION/SAVINGS ACCOUNTS, ATTACH THE MOST RECENT ORIGINAL LETTER AND STATEMENT (NOT OLDER THAN TWO MONTHS).
- FOR POST OFFICE ACCOUNTS, PROVIDE A STATEMENT NOT OLDER THAN TWO MONTHS.

#### NOTE:

IN ALL INSTANCES THE ACCOUNT HOLDER MUST BE IN THE NAME OF THE APPLICANT

Bank	
Name of branch	
Account number	N/A
Branch code	
Account holder	
Account holder signature	
Type of account	<input type="checkbox"/> Current/Cheque <input type="checkbox"/> Transmission <input type="checkbox"/> Savings <input type="checkbox"/> Other (Specify)

**FOR BANK USE**

Name of bank official		DATE STAMP OF BANK CERTIFIED AS CORRECT
Capacity of bank official		
Signature of bank official		
Telephone number of bank official		
Fax number of bank official		

**SECTION C**

**If test the product is pharmaceutical:**

State the MMC registration number if registered.	N/A
If not registered, state the MMC trial approval number. (Please attach a certified copy to your application.)	

**SECTION D**

Briefly state the objective of the research proposal	To identify the social factors that could impact negatively on the quality of life of heart patients. To develop the type of social model that will impact less of heart patients.
In which public Health Facility or communities or area do you want to conduct your research?  (For each clinic or hospital mentioned, you must have a form signed by the clinic manager or CEO of the hospital – forms are attached to this application form.)	Jubilee hospital - small sample of health professions, example interviews with Doctors, Nurses, Social workers, Care givers to heart patients if available by heart patients.
Estimated period of trial/research	The estimated period if permission granted <span style="border: 1px solid black; padding: 2px;">not set a monitor survey</span>
Sample Size	10 Doctors, Nurses 10 social workers 15 heart patients
Will enough test materials and stock be supplied?	This is a research from Social Sciences. only interview
What laboratory tests will be required, and who will pay for the tests?	N/A
What other investigations will be required for the research, and who will be responsible for the cost?	Only interviews with selected participants. No costs

How will the research be financed?	This is an academic research - for PhD purposes
Risk and occupational hazards to the public facilities and staff	Not at all - participation is voluntary

**SECTION E**

I /We agree to conduct the above trial/research under the conditions stated in the application form.

I/We also agree to conduct this trial/research at no additional cost to the Gauteng Health and Social Development Department or the City of Tshwane.

Signature of applicant: 

Signature of representative from firm if applicable: \_\_\_\_\_

Date: 27/03/15

Witness: P. M. RAMOTSI

Witness: 

**DECLARATION**

**(To be signed in the presence of a Commissioner of Oaths.)**

**(If funding is needed, please complete this part.)**

**By completing this application form, I declare that all the information provided is true and correct**

NAME	SIGNATURE	DATE
------	-----------	------

**COMMISSIONER OF OATHS**

Signed and sworn to before me at .....

on this the ..... day of .....20

by the deponent, who has acknowledged that he or she knows and understands the contents of this affidavit, that it is true and correct to the best of his or her knowledge, that he or she has no objection to taking the prescribed oath and that the prescribed oath will be binding on his or her conscience.

COMMISSIONER OF OATHS

Annexure 1

Declaration of intent from the clinic manager or hospital CEO

I give preliminary permission to DPhillip Nhlankhla (name of researcher) to do his or her

research on Exploring social factors contributing towards heart disease, with the aim of developing a social support model for heart patients. (research topic) in \_\_\_\_\_ (name of clinic) or

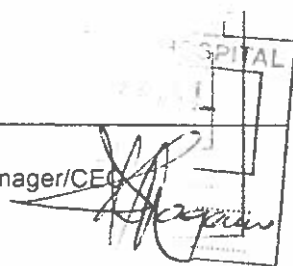
/ \_\_\_\_\_ (name of CHC ) or

Jubilee District Hospital (name of hospital).

I know that the final approval will be from the Tshwane/Metsweding Regional Research Ethics Committee and that this is only to indicate that the clinic/hospital is willing to assist.

Other comments or conditions prescribed by the clinic or CHC manager or hospital CEO.

*It is hoped that the outcome of the research will be shared with the hospice management.*

Signature  
Clinic Manager/CHC Manager/CEO 

2015.03.27.  
Date

## Annexure 2

**STRUCTURE OF RESEARCH PROPOSALS****1. Title and authors**

The title should clearly describe the purpose of the study. The names of the researchers, the qualifications, and the address and name of the institution should be indicated in this section.

**2. Abstract**

The abstract should provide the aims and objectives of the study and the research methodology briefly and to the point.

**3. Introduction**

This comprises the summary of relevant literature around the problem. Gaps need to be identified in this section to draw hypotheses and justify the study.

**4. Justification**

This serves as a justification indicating the importance and benefits of conducting the study.

**5. Aims**

The aim needs to be clear and researchable and should be able to contribute new scientific findings to the school of knowledge.

**6. Objectives**

Objectives should describe specific and exact issues to be investigated by researchers to achieve the aim.

**7. Methods**

- The study design needs to be specified, for example descriptive, analytical or intervention.
- The study population should clearly state the age groups, gender, geographic location, etc of the participants.
- The sampling frame describes various methods or techniques including statistical packages to be used in sampling participants. The sampling size of participants should also be stated.
- Measurement of data should be mentioned depending on the type of the study. These include blinding, validity and reliability of measuring instruments, and quality control.
- The exclusion and inclusion criteria, particularly regarding participants should also be specified.
- A pilot study should be conducted before the main study mainly to evaluate the test instruments and other logistics.
- Data collection instruments such as questionnaires, checklists, focus groups, blood tests, etc should be specified.
- Data analysis methods, both qualitative and quantitative (descriptive statistics and inferences) and instruments should be described.

