UNIVERSITY OF CAPE COAST

PERCEIVED SOCIAL SUPPORT AND EMOTIONAL REGULATION AS PREDICTORS OF HEALTH-RELATED QUALITY OF LIFE AMONG PATIENTS WITH END-STAGE RENAL DISEASE

GIFTY AKUA KEKREBESI

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BY

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NOVEMBER 2021

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature:………………………………..Date:………………

Name:……………………………………………………………………………

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision laid down by the University of Cape Coast.

Principal Supervisor's Signature:…………..……………Date:……………...

Name:……………………………………………………………………………

Co-supervisor's Signature:………………..………………Date:………………

Name:…………………………………………………………………………...

ABSTRACT

Non-communicable diseases account for about 70% of deaths globally. Chronic Kidney Disease which eventually leads to End-stage Renal Disease (ESRD) is a non-communicable disease that has received a lot of attention over the years. Developing ESRD comes with various ramifications that affect the health-related quality of life of patients. The purpose of this study was to examine factors such as perceived social support and emotional regulation as predictors of health-related quality of life among patients with end-stage renal disease. The study was a quantitative study that applied the cross-sectional design. The study included 144 end-stage renal disease patients from the Cape Coast Teaching Hospital. Questionnaire was used to assess perceived social support, emotional regulation and health-related quality of life. Data were analysed using descriptive statistics and multivariate multiple linear regression analysis. The findings revealed that most of the patients had moderate to high level of social support. The most common form of perceived social support was support from family and significant others. Also, above average health-related quality of life was found in both the physical and mental health domains of health-related quality of life. The findings also revealed that significant others and family were significant predictors of both physical and mental health aspects of health-related quality of life. Emotional regulation also significantly predicted both physical and mental health domains of health-related quality of life. It was concluded that patients ability to control their emotions, and support from family and significant others have the capacity to improve the quality of life of patients with end-stage renal disease. A holistic approach to treating patients with ESRD is recommended.

KEYWORDS

Emotional Regulation

End-stage Renal Disease

Health-related Quality of Life

Patients

Perceived Social support

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DEDICATION

To my Family

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ESRD	Ends Stage Renal Disease
CKD	Chronic Kidney
HRQoL	Health-Related Quality of Life
QoL	Quality of Life
SS	Social Support
MSPSS	Multidimensional Scale for Perceived Social Support
MVQOLI	Missoula-Vistas Quality of Life Index
ERQ	Emotional Regulation Questionnaire
SRM	Self-Regulatory Model
DDFQ	Dialysis Diet and Fluid Questionnaire
KDQOL-SF	Kidney Disease Quality of Life- Short Form
CHEQ	Choice of Health Experience Questionnaire
MOS	Medical Outcomes Study
BFI	Big Five Inventory
SEM	Structural Equation Model
CCTH	Cape Coast Teaching Hospital

CHAPTER ONE

INTRODUCTION

Background to the Study

Non-communicable diseases kill about 40 million people each year which is around 70% of deaths which happened globally (Tabish, 2017). These diseases cannot be transferred from one person to another. There are a lot of factors that can expose one to this condition such as genetics, physiology, environment and behaviour (Tabish, 2017). Non-communicable diseases are mostly chronic in nature and are on a steady rise in recent years (Dans, Ng, Varghese, Tai, Firestone & Bonita, 2011). Among the most popular conditions are cancers, heart diseases and autoimmune diseases. In public health research and intervention research, these diseases have assumed greater importance. One of the major health care policies in the 21st century is improving care for individuals with these conditions (Sfyrkou, 2015). Of all these non-communicable diseases, one that has received a lot of attention in recent years is the chronic kidney disease which inevitably leads to end-stage renal disease (ESRD) (Collins, Foley, Gilbertson & Chen, 2015).

The fifth and final stage of Chronic Kidney Disease (CKD) is known as End-Stage Renal Disease (ESRD) and can be characterized by a person requiring either a kidney transplant or some type of dialysis in order to live (Ashby et al., 2005; Barsoum, 2017). End-stage renal failure, also known as end-stage kidney disease, occurs when chronic kidney disease; the progressive loss of function of the kidney attains an advanced state (Webster, Nagler, Morton & Masson, 2017). At this level, the kidneys are no longer able to function as they are supposed to meet the needs of the body. The causes that contribute to the greatest number of deaths are high blood pressure, diabetes and glomerulonephritis (Global Burden of Disease, 2016).

According to Subasi, Alickovic and Kevric (2017) about 10% of the world's population is affected by chronic kidney disease (CKD), and several die each year because they cannot access affordable treatment. In 2016, 753 million people worldwide were affected by chronic kidney disease: 417 million females and 336 million males and caused 1.2 million deaths worldwide (Global Burden of Disease, 2016). Its prevalence in Sub Saharan Africa (SSA) is estimated to be about 14% second only to HIV and AIDS (Perico & Remuzzi, 2014). Currently, more than 2 million people worldwide undergo dialysis or kidney transplantation therapy to remain alive,but this figure does only reflect 10% of people who genuinely need treatment to survive. The majority of the 2 million individuals seeking kidney failure treatment are treated in just five countries: the United States, Japan, Germany, Brazil, and Italy (Couser, Remuzzi, Mendis & Tonelli, 2011; Gansevoort et al., 2013). These five nations represent only 12% of the world population. Only 20% are treated in about 100 developing countries that constitute more than 50% of the global population (Couse et al., 2011; Nixon et al., 2020).

Continuing dialysis treatment and transplantation have an enormous impact on the life of individual patients as well as their families, and renal replacement therapy is expensive (Dor, Pauly, Eichleay, & Held, 2007; Antipolis, 2014). The annual worldwide costs of treatment of ESRD are projected at 70 to 75 billion US dollars to maintain the renal replacement therapy of the roughly 1.1 million worldwide dialysis patients (Liyanage et al., 2015). In Ghana, renal replacement therapy (mainly haemodialysis) is available only in two of the teaching hospitals, and the estimated cost of dialysis is GHC 57,600 per patient per annum (Antwi, 2015).

The intangible cost of the disease is also appreciable as the disease exerts a considerable toll on the emotional and psychological health of the patient (Zalai, Szeifert & Novak, 2012). Developing a condition like CKD has major psychological and emotional implication and they are mostly related to diminishing health status, continuous use of medication, frequent hospital visits and loss of active functioning (Chapman, Perry & Strine, 2005). Inevitably, the psychological implications of the condition have the capacity to affect the health-related quality of life of patients. Quality of life is also assessed in medical populations and typically involves multiple variables, involving relationship quality, emotional distress, coping habits, and physical functioning (Carels, 2004).