**8. Ethical consideration**

Ethical approval should be sought from a recognised ethics committee. This is useful in safeguarding the rights of the participants and also involves the release of information. Informed consent forms should be included in the research proposal.

**9. Dissemination and implementation of research findings**

Information dissemination strategy and feedback mechanisms should be clearly stated. This should include reports, presentations and publications.

**There should be a clear process for implementation of the results.**

**10. Estimated budget**



The budget should be justified, and should be broken down into items such as staff, equipment, travelling and subsistence, and miscellaneous if funding is needed.

**11. Timetable**

A realistic timetable showing the period within which the research will be conducted needs to be set up.

**12. References**

Literature quoted in the literature review should be referenced at the end of the proposal.

 <p>health and social development Gauteng Province</p>	<h2>TSHWANE RESEARCH COMMITTEE (TRC)</h2>	 <p>CITY OF TSHWANE</p>
<p>Document No:</p>	<h2>RESEARCH APPLICATION FORM</h2>	<p>Date:</p>

**NOT TO BE COMPLETED BY VENDORS/SUPPLIERS**

**INTRODUCTION**

- The TRC will treat all the information you furnish as strictly confidential.
- The TRC reserves the right to request additional information if required.
- The TRC reserves the right to perform an audit to confirm/verify any of the information in this application.
- Ensure that this application is signed before returning it to the TRC
- Please respond to all sections, as incomplete forms will not be processed.
- **Only original documentation will be accepted.**

**CONTACTS**

Should you experience any problems in completing this application, please do not hesitate to contact the Secretary of the TRC at Tel 012 4519124.

**MANDATORY CONDITIONS**

- Attach a research proposal (Annexure 2 is guidelines that can be used for the protocol).
- Attach the ethical research approval by an approved ethical committee.
- MMC registration number or approval number for medicine trials is needed.

*If Funding is needed the following mandatory conditions are also applicable:*

- All banking requirements must be attached to this application (Page 3) if funding is needed.
- Attach a certified copy of your ID.
- Internal and external entities (payroll) must attach a personal printout signed by the team leader and/or director, as well as a date stamp, if funding is needed.
- Personal applications: Attach a certified copy of your latest salary advice if funding is needed.
- Doctors' practices: Attach the most recent original tax clearance certificate to the application.
- Provide a certified copy of VAT103 if applicable.

**ANNEXURES TO THIS FORM**

- Annexure 1: Approval forms signed by the clinic manager or CEO of the hospital to give preliminary permission for the research to be conducted in their facilities. (Researcher must talk to clinic and hospital as part of the research investigations for the proposal)
- Annexure 2: Guidelines for the structure of your research proposal
- The researcher must submit a detailed costed business plan and budget that specifies cost per line item, hourly rate and fieldwork expenses if applying for government funding.

**SECTION A****PERSONAL PARTICULARS OF RESEARCHER**

ID NUMBER	PRACTICE NUMBER	VAT/TAX CLEARANCE NUMBER	PERSAL/PAY NUMBER (if a public servant)	OTHER (STATE)
7507225333084	N/A	N/A	N/A	N/A

Title	Mr
Surname	Nhlanhla
First name(s)	Phillip
Initials	P
Name of firm or organisation	North West University (NWU)

**ADDRESSES**

Physical address	Postal address
NO: 8 Bruidjie Avenue	Same as residential
Karenpark	
Postal code: 0182	Postal code:

**CONTACT TELEPHONE NUMBERS**

Business telephone number	012 - 429 3275
Telephone number - other	N/A
Mobile number	0826794028
Fax number	N/A
Email address	0826794028

**PARTICULARS IF A PHARMACEUTICAL COMPANY IS INVOLVED**

Name of company or firm	N/A
Managing director of company	N/A
Telephone number of Managing Director	N/A
Address of company	N/A

**SECTION B****(Only to be completed if funding is needed)****BANKING DETAILS: TO BE VERIFIED BY THE BANK (if funding is needed)****MANDATORY REQUIREMENTS**

- FOR CHEQUE/CURRENT ACCOUNTS, ATTACH AN ORIGINAL CANCELLED BLANK CHEQUE.
- FOR TRANSMISSION/SAVINGS ACCOUNTS, ATTACH THE MOST RECENT ORIGINAL LETTER AND STATEMENT (NOT OLDER THAN TWO MONTHS).
- FOR POST OFFICE ACCOUNTS, PROVIDE A STATEMENT NOT OLDER THAN TWO MONTHS.

**NOTE:**  
**IN ALL INSTANCES THE ACCOUNT HOLDER MUST BE IN THE NAME OF THE APPLICANT**

Bank	N/A			
Name of branch	N/A			
Account number	N/A			
Branch code	N/A			
Account holder	N/A			
Account holder signature	N/A			
Type of account	Current/Cheque	Transmission	Savings	Other (Specify)

**FOR BANK USE**

Name of bank official	N/A	<b>DATE STAMP OF BANK CERTIFIED AS CORRECT</b>
Capacity of bank official	N/A	
Signature of bank official	N/A	
Telephone number of bank official	N/A	
Fax number of bank official	N/A	

**SECTION C**

**If test the product is pharmaceutical:**

State the MMC registration number if registered.	N/A
If not registered, state the MMC trial approval number. (Please attach a certified copy to your application.)	N/A

**SECTION D**

Briefly state the objective of the research proposal.	The main objective of the study is to develop a social support model for heart patients by investigating the social factors that contribute to heart disease, especially in terms of the type of support that heart patients would like to receive in order to improve their lives.
In which public Health Facility or communities or area do you want to conduct your research?  (For each clinic or hospital mentioned, you must have a form signed by the clinic manager or CEO of the hospital -- forms are attached to this application form.)	The researcher would like to conduct the research at ODI Hospital.
Estimated period of trial/research	If permission granted -- the estimation period is a month based on availability of participants.
Sample Size	Heart patients males and females = 15, Doctors and Nurses = 10, Social workers and Care givers = 10.
Will enough test materials and stock be supplied?	This is a social science research -- only interviews

What laboratory tests will be required, and who will pay for the tests?	<u>N/A</u>
What other investigations will be required for the research, and who will be responsible for the cost?	Only interviews with selected participants, no costs involved.
How will the research be financed?	This is an academic research – for PhD purposes
Risk and occupational hazards to the public facilities and staff	There will not be any risk and occupational hazards to the public facilities and staff, this particular research involves only interviews with selected participants.

### SECTION E

I/We agree to conduct the above trial/research under the conditions stated in the application form.

I/We also agree to conduct this trial/research at no additional cost to the Gauteng Health and Social Development Department or the City of Tshwane.

Signature of applicant: 

Signature of representative from firm if applicable: \_\_\_\_\_

Date: 24/04/15

Witness: 

Witness: 

### DECLARATION

(To be signed in the presence of a Commissioner of Oaths.)  
(If funding is needed, please complete this part.)

By completing this application form, I declare that all the information provided is true and correct				
NAME		SIGNATURE		DATE

<b>COMMISSIONER OF OATHS</b>
Signed and sworn to before me at .....
on this the ..... day of .....20
by the deponent, who has acknowledged that he or she knows and understands the contents of this affidavit, that it is true and correct to the best of his or her knowledge, that he or she has no objection to taking the prescribed oath and that the prescribed oath will be binding on his or her conscience.
COMMISSIONER OF OATHS

Annexure 1

Declaration of intent from the clinic manager or hospital CEO

I give preliminary permission to Ms Phillip Nkomo (name of researcher) to do his or her

research on Social factors contributing to heart disease: development of a social support model for heart patients (research topic) in

\_\_\_\_\_ (name of clinic) or

\_\_\_\_\_ (name of CHC) or

MOI DISTRICT HOSPITAL (name of hospital).

I know that the final approval will be from the Tshwane/Metsweding Regional Research Ethics Committee and that this is only to indicate that the clinic/hospital is willing to assist.

Other comments or conditions prescribed by the clinic or CHC manager or hospital CEO

It would be appreciated if recommendations from findings can be shared with the hospital clinical team on completion of research.

[Signature]  
Signature  
Clinic Manager/CHC Manager/CEO

2015.07.23  
Date

## Annexure 2

**STRUCTURE OF RESEARCH PROPOSALS**

- 1. Title and authors**

The title should clearly describe the purpose of the study. The names of the researchers, the qualifications, and the address and name of the institution should be indicated in this section.
- 2. Abstract**

The abstract should provide the aims and objectives of the study and the research methodology briefly and to the point.
- 3. Introduction**

This comprises the summary of relevant literature around the problem. Gaps need to be identified in this section to draw hypotheses and justify the study.
- 4. Justification**

This serves as a justification indicating the importance and benefits of conducting the study.
- 5. Aims**

The aim needs to be clear and researchable and should be able to contribute new scientific findings to the school of knowledge.
- 6. Objectives**

Objectives should describe specific and exact issues to be investigated by researchers to achieve the aim.
- 7. Methods**
  - The study design needs to be specified, for example descriptive, analytical or intervention.
  - The study population should clearly state the age groups, gender, geographic location, etc of the participants.
  - The sampling frame describes various methods or techniques including statistical packages to be used in sampling participants. The sampling size of participants should also be stated.
  - Measurement of data should be mentioned depending on the type of the study. These include blinding, validity and reliability of measuring instruments, and quality control.
  - The exclusion and inclusion criteria, particularly regarding participants should also be specified.
  - A pilot study should be conducted before the main study mainly to evaluate the test instruments and other logistics.
  - Data collection instruments such as questionnaires, checklists, focus groups, blood tests, etc should be specified.
  - Data analysis methods, both qualitative and quantitative (descriptive statistics and inferences) and instruments should be described.
- 8. Ethical consideration**

Ethical approval should be sought from a recognised ethics committee. This is useful in safeguarding the rights of the participants and also involves the release of information. Informed consent forms should be included in the research proposal.
- 9. Dissemination and implementation of research findings**

Information dissemination strategy and feedback mechanisms should be clearly stated. This should include reports, presentations and publications.

**There should be a clear process for implementation of the results.**

**10. Estimated budget**

The budget should be justified, and should be broken down into items such as staff, equipment, travelling and subsistence, and miscellaneous if funding is needed.

**11. Timetable**

A realistic timetable showing the period within which the research will be conducted needs to be set up.

**12. References**

Literature quoted in the literature review should be referenced at the end of the proposal.