Health-related quality of life (HRQoL) is a multi-dimensional aspect of physical, cognitive, emotional and social functioning (Kagawa-Singer, Padilla, & Ashing-Giwa, 2010). This goes beyond direct measurements of population health, life expectancy, and causes of death, and focuses on the effect on quality of life of health status (Kagawa-Singer et al., 2010). Health-related quality of life can be thought of as incorporating three extensive components: physical (bodily) symptoms, perceptions, and ability to function (Ferrans, Zerwic, Wilbur & Larson, 2005). The ‘physical symptoms’ element includes symptoms associated to illness and their effect on a person’s ability to function physically (Ferrans et al., 2005). The perceptions component comprises one’s personal judgment about his or her illness and has been closely related to mortality and adverse psychosomatic outcomes (Ferrans et al., 2005). The ‘functional ability’ component consists of an individual’s ability to handle and have a satisfying interpersonal life (Ferrans et al., 2005).

HRQoL of life has been studied across various patient groups; whereas some studies observe higher levels of quality of life among patients with conditions such as hypertension and diabetes among others (Jones et al., 2011; Anaraki, Vafaie, Behboo, Maghsoodi, Esmaeilpour & Safaee, 2012), other studies also report relatively lower levels of quality of life among patients (Janda, Steginga, Langbecker, Dunn, Walker & Eakin, 2007; Pusic et al., 2013; Bonhof et al., 2018). With respect to patients with CKD, majority of research advance the idea that quality of life is significantly reduced (Mujais et al., 2009; Cruz et al., 2011; Ikonomou et al., 2015; Ganu et al., 2018). These observations highlight the intense impact CKD has on HRQoL and advocate likely areas that can be targeted for therapeutic intervention (Mujais et al., 2009). In general terms, people with CKD patients present with a poor QoL. Notwithstanding the burden of renal disease per se, their status appears to be exacerbated by social and economic factors (divorce, financial difficulties), especially in this time of financial crisis (Auer, 2002; Ikonomou et al., 2011). HRQoL can be affected by various social and psychological factors; and paramount among these factors are social factors such as social support and psychological aspects such as emotional regulation (Blakemore et al., 2014; Üstündağ, & Zencirci, 2015).

The number of social relationships that a person has (structural support) and the quality of resource that these relationships provide (functional support) can be described as social support (Heaney & Israel, 2008). The presence of social relationships in one's life refers to structural support, often representing the number of people or the extent of interaction one has with his or her social environment (Heaney & Israel, 2008). Functional support refers to the resources that are provided by the support network (Heaney & Israel, 2008). Many forms of functional support have been identified, including tangible support, esteem, information, emotional support, and network support (Heo, Lennie, Moser & Kennedy, 2014). Tangible support involves the provision of material resources or direct assistance to one in need, such as taking a patient to an appointment with a physician. Esteem support is providing unconditional positive regard that builds feelings of self-worth and competence (Heo et al., 2014). Informational support involves providing information on traumatic incidents such as physical effects or medical procedures. Emotional support offers reassurance that a person is cared for and respected (Heo et al., 2014), and the sense of membership in a community of people with shared interests and social activities is network/belonging support (Heaney & Israel, 2008; Heo et al., 2014). The type of support individuals need and pursue is dependent on the nature of the stressors they experience. Social support could also be in the form of family support and friendship support or support from significant others (Banovcinova & Baskova, 2016).

Since the late 1970s, the positive impacts of social support on health, well-being and quality of life have been repeatedly shown in literature. Access to a broad, supportive social network tends to be connected to improved physical health and quality of life (Westaway, Seager, Rheeder & Van Zyl, 2005). Social support could also improve the ability to deal with stressors by providing information and psychological support, and improved coping can contribute to less physiological and psychological disease symptoms (Westaway et al., 2005). Researchers have hypothesised that social support could benefit health via a main effect or via a stress-buffering effect. The main effects hypothesis states that better social support is related with improved quality of life, irrespective of stress levels (Helgeson, 2003). The stress-moderating hypothesis states that when people have better functional support, they are well secured from the harmful consequences of psychological strain (Helgeson, 2003).

Various studies have identified the relationship between social support and HRQoL. For example, Emmanuel, St John and Sun (2012) found social support was found to be a major and significant predictor of higher HRQoL among patients with gynaecological conditions. It was indicated that the association between social support and HRQoL was independent of other factors, such as education, age, equality, and prenatal visits. Again, studies by Mahmoud, Berma and Gabal (2017) revealed statistically significant positive association between social support and HRQoL among patients with psychiatric conditions. It was found that the onset of illness, onset of treatment, and prior hospitalization had a substantial effect on the degree of social support which in turn influenced HRQoL of patients. The HRQoL was significantly affected by age, income, job status, diagnosis and onset of disease (Mahmoud et al., 2017). Although a relationship exists between social support and HRQoL as suggested by research (Emmanuel et al., 2012; Mahmoud et al., 2017) it is important to note that other factors can influence

HRQoL as well. These factors include personal, social and psychological factors.

Another major psychological factor that could influence the association between social support and HRQoL is emotional regulation. Emotional regulation or emotional self-regulation is the capacity to respond in a way that is socially appropriate and flexible enough to allow spontaneous reactions and the ability to delay spontaneous responses as required adapting to the changing needs and challenges of experience with the spectrum of emotions (Burman, Green & Shanker, 2015). Developing a life-threatening illness such as CKD comes with various emotional reactions; these emotional reactions are mostly as a result of the complications related to the condition (Ayers, Vydelingum & Arber, 2017). The emotional aspect of the condition could impact negatively or positively on the HRQoL of patients. Thus, it is implied that if patients with CKD are able to regulate their emotions effectively, it is likely to have a positive influence on HRQoL.

Statement of the Problem

Chronic kidney disease as a complicated health condition has received a lot of attention both in research and in health-care policy implementation. A good number of studies worldwide and in Africa on CKD and ESRD almost always focus on causes, risk factors as well as ways of diagnosing and treating the condition. For example, studies by Barsoum (2013; 2017) examined the epidemiology and disease burden of CKD and ESRD in North African countries. Okunola, Akinsola and Ayodele (2012) also examined the aetiological considerations, peculiarities and burden of CKD and ESRD. There are others studie that have investigated other aspects of the condition novel treatment approaches and ways of preventing the condition from happening (Haarhaus, Brandenburg, Kalantar-Zadeh, Stenvinkel & Magnusson, 2017; Jamerson, 2005). It is obvious that majority of studies done focused on the medical aspect of the condition with relatively little attention paid to social, emotional and psychological implications of the condition. Although, some studies that have been conducted in other parts of the world examine these psychological and emotional aspects of the developing CKD (Fayer, Nascimento and Abdulkader, 2011; Gerogianni & Babatsikou, 2014), empirical evidence is lacking particularly in the African and Ghanaian context.