## APPENDIX D

GAUTENG PROVINCE

HEALTH

REPUBLIC OF SOUTH AFRICA

TO WHOM IT MAY CONCERN

## STEVE BIKO ACADEMIC HOSPITAL

Private Bag X169 Pretoria 0001

Inquiries: Dr AP van der Walt

Tel no: +27 12 354 2336

Fax no: +27 12 3542151

E-mail: [andrevdw@pg.gov.za](mailto:andrevdw@pg.gov.za)

Rc: RESEARCH PROJECT BY PSYCHOLOGIST MR PHILLIP NIILANHLA  
SOCIAL FACTORS CONTRIBUTING TOWARDS HEART DISEASE:  
DEVELOPMENT OF A SOCIAL SUPPORT MODEL

Permission is hereby granted to avail a Psychologist to assist with patients who might need pre or post counseling during the research interview. The contact person in this regard is Dr GP Grobler of the Psychiatric Unit; contact number 012-354 3191 / 3208 or #62264.

Dr- 'an' der Walt

DIRECTOR CLINICAL SERVICES 13 October 2015

Cc Dr GP Grobler

STEVE BIKO --- -

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ACADEMIC HOSPITAL

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# GAUTENG PROVINCE

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REPUBLIC OF SOUTH AFRICA

ENQUIRIES: DR KM HTWE

TEL NUMBER: {012} 318 6502

FAX NUMBER:(012) 318 6791

Date: 02 October 2015

KALAFONG HOSPITAL

PRIVATE BAG X396

PRETORIA

0001

Subject: RE: social factors contributing towards heart disease:

Development of a social support model

TO WHOM IT MAY CONCERN

Please be informed that permission has been granted to avail a Psychologist for patients who might need pre or post counseling during the face to face interview

Kind regards

DRKM

CLINICAL MANGER

# GAUTENG PROVINCE

/1

RE PUBLIC OF SOUTH AFRICA

92 Jubilee District Hospital Hammanskraal Pretoria 0400 South Africa. Tel: +27 12 717 9301 Fax: +27 12 717 4954

/086 509 5574: E-mail: Phenylo.Seloane@gauteng.gov.za

Chief Executive Office: Ms. DL Magano. Tel: 012 717 9336 Cell: 082 824 2821

Email: Damaria.magano@gauteng.gov.za

**01 October 2015**

**TO TO WHOM MAY CONCERN**

**SCHOOL OF BEHAVIOURAL SCIENCES**

**SUBJECT SOCIAL FACTORS CONTRIBUTING TOWARDS HEART DISEASE:**

**DEVELOPMENT OF A SOCIAL SUPPORT MODEL**

Please be informed that the hospital will avail a psychologist for patients who might need pre or

post counselling during the face to face interview.

Thank you in anticipation,

liJ .. zt. ~

~ odise

Clinical Manager

- GAUTENG DEPARTMENT OF HEALTH

TSHWANE METSWEDITING DISIRICT

CLINIC/..L MANAGER

**2015 -10- 0 1**

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**16 October 2015**

## **PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM FOR**

### **Doctors/Nurses**

**TITLE OF THE RESEARCH PROJECT:** Social factors contributing towards heart disease: Development of a social support model for heart patients

**REFERENCE NUMBERS:**

**PRINCIPAL INVESTIGATOR:** Phillip Nhlanhla

**ADDRESS:** No: 8 Bruidjie Avenue Karenpark, Pretoria 0182.

**CONTACT NUMBER:** 0826794028

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

This study has been approved by the **Humanities and Health Research Ethics Committee (HHREC) of the Faculty of Humanities of the North-West University (NWU.....)** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki and the ethical guidelines of the National Health Research Ethics Council. It might be necessary for the research ethics committee members or relevant authorities to inspect the research records to make sure that I (the researcher) am conducting research in an ethical manner.

### **What is this research study all about?**

- *The goal of this research is to develop a social support model for heart patients by investigating the social factors that contribute towards the management of heart disease.*
- *This study will be conducted at public hospitals/clinics around Tshwane area, South Africa and will involve face-to-face interview. The face-to-face interview will consist of a list of 6 questions dealing with your experience and views in relation to social factors that are relevant to heart disease and that are important in providing social support to heart patients. The researcher has been trained to conduct face-to-face interviews.*
- *Around 32 participants will be included in this study.*

### **Why have you been invited to participate?**

- *You have been invited to participate because you are a medical doctor/nurse.*
- *You also meet the following inclusion criteria: you have worked with heart patients for at least 2 years.*
- *You will be excluded if you have not worked with heart patients at all, if you have been the HOD or Managing Director of the section, or if you assisted the researcher in recruiting participants (patients).*

### **What will your responsibilities be?**

- *You will be expected to take part in a face-to-face interview consisting of 6 questions, during which you are expected to answer each question as truthfully and to best of your ability as possible. With your permission the interview will be audio-recorded so that I can assess the data later and only I and my supervisor, Dr Werner Nell, will have access to this recording.*
- *You may also be asked (at some point after the initial interviews, in person to consider the findings of the study and provide us with your feedback as to whether they represent a fair and accurate description of your experience of heart disease and social support. As with all other aspects of the study, you would of course also be totally free to decline to do this if you do not wish to.*

### **Will you benefit from taking part in this research?**

- *The direct benefits for you as a participant could include the fact that as a person working with heart patients, this study might enhance your knowledge of heart patients, especially from a social perspective. However, you will receive no particular reward or direct benefit for your participation.*
- *The indirect benefits include that: this study will serve to explore social factors leading to heart disease with the aim of developing a social support model for heart patients.*

**Are there risks involved in your taking part in this research and how will these be managed?**

➤ *The risks in this study, and how these will be managed, are summarised in the table below:*

<b><i>Probable/possible risks/discomforts</i></b>	<b><i>Strategies to minimize risk/discomfort</i></b>
Because of a busy schedule of health professionals, you might be called to attend to an urgent matter prior or during the interview process.	The researcher will be flexible and will reschedule the interview for another day, should such a situation happen.
The interviews with health professionals will take place during their lunch time and to be notified a day before the interview. You will be asked to make yourself available during lunch time; this does not mean that you are obliged to skip your lunch.	The researcher plans to conduct the interviews between 12h00 – 13h00. And between 13h00 – 14h00. The researcher will notify the participants a day before the interview, by calling them. Refreshments will be served for the participants who make themselves available during lunch time.
Noisy areas may cause some discomfort and irritations.	The researcher will ensure that all interviews are conducted in a quiet setting at the hospital and the environment will be confidential and the researcher will adhere to the principle of confidentiality.
Conducting interviews during lunch time could mean that you will not have this time to rest.	Please feel free to request a day for the interview in which the lunch-time interview will not cause unnecessary additional strain. You would of course also be free to request that the interview be terminated if you feel fatigued and in need of rest.
As the interviews will be conducted during lunch time when that they will not have the opportunity to rest	Should you feel that you need a rest; the meeting can be postponed for another time suitable to you.

➤ *However, the benefits (as noted above) outweigh the risk.*

**Who will have access to the data?**

*Confidentiality will be ensured in the study by way of de-identifying participants during the data evaluation process. No participant will be referred to by name during the data evaluation process and their personal details will also not be published in the final report (PhD thesis). During the data collection process (the interview) participants will not be addressed by their name, instead they will be assigned a number (P1). No individuals' identifiers will be used in any publications resulting from this study and only the researcher and his promoter (Dr Werner Nell) will work*

*with the information that you shared. All sensitive information will be protected by locking it up in locked cupboards in the researcher's office and storing electronic data on a password protected computer. The only persons who will have access to your personal information, is strictly the researcher and his promoter.*

- *Audio-recorded data will be transcribed by the researcher and as soon as data has been transcribed it will be deleted from the recorders. The transcripts will be stored on a password-protected computer.*
- *Data will be stored electronically for a period of 5 years.*

### **What will happen to the data?**

The data from this study will be reported in the following ways: findings will be reported in the form of a PhD thesis and may be published in a research journal. In all of this reporting, you will not be personally identified. This means that the reporting will not include your name or details that will help others to know that you participated (e.g., your address or the name of your hospital or clinic).

The data may be re-used in future studies that focus on the same general research topic involving various facets of the experience of social factors leading to heart disease. The data produced for the current study could be used for future comparative studies. However, the data will not be used for any other purposes.

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

No, you will not be paid or compensated to take part in the study. There will, however, be no personal costs involved for your participation in the study. Refreshments will be served on the day of the interviews for those participants who make themselves available during lunch time.

### **How will you know about the findings?**

- The general findings of the research will be shared with you in person (if you wish to receive such feedback, of course).

### **Is there anything else that you should know or do?**

- You can contact me, Phillip Nhlanhla, at 0826794028 or [nhlanpp@unisa.ac.za](mailto:nhlanpp@unisa.ac.za) if you have any further queries or encounter any problems.
- Alternatively, you can contact my supervisor, Dr Werner Nell at 016 910 3427 or [Werner.Nell@nwu.ac.za](mailto:Werner.Nell@nwu.ac.za).
- You can contact the chair of the Humanities and Health Research Ethics Committee (Prof Linda Theron) at 016 910 3076 or [Linda.theron@nwu.ac.za](mailto:Linda.theron@nwu.ac.za) if you have any concerns or complaints that have not been adequately addressed by the researcher. You can also contact, the co-chair, Prof Tumi Khumalo (016 910 3397 or [Tumi.khumalo@nwu.ac.za](mailto:Tumi.khumalo@nwu.ac.za)). You can leave a message for either Linda or Tumi with Ms Daleen Claasens (016 910 30441)
- You will receive a copy of this information and consent form for your own records.

### **Declaration by participant**

By signing below, I ..... agree to take part in a research study entitled: Social factors contributing towards heart disease: Development of a social support model for heart patients

I declare that:

- I have read and understood this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions to both the person obtaining consent, as well as the researcher (if this is a different person), and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I understand that what I contribute (what I say) could be reproduced publically and/or quoted, but without reference to my personal identity.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... on (*date*) ..... 20....

.....  
**Signature of participant**

.....  
**Signature of witness**

- You may contact me again  **Yes**  **No**
- I would like a summary of the findings of this research  **Yes**  **No**

The best way to reach me is:

Name & Surname: \_\_\_\_\_

Postal Address: \_\_\_\_\_

Email: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Cell Phone Number: \_\_\_\_\_

In case the above details change, please contact the following person who knows me well and who does not live with me and who will help you to contact me:

Name & Surname:

\_\_\_\_\_  
Phone/ Cell Phone Number /Email:

**Declaration by person obtaining consent**

I (*name*) ..... declare that:

- I explained the information in this document to .....
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) ..... on (*date*) ..... 20....