Social support as one of the emotional-response coping mechanisms has a potential impact on the quality of life (Helgeson, 2003). With regard to social support the patient’s perception and attitude toward received support is more important and can influence quality of life (Queenan, Feldman-Stewart, Brundage, Groome, 2010). Researchers’ findings have shown that social support can prevent adverse physiological complications in a person, increase the level of self-care and self-confidence, and have a positive impact on the physical, psychological and social status of the individual and clearly increase one’s quality of life (Queenan et al., 2010). However, social support has not been examined among all patient groups thus it is important to state that social support has not been studied into detail among patients with CKD and ESRD.

Furthermore, research has already established a connection between social support and HRQoL. However, whereas some studies reveal a weak relation between social support and HRQoL (Larios, Davis, Gallo, Heinrich & Talavera, 2009; Arbex & Almeida, 2009; Bayoumi et al., 2013), other studies report a strong relationship (Burman et al., 2015). This shows that researchers are not consistent on how social support affects HRQoL whether the relation is positive or negative. Again, the relationship between social support and quality of life has been examined in various patient groups, such as diabetics, HIV patients, prostate and breast cancer, and heart failure (Yadav, 2010; Queenan et al., 2010; Chung, Moser, Lennie, & Frazier, 2013). It is interesting to note that studies on how social support influences HRQoL among patient with CKD are limited and hard to come by particularly in the African context.

Finally, literature has examined and found significant positive relationship between emotional regulation and HRQoL among patients with specific medical conditions such as breast cancer and drug addiction (Li et al., 2015; Motahhari, Etemadi, Shafiabady & Qorbani, 2016). However, it appears that relationship between emotional regulations among patients with ESRD has not been extensively examined by research and lacks in-depth empirical backing. Again, although a relationship exists between emotional regulation and HRQoL, similar relationship has not been extensively examined between emotional regulation and HRQoL. Furthermore, literature on the research is limited especially in the Ghanaian context. It is against these arguments, inconsistencies in literature and the lack of empirical backing that this study seeks to examine the influence of social support on HRQoL in patients with ESRD, and also examine the role emotional regulation plays in this relationship.

Purpose of the Study

The purpose of this study is to investigate how perceived social support and emotional regulation serve as predictors of health-related quality of life of patients with end stage renal disease Specifically, the study seeks to:

1. Investigate the level of perceived social support of patients with ESRD
2. Assess the most common type of perceived social support available to patients with ESRD
3. Examine the level of HRQoL of patients with ESRD
4. Examine the relationship between perceived social support and emotional regulation.
5. Determine how perceived social support predicts HRQoL in patients with ESRD
6. Determine how emotional regulation predicts HRQoL in patients with ESRD

Research Questions

1. What is the level of perceived social support of patient with ESRD?
2. What is the most common type of perceived social support available to patients with ESRD?
3. What is the level of HRQoL of patients with ESRD?

Research Hypotheses

1. ***H_0*:** There is no statistically significant relationship between perceived social support and emotional regulation

   ***H_1*:** There is a statistically significant relationship between perceived social support and emotional regulation
2. ***H_0*:** Perceived social support is not a significant predictor of HRQoL among patients with ESRD

   ***H_1*:** Perceived social support is a significant predictor of HRQoL among patients with ESRD

3. ***H₀***: Emotional regulation is not a significant predictor of HRQoL among patients with ESRD

   H₁: Emotional regulation is a significant predictor of HRQoL in patients with ESRD

Significance of the Study

This research aimed at bringing out the psychological and social challenges on health-related dialysis patients. The knowledge obtained would provide feedback to health workers and policy makers of the psychological and social struggles of health-related dialysis patients. It would also help authorities to make policies on psychosocial adjustments and social support for these patients.

The results of the study would serve as a guide to health care professionals in developing social support on the quality of life amongst end stage renal disease patients. This will have a significant impact on how variables such as social support may contribute to holistic health. Knowledge obtained from this study can give direction to health professionals and the Ministry of Health as a whole. The study would also contribute to research in the area of end stage renal disease patients adding to existing research by helping to address the gap in literature regarding the perceived social support on the health-related quality of life of end stage renal disease patients.

Delimitation

The study focused on areas such as the extent of the impact of social support on the quality of life amongst end stage renal disease patients, the kinds of perceived social support available and used by patients. Geographically, the study was delimited to the Cape Coast Metropolis. The

Cape Coast Teaching Hospital was selected as an ideal setting for the study. The Cape Coast Teaching Hospital is the only recognized health centre with a fully functioning dialysis unit in the whole of Cape Coast Metropolis making it the most ideal setting for the study compared to other health facilities in the area.

Limitations

Responses of the study participants may not be objective since some patients may have overrated or underrated their responses. Biases associated with answering of items on data collection instruments by some of the participants cannot be ruled out completely and that is likely to affect the validity and reliability of the research finding.

Definition of Terms

End stage Renal Disease: is the last stage (stage five) of chronic kidney disease (CKD).

Quality of Life: individuals' perceptions of their position and satisfaction in life.

Health Related Quality of Life: a multi-dimensional concept that includes domains related to physical, mental, emotional, and social functioning.

Social support: having friends, family and significant others to turn to in times of need.

Emotional regulation: ability to respond to ongoing demands of experience with a range of emotions.

Organisation of the Study

Chapter one of the study dealt with the introduction. This chapter included the background to the study, statement of the problem, objectives of the study, research questions, and significance of the study, delimitations and operational definition of terms. Chapter two was about review of related literature. The review was presented in three areas namely theoretical, empirical and conceptual reviews. Chapter three focused on the methodology which includes the study area, study design, population, sample and sampling technique and data collection instrument. Other issues under chapter three included data collection procedure, data processing and analysis and ethical consideration. Chapter four dealt with data analysis and discussion of major findings. Findings of the study were presented using simple frequency distribution tables among others. Chapter five which is the final chapter of the study will also deal with the summary of the major findings, conclusion and recommendation of the study.