.....  
**Signature of person obtaining consent**

.....  
**Signature of witness**

---

**Declaration by researcher**

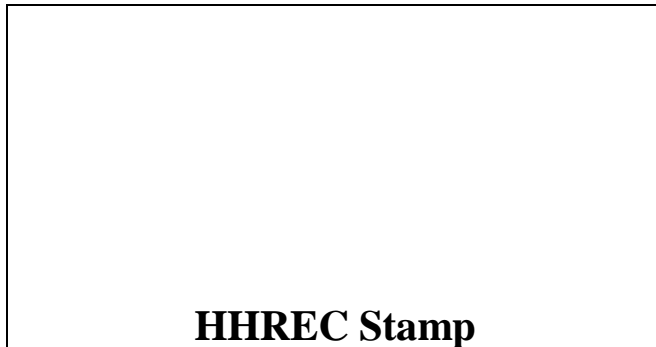
I (*name*) ..... declare that:

- I explained the information in this document to .....
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) ..... on (*date*) ..... 20....

.....  
**Signature of researcher**

.....  
**Signature of witness**



16 October 2015

**PARTICIPANT INFORMATION LEAFLET AND CONSENT  
FORM FOR  
Social workers /Caregivers**

**TITLE OF THE RESEARCH PROJECT: Social factors contributing towards heart  
disease: Development of a social support model for heart patients**

**REFERENCE NUMBERS:**

**PRINCIPAL INVESTIGATOR:** Phillip Nhlanhla

**ADDRESS:** No: 8 Bruidjie Avenue, Karenpark, Pretoria, 0182.

**CONTACT NUMBER:** 0826794028

You are being invited to take part in a research project that forms part of my research study entitled: Social factors contributing towards heart disease: Development of a social support model for heart patients. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research is about and how you could be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the **Humanities and Health Research Ethics Committee (HHREC) of the Faculty of Humanities of the North-West University (NWU.....)** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki and the ethical guidelines of the National Health Research Ethics Council. It might be necessary for the research ethics committee members or relevant authorities to inspect the research records to make sure that I (the researcher) am conducting research in an ethical manner.

### **What is this research study all about?**

- *The goal of this research is to develop a social support model for heart patients by investigating the social factors that contribute towards the management of heart disease*
- *This study will be conducted at public hospitals/clinics around Tshwane area, South Africa and will involve face-to-face interview. The face-to-face interview will consist of a list of 5 questions dealing with your experience and views in relation to social factors that are relevant to heart disease and that are important in providing in providing social support to heart patients. The researcher has been trained to conduct face-to-face interviews. Around 32 participants will be included in this study.*

### **Why have you been invited to participate?**

- *You have been invited to participate because you are a social worker/caregiver.*
- *You have also complied with the following inclusion criteria: you have worked with heart patients for at least 2 years.*
- *You will be excluded if: you have not worked with heart patients at all, and if you assisted the researcher in recruiting participants (patients).*

### **What will your responsibilities be?**

- *You will be expected to take part in a face-to-face interview consisting of 5 questions, during which you are expected to answer each question as truthfully and to the best of your ability as possible. With your permission the interview will be audio-recorded so that I can assess the data later and only I and my supervisor, Dr Werner Nell, will have access to this recording.*
- *You may also be asked at some point after the initial interviews, in person to consider the findings of the study and provide us with your feedback as to whether they represent a fair and accurate description of your experience of heart disease and social support. As with all other aspects of the study, you would of course also be totally free to decline to do this if you do not wish to.*

### **Will you benefit from taking part in this research?**

- *The direct benefits for you as a participant: is that you can better enhance your knowledge on the need of heart patients as a social worker/caregiver, and will be able to advise other colleagues about this, while you participate in the study, you will receive no particular reward or direct benefit for your participation.*
- *The indirect benefits include that: this study will serve to explore social factors leading to heart disease with the aim of developing a social support model for heart patients.*

**Are there risks involved in your taking part in this research and how will these be managed?**

- *The risks in this study, and how these will be managed, are summarised in the table below:*

<b><i>Probable/possible risks/discomforts</i></b>	<b><i>Strategies to minimize risk/discomfort</i></b>
Because of your busy schedule as a health professional, you might be called to attend to an urgent matter prior or during the interview process.	The researcher will be flexible and will reschedule the interview for another day, should such a situation happen.
Most health professionals indicated verbally that, they prefer the interview to take place during their lunch time and to be notified a day before the interview. Participants will make themselves available during lunch time; this does not mean they are obliged to skip their lunch time.	The researcher plans to conduct the interviews between 12h00 – 13h00. And between 13h00 – 14h00. The researcher will notify the participants a day before the interview, by calling them. Refreshments will be served for the participants who make themselves available during lunch time.
Noisy areas may cause some discomfort and irritations.	The researcher will ensure that all interviews are conducted in a quiet setting and the environment will be confidential and the researcher will adhere to the principle of confidentiality
As the interviews will be conducted during lunch time it is possible that you might not have the opportunity to rest.	Should you feel that you need a rest; the meeting can be postponed for another time suitable to you.

- *However, the benefits (as noted above) outweigh the risk.*

**Who will have access to the data?**

*Confidentiality will be ensured in the study by way of de-identifying participants during the data evaluation process. No participant will be referred to by name during the data evaluation process and their personal details will also not be published in the final report (PhD thesis). During the data collection process (the interview) participants will not be addressed by their name, instead they will be assigned a number (P1). No individuals' identifiers will be used in any publications resulting from this study and only the researcher and his supervisor (Dr Werner Nell) will work with the information that you shared. All sensitive information will be protected by locking it up in locked cupboards in the researcher's office and storing electronic data on a password protected computer. The only persons who will have access to your personal information, is strictly the researcher and his promoter.*

- *Audio-recorded data will be transcribed by the researcher and as soon as data has been transcribed it will be deleted from the recorders. The transcripts will be stored on a password-protected computer.*
- *Data will be stored electronically for a period of 5 years.*

**What will happen to the data?**

The data from this study will be reported in the following ways: findings will be reported in the form of a PhD thesis and may be published in a research journal. In all of this reporting,

you will not be personally identified. This means that the reporting will not include your name or details that will help others to know that you participated (e.g., your address or the name of hospital or clinic).