CHAPTER TWO

LITERATURE REVIEW

This study aims at examining the impact of social support on the health-related quality of life of patients with end stage renal disease. This chapter presents the review of literature related to this research. The review outlines relevant theories and concepts that form the basis of this study. The literature review covers:

1. **Conceptual Review**
    a. Nature and treatment of end stage renal disease
    b. Social Support
    c. Emotion regulation
    d. Health-related quality of life (HRQoL)
2. **Theoretical Framework**
    a. Self-regulation model of illness (Leventhal, Nerenz & Steele, 1984)
    b. Health Related Quality of Life Model (Wilson & Cleary, 1995)
    c. Biopsychosocial model (Engel, 1977)
3. **Empirical Review**
    a. Level of perceived social support of patients
    b. Common types of perceived social support available to patients with ESRD
    c. Health related quality of life among dialysis patients

d. Relationship between perceived social support and emotional regulation

e. Social support and HRQoL among dialysis patients

f. Emotional regulation and HRQoL among dialysis patients

g. Conceptual Framework

Conceptual Review

The conceptual review provides information on the various concepts under study. It considers definitional issues and explanation, characteristics, causes and risk factors, effects, and treatment and management of health conditions where applicable, and also explains the main variables in the study.

Nature and Treatment of End-stage Renal Disease

End stage renal disease is a permanent decline in kidney function severe enough to be deadly without dialysis or transplantation (Abbasi, Chertow, & Hall, 2010). Chronic Kidney Disease has five stages, with stage five known as End-Stage Renal Disease (ESRD). For an individual to have the diagnosis of ESRD or Chronic Renal Failure (CRF) he/she must lose over one-third of their kidney function. Symptoms of a kidney failure may include exhaustion, drowsiness, decrease in urination or inability to urinate, dry skin, itchy skin, headache, weight loss, nausea, bone pain, skin and nail changes and easy bruising.

Signs and symptoms generally appear when the kidneys are working below 40% of expected function. Once they are working below 10%, individual needs dialysis or a kidney transplant to stay alive (Steddon, Ashman & Cunningham, 2006). ESRD patients are highly susceptible to hospitalization and death due to infection related to vascular access and septicaemia (Kato et al., 2008). The loss of kidney function often leads to accumulation of fluid, metabolic toxins, electrolytes in the blood and tissues of the body (Christensen & Ehlers, 2002; Ayodele & Alebiosu, 2010; Ahmed, Khan, & Laila, 2014). For this reason, a patient must undergo either dialysis or a kidney transplant in order to survive.

Globally, several forms of treatment, generally known as renal replacement therapy (RRT), are accessible for patients with ESRD. They include haemodialysis, peritoneal dialysis, and kidney transplantation (Makkar, Kumar, Mahajan, & Khaira, 2015; Tannor, Archer, Kapembwa, van Schalkwyk, & Davids, 2017). Tone11i et al (2011) revealed that patients' survival and quality of life after kidney transplantation is far better when compared to being on dialysis. Although Gerogianni (2003) reported that haemodialysis is time intensive, expensive and comes with strict dietary restrictions the process has the potential to alleviate symptoms of the condition and prolong the life of ESRD patients (Hudson, & Johnson, 2004).

Again, Bargiel-Matusiewicz, Łyś and Stelmachowska (2019) found that ESRD and associated treatment adversely impact patients' happiness, eating habits, involvement in hobbies, social relationships, self-esteem, and the ability to enjoy life. The negative effect of patient's physical, psychological, socioeconomic and environmental aspects of life leads to a decrease in their quality of life (Hackett & Jardine, 2017). In another study, Xhulia et al (2016) indicated that psychological wellbeing of ESRD patients are usually compromised because they live in constant fear of dying and experience stress due to uncertainty about the future, families, disease outcome and shortened lifespan. Thus they need both psychological and social support to help alleviate such fears from their minds. They need to be reassured that they have the support of families, friends and the health professionals. This might help reduce the psychological effect such as depression and anxiety that the disease has on them.

Social Support

One proven way to ensure effective facilitation of long-term success to treatment and adjustment to illness is availability of a good social support. For instance, Cohen et al (2007) revealed that high social support may result in some form of psychological, medical and biochemical benefits for effective management of disease. Heaney and Israel (2008) defined Social support as the number of social relationships an individual has (structural support) and the quality of the resources that these relationships provide (functional support). More specifically, it can be described as the presence and availability of people in a person's life whom we turn to in times of needs or crisis. Such support may come from close relationships such as family, friends, co-workers, spiritual advisors, health professionals, and members of one's community.

Heaney and colleague explained two kinds of social support, structural support as the presence of social relationships in one's life, frequently reflecting the number of people or the extent of contact one has with his or her social environment. On the other hand, functional support denotes to the resources that are provided by the support network. Various types of functional support have been described including tangible, esteem, informational, emotional, and network/belonging support (Heo, Lennie, Moser & Kennedy, 2014). Tangible support refers to providing material resources or direct support to one in need. Esteem support is providing unconditional positive regard that shapes feelings of self-worth and competency. Informational support consists of providing information about stressful events such as medical procedures or physical symptoms (Heaney & Israel, 2008). The type of support individuals need and seek depends on the nature of the stressors they are experiencing.

Among persons with End stage Renal Disease, it has been discovered that the onset and progression of the condition make patients frail and lose functional independence, leaving family members to provide greater physical support. Adequate social support is an essential ingredient in maintaining mental health and increasing a person's capacity of coping with stressful situations (Dessen & Braz, 2000). Helgeson (2003) maintained that greater social support is associated with an enhanced quality of life, regardless of level of stress and protection from negative consequences of psychological stress. In the view of Alexopoulou, Giannakopoulou, Komna, Alikari, Toulia, and Polikandrioti (2016) the more social support dialysis patients receive the better their quality of life. Taylor (2007) suggested that perceived social support safeguards the psychological impact of negative events and chronic strains. Social support facilitates health behaviours such as exercise, eating balance diet, and adhering to medical regimens (Dimatteo, 2004). Social support also increases patients' satisfaction from the provided care and adherence to therapeutic regimen (Ahari, Moshki & Bahrami, 2014). However poor social support contributes to higher mortality risk, lower adherence to treatment regimen and poor physical quality of life in End Stage Renal Disease (Untas et al., 2011). This means that, though one might be suffering from kidney disease, they might live longer when the necessary support are given them and they may die early when these supports are denied them. Therefore social support is one crucial element that must be considered in the treatment of patients with kidney failures to help reduce psychological influences and reduce the mortality rates. When patients are psychologically stable and sound then they may also have the ability to regulate their emotions in their daily functioning.

Emotion Regulation

Emotions can be described as irresistible forces that exert powerful influence on a person's behaviour. They are spontaneous rather than through conscious effort and are often accompanied by distinct physiological changes. Ekman (2003) suggested that our emotions serve as a guide often directing us to do or say what is right for the situation. Emotions are normal part of our lives, yet for some these feelings can be overwhelming leading to engagement in self-injury activities such as suicide. In a review, Wierenga Lehto and Given (2017) discovered that overwhelming emotional exhaust the resources needed for self-care management of chronic disease and can result in poor health outcome. This implied that our ability to harness and manage the experience of emotions has the capacity to influence our coping with chronic diseases like end stage renal disease.

Emotional regulation can therefore be conceived as our awareness and understanding of emotions and their impact on our behaviour, and the ability to manage those feelings to facilitate positive behaviour. Thompson (1994) defined Emotion regulation (EmR) as "the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals". An integrative review, by Koole (2009) found that humans are capable of controlling every facet of emotional processing, including how emotion directs attention, the cognitive appraisals that shape emotional experience, and the physiological consequences of emotion.

In the event of adverse health situations, the inability to effectively manage emotions can trigger negatively affect self-care activities and impact mental and physical health (Appleton, Buka, Loucks, Gilman, & Kubzansky, 2013). Cohen (2015) emphasised that the effective processing of emotional stimuli can minimize negative psychological symptoms that impact patients' ability to attend to self-management. Proper emotion regulation is necessary to manage the emotional stressors common in chronic illness and promotes adaptation in the presence of aversive stressors (de Ridder, Geenen, Kuijer, & van Middendorp; Gratz & Roemer, 2004). Looking at the emotional instabilities surrounding chronic illnesses, proper emotion regulation should be a very critical component of treatment regimen given to patients. The ability to properly regulate and manage emotions may lead to a good quality of life (Barberis et al, 2017).

Health-related Quality of Life (HRQoL)

Health related quality of life is regarded as an important means in determining health related outcome in contemporary medicine. It originated from the idea that, the treatment and management of diseases from the biomedical perspective alone, where emphasis is only on curing or managing the disease and on prolonging the life of patient, is not sufficient (Singh & Dixit, 2010). Health related quality of life falls under the broader term Quality of Life (QoL). According to Gotay, Korn, McCabe, Moore and Cheson (1992), QoL can be describe as the state of well-being that combines the ability to perform everyday activities that reflect physical, psychological requirements and social well-being and satisfaction with levels of functioning and control of the disease. To Perry, Casey and Cotton (2015) the term QoL has been used interchangeably with constructs like comfort and well-being. Health related quality of life is in-tended to narrow the focus to the effects of health, illness, and treatment on quality of life (Ferrans, Zerwic, Willbur, Janet & Larson, 2005).

The HRQoL concept is built on the notion of health and QOL, which is informed by the experiences, values, expectations and perceptions of a person (Testa & Simonson, 1996). It is possible to conceptualize HRQoL as a double-sided variable consisting of both positive and negative health aspects. The negative side involves sickness and disorder, while the positive aspect includes feelings of mental and physical well-being, full functioning, physical health, adaptation, and mind and body effectiveness (Bowling, 2001).

Health related quality of life is a multidimensional concept which encompasses domains related to physical and occupational function, psychological/ emotional state, social interaction and somatic sensation (Lipscomb, Gotay & Snyder, 2004; Combes, Allen, Sein, Girling, & Lilford, 2015). The Quality of Life Group of the World Health Organization (1995) found that HRQoL involves multiple components such as the physical health, psychological state, level of independence, and social relationships of a person, and their relationships with their environment's salient characteristics. HRQoL was described by the European Medicines Agency (2006) as a general subjective perception by the patient of the impact of disease and intervention on the physical, social and psychological aspects of life. It is regarded as a valuable measurement in clinical practice that may predict the outcome of the disease or the treatment effectiveness (Rebollo & Ortega, 2002). Additionally, HRQoL has been found to be an important tool in monitoring quality of care (dos Santos Grincenkov et al., 2015). Improving the HRQoL of individuals with chronic diseases significantly decline the burden associated with the disease (Finkelstein, Arsenault, Taveras, Awuah, & Finkelstein, 2012).

Mau, Chiu and Chang (2008) opined that an enriched HRQoL reduces the difficulties that ESRD presents. Nonetheless, the onset on chronic kidney disease deteriorates patients HRQOL (Pagels, Söderkvist, Medin, Hylander, & Heiwe, 2012). Also, Sørensen, et al. (2007) indicated that lifestyle restrictions such as changes in food intake, multiple medication intake, and the effects of dialysis on patients has been observed to markedly reduce HRQOL of ESRD patients. Poor HRQOL is closely associated with frequent hospitalization and mortality (Bossola, Pepe & Marzetti, 2017; dos Santos Grincenkov et al., 2015). The assessment of HRQOL in ESRD patient care will be useful to formulate intervention and to inform medical personnel about ways of improving patient's care, assessing patient's needs, setting treatment goals and monitoring disease progression.

Theoretical Framework

The theoretical framework focuses on the various theoretical perspectives that form the basis of the study. It examines models self-regulation of illness, health-related quality of life and the biopsychosocial model.

Self-regulation Model of Illness

The self-regulation model of illness was initially proposed in 1980 as the "common sense model of illness representation". The aim was to provide a framework for understanding how symptoms and emotions experienced in times of illnesses and diseases influence one's perception and guide coping behaviours (Diefenbach & Leventhal, 1996). As part of advancing this ideology, the authors proposed a hierarchically organised model of an adaptive system consisting of three main concepts of illness representation. They include action planning or coping responses and performance of these, followed by appraisal, or monitoring of the success or failure of coping efforts (Nerenz & Leventhal, 1983).

The self-regulation model (SRM) suggests that people are active problem solvers who participate in a mechanism involving the recognition of a problem and using various techniques to try and reduce these problems and return to normal or desired functioning (Leventhal, Nerenz & Steele, 1984). According to this model, an attempt to promote better health outcomes requires an understanding and discussion of patient's beliefs and stimulating the independent performance of health-related behaviours (Michie, Miles & Weinman, 2003; Leventhal, Brissette & Leventhal, 2003). The Self-Regulation Model (SRM) assumes that a patient's set of cognitive representations and emotional representations determine the person's health behaviour. According to Hale, Trehane, and Kitas (2007) the SRM shares many similarities with theories such as the transactional model of stress and coping in the sense that illnesses or disease can be conceptualized as a stressful experience.

The SRM also stressed that an individual’s response to any health threat leads to the construction of two concepts. These are cognitive and emotional representations of the perceived illness or health threat, which are processed relatively independently (Leventhal, Nerenz, & Steele, 1984). The cognitive representations are formed based on five distinct components, called illness perceptions (Leventhal, Meyer, & Nerenz, 1980). These cognitive components described in the model include identity that refers to both the symptoms and the label associated with a given disease; the causes of the disease; the social, physical, psychological and financial effects of the disease; the timeframe for how long the disease and/or its symptoms are likely to persist; and the degree to which the disease can be managed or treated (Lau, Bernard, & Hartman, 1989; Meyer, Leventhal, & Guttman, 1985). The principle of disease representations or lay convictions regarding illness is the central idea within the SRM.These interpretations interact with existing schemata (the standard principles that individuals carry), allowing them to make sense of their conditions and direct any coping behaviour. This means that how patients with CKD appraise their symptoms is a very important aspect that must be considered even before starting treatment. A CKD patient would now have to appraise their new symptoms and their previous way of life and fuse or adapt new ways of living. For example, how they used to eat would have to change as a result of new symptoms.