The data may be re-used in future studies that focus on the same general research topic involving various facets of the experience of social factors leading to heart disease. The data produced for the current study could be used for future comparative studies. However, the data will not be used for any other purposes.

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

No, you will not be paid or compensated to take part in the study. There will, however, be no personal costs involved for your participation in the study. Refreshments will be served on the day of the interviews for those participants who make themselves available during lunch time.

**How will you know about the findings?**

- The general findings of the research will be shared with you in person (if you would wish to receive such feedback, of course).
  
- **Is there anything else that you should know or do?**
- You can contact me, Phillip Nhlanhla, at 0826794028 or [nhlanpp@unisa.ac.za](mailto:nhlanpp@unisa.ac.za) if you have any further queries or encounter any problems.
- Alternatively, you can contact my supervisor, Dr Werner Nell at 016 910 3427 or [Werner.Nell@nwu.ac.za](mailto:Werner.Nell@nwu.ac.za).
- You can contact the chair of the Humanities and Health Research Ethics Committee (Prof Linda Theron) at 016 910 3076 or [Linda.theron@nwu.ac.za](mailto:Linda.theron@nwu.ac.za) if you have any concerns or complaints that have not been adequately addressed by the researcher. You can also contact, the co-chair, Prof Tumi Khumalo (016 910 3397 or [Tumi.khumalo@nwu.ac.za](mailto:Tumi.khumalo@nwu.ac.za)). You can leave a message for either Linda or Tumi with Ms Daleen Claasens (016 910 30441)
- You will receive a copy of this information and consent form for your own records.

**Declaration by participant**

By signing below, I ..... agree to take part in a research study entitled: Social factors contributing towards heart disease: Development of a social support model for heart patients

I declare that:

- I have read and understood this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions to both the person obtaining consent, as well as the researcher (if this is a different person), and all my questions have been adequately answered.

- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I understand that what I contribute (what I say) could be reproduced publically and/or quoted, but without reference to my personal identity.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... on (*date*) ..... 20....

.....  
**Signature of participant**

.....  
**Signature of witness**

- You may contact me again  **Yes**  **No**
- I would like a summary of the findings of this research  **Yes**  **No**

The best way to reach me is:

Name & Surname: \_\_\_\_\_  
 Postal Address: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 Cell Phone Number: \_\_\_\_\_

In case the above details change, please contact the following person who knows me well and who does not live with me and who will help you to contact me:

Name & Surname: \_\_\_\_\_  
 \_\_\_\_\_  
 Phone/ Cell Phone Number /Email: \_\_\_\_\_  
 \_\_\_\_\_

**Declaration by person obtaining consent**

I (*name*) ..... declare that:

- I explained the information in this document to .....
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) ..... on (*date*) ..... 20....

.....  
**Signature of person obtaining consent**

.....  
**Signature of witness**

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**Declaration by researcher**

I (*name*) ..... declare that:

- I explained the information in this document to .....
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

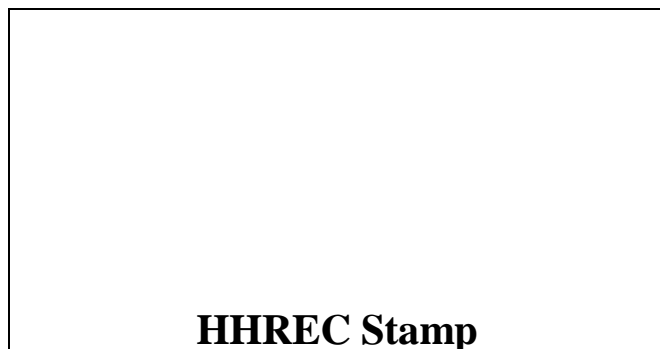
Signed at (*place*) ..... on (*date*) ..... 20....

.....  
**Signature of researcher**

.....  
**Signature of witness**

PO Box 1174, Vanderbijlpark  
South Africa, 1900

Web: <http://www.nwu.ac.za>



**16 October 2015**

## **PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM FOR**

### **Heart patients**

**TITLE OF THE RESEARCH PROJECT: Social factors contributing towards heart  
disease: Development of a social support model for heart patients**

**REFERENCE NUMBERS:**

**PRINCIPAL INVESTIGATOR:** Phillip Nhlanhla

**ADDRESS:** No: 8 Bruidjie Avenue Karenpark, Pretoria 0182.

**CONTACT NUMBER:** 0826794028

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

This study has been approved by the **Humanities and Health Research Ethics Committee (HHREC) of the Faculty of Humanities of the North-West University (NWU.....)** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki and the ethical guidelines of the National Health Research Ethics Council. It might be necessary for the research ethics committee members or relevant authorities to inspect the research records to make sure that I (the researcher) am conducting research in an ethical manner.