The model therefore assumes that the experience of symptoms will lead to the formulation of hypothesis (illness perception) by the individual. The characteristics of the individual’s illness representation influence the type of strategies the person uses to cope or control the symptoms. For example, if dialysis patients assume their health is deteriorating due to the kidney failure (identity) caused by their problem of hypertension or diabetes (cause), then they can take haemodialysis treatment or renal transplant (treatment) and their health will be better (consequences) in about two weeks (timeline) (Leventhal, Brissette, & Leventhal, 2003). This strategy is reassessed by the individual to estimate its efficacy. If they feel better, the conceived illness representations regarding the illness are confirmed. Nevertheless, if the treatment was unsuccessful the individual repeats the procedure, and thus reinterprets the symptoms, re-identifies the illness, and selects a coping strategy. The SRM stresses on the dynamic nature of this process. According to Leventhal and Diefenbach (1991), people's interpretations of their symptoms are grounded on numerous factors. These factors comprise the individual's memory of their personal or others' prior experience with the symptoms, information of various illnesses, socially learned information, and external factors such as traumatic events. In this case, whether a patient will appraise their symptom positively or negatively will depend on memory of what they have already heard and seen about CKD. On the other hand, if a patient knows or have seen another patient recovered from the symptoms of the kidney failure, they are likely to have hope of also recovering from their symptoms. These positive and negative appraisals of symptoms are very important and must be considered in the treatment processes. Patients with strong illness identity are more likely cope well with their symptoms and help speed up the treatment.

Generally, in the physical health sector, the self-regulation model has been well-validated. It has been associated with a wide variety of physical health conditions, such as arthritis, diabetes, and cardiovascular disease, and has been shown to significantly improve the prediction of coping mechanisms, treatment adherence, and social and psychological functioning of individuals (Leite, 2011). Heijmans (1998) in demonstrating the worth of applying the SRM to both physical and mental health showed that individuals who had a strong illness identity, and thought that their symptoms had a chronic timeline, grave consequences, and could not be controlled or treated, were likely to use avoidant coping strategies, and less likely to practice problem-focused coping. In turn, individuals with these illness thoughts were similarly more likely to have weakened social and physical functioning and mental well-being. The evidence therefore proposes that illness cognitions, as defined by the SRM, significantly predict individuals' strategies for managing their conditions and subsequent outcome.

Limitations of the Self-Regulatory Model includes its emphasis on only cognitive and emotional representations as determinant of a person's choice of health behaviour though variables such as socio-economic status, and culture and religion also influence the choice to engage or disengage in a health behaviour. Again, the model does account for why a person adapts the cognitive and emotional representations.

Health-related Quality of Life Model

The health-related quality of life model (HRQOL) provides an in-depth understanding about the link among traditional clinical variables and psychosocial concepts. The model specifies an outcome-derived taxonomy associated with relevant health concepts and hypothesizes bidirectional causal relationships between and among these concepts (Wilson & Cleary, 1995). The fundamental assumptions are that a comprehensive understanding of the relationship that exit among these concepts will inform the formulation of effective and efficient clinical interventions and policies (Ferrans, Zerwic, Wilbur & Larson, 2005). The model also takes health principles into account as occurring on a continuum of increasing complexity, a feature of the health trajectories of older adults (Zubritsky, et al., 2013). Emotional and social structures are believed to have probable causal links for each of the five domains (Ormel, et al., 1993; Wells et al., 1989). These core domains are often influenced by identifying characteristics of individuals as well as structural and process characteristics of the societies, including organizations that influence the individual (Zubritsky et al., 2013).

Specifically, the original framework’s five core areas include biological and physiological factors, symptom status, functional status, general health perceptions, and perceived Quality of Life (QoL) (Ferrans, Zerwic, Wilbur, & Larson, 2005). The first variable, the biological and physiological factors focus on the functioning of cells, organs and organ systems are considered the most basic. Examples include the following: diagnosis-related laboratory values for ESRD such as glomerular filtration rate (GFR), and physical examination findings such as a systolic and diastolic blood pressure. The next variable is symptom status. It consists of physical, emotional and cognitive symptoms that the patient may subjectively experience (Ferrans, et al. 2005; Wilson & Cleary, 1995). The functional status describes the patient’s ability to perform certain tasks or functions with less or no assistance. Functional status is usually subjectively reported by the patient but can also be assessed by others. The fourth variable, general health perceptions is a personal rating by an individual considering of his general health state and takes into account the weights and values that the patient attaches to symptoms or functional abilities. The final concept in this model is Quality of Life. It is the patient’s overall satisfaction with life (Ferrans, et al., 2005; Wilson & Cleary, 1995). In order words, it focuses on the overall happiness and how content a person is with his life.

A systematic review of this model's application to chronic diseases found that symptoms mediate between physiological factors and functional status, while functional status mediates between symptoms and perceptions of general health, and general health perceptions mediate between functional status and HRQLL overall (Ojelabi, Graham, Haighton, & Ling, 2017). Wilson and Claery (1995) indicated that the features and environment of an individual play an important role in symptoms and physiological status, functional status, perceptions of general health and overall quality of life. In a revised version of the model, Ferrans et al (2005) added two concepts namely individual attributes and environmental features. It is known that individual characteristics such as genetic make-up influence biological functions, such as disease vulnerability and treatment response. Susceptibility to illness or disease severity can also be influenced by environmental factors. In the case of dialysis patients, financial burden, dietary restrictions, and lack of social support can influence their food intake, social functioning, adherence to medication regimen and their overall quality of life. It is also very important to know that so many factors contribute

Biopsychosocial Model

A broad view of the biopsychosocial model is that the disease outcome is attributed to the complex, variable interaction of biological factors (genetic, biochemical, etc.), psychological factors (mood, personality, behavior, etc.) and social factors (cultural, family, socioeconomic, medical, etc.) (Santrock, 2007). The model contrasts with the biomedical model that roughly only attributes disease to biological factors, such as viruses, genes, or somatic abnormalities (Engel, 1977). This means that instead of viewing the disease from the perspective of just being caused by the patient's biology or cell growth, it should rather be viewed from the perspectives of the patient's mental or psychological state, the social supports available, the economic status as well as any other factor that may be contributing to aggravating the person's health. It implies that treatment and management of diseases like chronic kidney and end stage renal failure requires the health care team to address biological, psychological, and social influences upon a patient's functioning. Thus in the treatment process, the physician, the clinical health psychologist, the dietician, the nutritionist, the social worker, and the family should all work collaboratively to draw a comprehensive treatment plan for the patients with kidney problems.

It is a meta-theoretical viewpoint focused on science that combines a complete spectrum of psychological, biological, and sociocultural viewpoints (Melchert, 2011). Engel (1977) presented the original formulation of the definition, which was based on the theory of general structures, a framework that has now been integrated into approaches to the theoretical understanding of complex phenomena in modern complexity theory. The biopsychosocial model emphasizes the complementary impact on development and actions of genetic predisposition, environmental influences, and experience (Schonfeld & Dreyer, 2008). Hopwood and Donnellan (2010) emphasized the model considers the individual, their health problems and the surrounding environment. It recognises that health; disease, illness and disability result from complex interactions of biological, emotional, cognitive, social and environmental factors.

The biopsychosocial model first elaborated by Engel (1977) was advanced by Anderson and Armstead (1995) to include several layers that can interact to assess health status. Individual demographic information (age, ethnicity and gender), physiological indicators (body mass index, cardiovascular immunology and conditioning status), psychological and behavioural criteria (distress, personality factors, behaviours that promote or harm health) and social factors are included in some of these levels (level of social support, access to health care, occupational imperatives, and residential characteristics). Social and psychological parameters may include symptoms, personality factors, and perceptions of depression, disease, or well-being, while social indicators include marital satisfaction, health care satisfaction, prescription compliance, and the degree, number, and consistency of interactions with health staff and employees. It could be inferred that ESRD patients live in a complex network that includes, at the very least, families, doctors, clinical staff, hospitals, adherence to medication (self-management). Thus the patient should be looked at wholly from all these afore mentioned factors that come together to make the person. Underpinning the biopsychosocial model is the belief that every human is a unique and complex interconnection between the physical, psychological and social aspects of their daily life (Broome & Llewelyn, 1995).

In the treatment and management of diseases, the goal is to understand the suffering and perception of patients, rather than diagnostic effort of clinical investigation (Hyman & Fleisher, 2011). Biopsychosocial clinicians recognise that symptoms may develop from several different influences, not just disease. Symptoms may stem from normal development, psychiatric disease, impact of culture and society, and functional disorders, in which symptoms are real, but there is no easily discerned disease. In some instances, it might not even be the physical symptoms that might be bothering the patients but rather psychological factors like depression and anxiety that might be killing the patients. When a patient is diagnosed with kidney failure, things like eating habits and other things might change and therefore the nutritionist and the dietician would be needed to help the patients. Another factor that might either hamper or enhance treatment processes is the kind of support the patient receives. A patient who is receiving enough support from the family would have good quality of life than a patient who is neglected. These are some of the reasons why the biopsychosocial model supersedes the biomedical model.

It is crucial to understand that the biopsychosocial model does not have a straightforward, testable model to describe (the amount of variance accounted for) each of the components' interactions or causal influences (biological, psychological, or social). Instead, the model was a general structure for theoretical and empirical exploration guidance (Armitage & Conner, 2000).

Empirical Review

This review covers various empirical studies that are related to this study. The empirical review was done in relation to the research questions and research hypotheses that are guiding this study. The empirical review helps to understand various perspectives of researchers and also aid in the discussion of findings from this study.

Level of Perceived Social Support among Dialysis Patients

Social support is regarded as a key element in the enhancement of quality of life among haemodialysis patients and thus patients' survival greatly depends on the perception of quality of life based on the care from close persons (Cohen, Sharma, Acquaviva, Peterson, Patel, & Kimmel, 2007). One sure way to overcome the challenges patients go through is the provision of a holistic high level of support for patients.

A study by Plantinga, Fink, Harrington-Levey, Finkelstein, Hebah, Powe and Jaar (2010) sought to explore the association between social support and outcome incidence in dialysis patients in the USA. This was a longitudinal study which employed 949 patients from 77 health facilities over a period of three (3) years. The study observed functional social support scores (scaled 0 to 100) both overall and in emotional, tangible, affectionate, and social interaction subdomains. Employing overall and modality-stratified multivariable logistic, Poisson and Cox proportional hazards models, the results of the study revealed that social support in both peritoneal dialysis and haemodialysis were significantly higher with overall scores of 80.5 and 76.1; ($P < 0.01$). They concluded that social support is very pertinent for both haemodialysis and peritoneal dialysis patients to get grander fulfilment and QOL and fewer hospitalizations. It was thus advised that support interventions are put in place to improve the life of patients.

Alexopoulou, Giannakopoulou, Komna, Alikari, Toulia, and Polikandrioti (2016) assessed the effect social support on the quality of life of dialysis patients in Greece. The study employed 258 dialysis patients. Data collection was done with questionnaires comprising three (3) areas: a) the Multidimensional Scale of Perceived Social Support (MSPSS) measuring perceived social support, b) the Missoula-VITAS Quality of Life Index (MVQOLI–15) measuring quality of patients' life and c) the socio demographics, clinical and other variables of interests. After the analysis, it was found that dialysis patients perceived that they had a high support from significant others and family members. However, social support from friends was felt to be lesser. It was thus concluded that the level of social support must be a wake-up call for health specialists and families to help give the best of support and constructive upkeep to haemodialysis patients.

Another Study by Silva, Braido, Ottaviani, Gesualdo, Zazzetta, and Orlandi (2016) measured the Social support of adults and elderly with chronic kidney disease (CKD) on dialysis in Brazil. The aim of the study was to assess the level of instrumental and emotional social support of patients with chronic kidney disease on haemodialysis. It was a descriptive cross-sectional study. Using convenience sampling technique, 103 participants receiving treatment in a Renal Replacement Therapy Unit were employed. Data collection was done through individual interviews, with the help of Social Support Scale. Analysis of the Social Support Scale showed that patients received a high level of social support with the highest support coming from the family. They continued to conclude that social support is one element that expedites the coping and recovery of renal patients, thus assessments of perceived social support should be considered in the care planning.

In contradiction to the above studies, Ahrari, Moshki and Bahrami (2014) also conducted a study on the relationship between social support and adherence of dietary and fluids restrictions among haemodialysis patients in Iran. The aim of the study was to investigate how social support correlated with adherence to dietary and fluid restrictions among haemodialysis patients in Iran. This was a correlational research design and employed 237 haemodialysis patients. Data on patients' social support and adherence to therapeutic restrictions were measured using the multidimensional scale of perceived Social Support and Dialysis Diet and Fluid non-adherence Questionnaire (DDFQ) respectively. The results showed that averagely, haemodialysis patients had a significantly lower level of social support which is contrary to other studies with higher levels of social support. However, most of the perceived social support came from patients' immediate family. It was also found that patients who had higher level of support were adherent to therapeutic regimen. Thus, it was recommended that nurses have a major duty to ascertain various ways and means of providing social support for patients and again buoy up the families to support their haemodialysis patients.