### **What is this research study all about?**

- *The goal of this research is to develop a social support model for heart patients by investigating the social factors that contribute towards the management of heart disease*
- *This study will be conducted at public hospitals/clinics around Tshwane area, South Africa and will involve face-to-face interview. The face-to-face interview will consist of a list of 9 questions dealing with your experience and views in relation to social factors that are relevant to heart disease and that are important in providing social support to heart patients. The researcher has been trained to conduct face-to-face interviews..*
- *Around 32 participants will be included in this study.*

### **Why have you been invited to participate?**

- *You have been invited to participate because you are a heart patient and a black South African citizen between the ages 18 and 64 years old.*
- *You have also been selected as your supervising physician indicated that your health status is such that you are fit to take part in the study and that you unlikely to be negatively affected by your participation in the study.*
- *You will be excluded if you are not a black South African heart patient, and if you have not been declared fit to take part in the study by your attending physician and if you were above the age of 64 years old.*
- *You are currently not participating in another study.*

### **What will your responsibilities be?**

- *You will be expected to take part in a face-to-face interview consisting of 9 questions, during which you are expected to answer each question as truthfully and to the best of your ability as possible. With your permission the interview will be audio-recorded so that I can assess the data later and only I and my supervisor, Dr Werner Nell, will have access to this recording.*
- *You may also be asked at some point after the initial interview, in a one-on-one session with the researcher, to consider the findings of the study and provide us with your feedback as to whether or not they represent a fair and accurate description of your experience of heart disease and social support. As with all other aspects of the study, you will of course also be free to refuse to do this if you so please.*

### **Will you benefit from taking part in this research?**

- *One of the indirect benefits for you as a participant is that the experiences that you share with the researcher about heart disease during the study might assist you and other people living with heart conditions to better manage the disease. However, you will receive no particular reward or direct benefit for your participation.*

- *The indirect benefits include that: this study will serve to explore social factors leading to heart disease with the aim of developing a social support model for heart patients.*

**Are there risks involved in your taking part in this research and how will these be managed?**

- *The risks in this study, and how these will be managed, are summarised in the table below:*

<b><i>Probable/possible risks/discomforts</i></b>	<b><i>Strategies to minimize risk/discomfort</i></b>
Because of your heart condition, you might feel down or weak on the day of the interview.	The researcher will work closely with health professionals to identify candidates whom they deem fit, on the day in question, to participate in the interviews. You will also have the right to take a break or withdraw from the study at any time if you wish to do so.
In most cases, heart patients do not like a noisy area, but prefer quiet places.	The researcher will ensure that all interviews are conducted in a quiet hospital setting and the environment will be confidential and the researcher will adhere to the principle of confidentiality.
Although this is unlikely, there might be a need for pre- or post-interview counseling	The researcher will work closely with health professionals, in order to determine if the selected participants would like to undergo pre-interview counselling. If you yourself feel a need for this, such counseling will be provided.
You might be concerned that it could affect the relationship with your supervising physician (who told you of this study) if you refuse to participate in the study.	To address this concern, the physicians in question will not be told who participated in the study and who did not.

- *However, the benefits (as noted above) outweigh the risk.*

**Who will have access to the data?**

*Confidentiality will be ensured in the study by way of de-identifying participants during the data evaluation process. No participant will be referred to by name during the data evaluation process and their personal details will also not be published in the final report (PhD thesis). During the data collection process (the interview) participants will not be addressed by their name, instead they will be assigned a number (P1). No individuals' identifiers will be used in any publications resulting from this study and only the researcher and his promoter (Dr Werner Nell) will work with the information that you shared. All sensitive information will be protected by locking it up in locked cupboards in the researcher's office and storing electronic*

*data on a password protected computer. The only persons who will have access to your personal information, is strictly the researcher and his promoter.*

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### **What will happen to the data?**

The data from this study will be reported in the following ways: findings will be reported in the form of a PhD thesis and may be published in a research journal. In all of this reporting, you will not be personally identified. This means that the reporting will not include your name or details that will help others to know that you participated (e.g., your address or the name of your hospital or clinic).

The data may be re-used in future studies that focus on the same general research topic involving various facets of the experience of social factors leading to heart disease (such as heart patients and social support). The data produced for the current study could be used for future comparative studies. However, the data will not be used for any other purposes.

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

No, you will not be paid or compensated to take part in the study. There will, however, be no personal costs involved for your participation in the study. Refreshments will be served on the day of the interviews for those participants who make themselves available during lunch time.

### **How will you know about the findings?**

- The general findings of the research will be shared with you in person (if you wish to receive such feedback, of course).

### **Is there anything else that you should know or do?**

- You can contact me, Phillip Nhlanhla, at 0826794028 or [nhlanpp@unisa.ac.za](mailto:nhlanpp@unisa.ac.za) if you have any further queries or encounter any problems.
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- You will receive a copy of this information and consent form for your own records.

### **Declaration by participant**

By signing below, I ..... agree to take part in a research study entitled: Social factors contributing towards heart disease: Development of a social support model for heart patients

I declare that:

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- I have had a chance to ask questions to both the person obtaining consent, as well as the researcher (if this is a different person), and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
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- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... on (*date*) ..... 20....

.....  
**Signature of participant**

.....  
**Signature of witness**

- You may contact me again  **Yes**  **No**
- I would like a summary of the findings of this research  **Yes**  **No**

The best way to reach me is:

Name & Surname: \_\_\_\_\_  
Postal Address: \_\_\_\_\_  
Email: \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
Cell Phone Number: \_\_\_\_\_

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- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) ..... on (*date*) ..... 20....

.....  
**Signature of person obtaining consent**

.....  
**Signature of witness**

---

**Declaration by researcher**

I (*name*) ..... declare that:

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**Signature of researcher**

.....  
**Signature of witness**