In support of the study by Ahrari et al. (2014) Davaridolatabadi and Abdeyazdan (2016) investigated anxiety and perceived social support and the relationship between them among patients under haemodialysis. This was a cross-sectional study, conducted with 126 patients under haemodialysis treatment in Isfahan. The purposive sampling technique was used to select participants. Data collection tools included state-trait anxiety and perceived social support inventories. After statistical analysis of data, they also found that 68.3% of patients received average perceived social support. Though patients received average social support, tangible support was the lowest relative to the additional dimensions. They thus concluded that due to the numerous psychological and social problems associated with dialysis treatment, it was very critical that much attention is given to the kind of support given them as reduction of social support has negative effect on treatment outcomes.

The reviewed studies revealed varied findings regarding social support among dialysis patients. It could be deduced that, though varied research design, instruments, differences in sample size, disparities in disease severity and analytical techniques were employed findings were not the same. Despite the differences in context, samples and analytical techniques, there is an undeniable fact that social support is very crucial in the life of patients undergoing dialysis. Family support seemed to be the most important dimension of the various supports needed to help the patients. It will be of great importance to examine this phenomenon in Ghana where there seem to be little focus on dialysis patients social support.

Common Types of Perceived Social Support available to Patients with ESRD

Social supports are available in various forms and types from different people to various patients with various chronic conditions. Shahgholian and Yousefi (2015) reported that dialysis patients want three main type of support namely psychological, social and spiritual support. However, Thong, Kaptein, Krediet, Boeschoten, and Dekker (2007) argued that among dialysis patients the need for social support may not be the same and is mainly attributed to the quality and quantity of social network as well as the severity of the disease. Chronic kidney disease and haemodialysis present numerous psychological, social, cultural, and spiritual challenges for patients and their families and therefore means that they would need support of all forms.

Plantinga et al. (2010) conducted a study to explore the association between social support and outcome incidence in dialysis patients in the USA. This was a longitudinal study which employed 949 patients from 77 health facilities over a period of three (3) years. The results of the study revealed emotional support, tangible support, affectionate support and social interaction were the most common form of support received by patients. It could be deduced that the common form of social support was affectionate support followed by tangible support. It was concluded that social support most especially affectionate and tangible support is very pertinent for both haemodialysis and peritoneal dialysis patients to get grander fulfilment and QOL and fewer hospitalizations. It was thus advised that support interventions including showing empathy and sympathy as well as providing physical things need are put in place to improve the life of patients.

Alexopoulou, et al in 2016 also assessed the effect of social support on the quality of life of dialysis patients in Greece. The study employed 258 dialysis patients. Data collection was done with questionnaires comprising the Multidimensional Scale of Perceived Social Support (MSPSS) measuring perceived social support, the Missoula-VITAS Quality of Life Index (MVQOLI–15) measuring quality of patients' life and the socio demographics, clinical and other variables of interests. The results showed there were three forms of social support available to patients, and included support from family, support from friends and support from significant others. It was concluded that not only families and friends but any other significant individual is very important in the treatment and recovery of patients undergoing haemodialysis.

Another Study by Silva, et al (2016) measured the Social support of adults and elderly with chronic kidney disease (CKD) on dialysis in Brazil. The study was aimed as assessing the level of instrumental and emotional social support of patients with chronic kidney disease on haemodialysis. Descriptive cross-sectional study was the study design employed. Using convenience sampling technique, 103 participants receiving treatment in a Renal Replacement Therapy Unit were employed. Data collection was done through individual interviews, with the help of Social Support Scale. The finding revealed that patients got most of their support from the family and the persons living with them. They concluded that social support is an element that helps the coping and recovery of renal patients, thus assessments of perceived social support from families should be considered in their care planning.

Davaridolatabadi and Abdeyazdan (2016) further investigated anxiety and perceived social support and the relationship between them among patients under haemodialysis. This was a cross-sectional study, conducted with 126 patients under haemodialysis treatment in Isfahan. From the results it was found that emotional, information, and tangible forms of social support as the most predominant or common forms of social support patients under haemodialysis received. Also, it was revealed that majority of the patients were comfortable with the information they received about their condition probably assurances from the doctors and the family. It is therefore very critical that much attention is given to whatever kind of support given to patients as reduction of any form of social support may have negative effect on treatment outcomes.

The various literatures reviewed confirmed Thong, et al (2007) assertion that argued that dialysis patients' need for social support might not be the same for everyone due to the fact that the quality and quantity of social network as well as the severity of the disease may be major contributors or determinants of the kind of support needed. It is evident that to some patients, tangibles and other physical things like money, clothing and food is what might be needed whilst to some others all that is needed is positive news or good information and assurances about their condition. These and other reasons such as the context and the instruments used might have contributed to the differences in the type of social support received.

Health-related Quality of Life among Dialysis Patients

Rebollo and Ortega (2002) discovered that assessment of health related quality of life among dialysis patients is significant to clinical practice and may reflect the outcome of the disease or the effectiveness of therapy. An emphasis to this statement was made by Spiegel, Melmed, Robbins, and Esrailian (2008) who indicated that measurement of HRQOL among ESRD patients would strongly predict their mortality or rehospitalisation.

Pakpour, Safari, Yekaninezhad, Panahi, Harrison, and Molsted (2010) evaluated Health-related quality of life in a sample of Iranian patients on haemodialysis. The main aim of this study was to determine the levels of quality of life of patients undergoing maintenance haemodialysis. A total of 225 patients were sampled for the study using a convenience sampling method. Again, the HRQOL-SF 36 questionnaire was used for data collection. Analysis of data collected showed that patients' mean score were significantly lower than that of the general population. This thus, confirmed the assertion that patients undergoing haemodialysis had poor health related quality of life. These differences in quality of life might be as a result of differences in life style, socioeconomic status, and general level of education of the patients as well as physician-patient communication. This means that not only the sickness itself but also other factors have great influence on the quality of life of most patients with chronic illnesses like CKD.

Finnegan-John and Thomas (2012) also conducted a study to assess the psychosocial experience of patients with End-Stage Renal Disease and how it impacts quality of life of patients. This was a qualitative study that collected data from 118 patients and 12 carers. After conducting a thematic analysis, seven (7) themes (physiological impact, impact of treatment, impact on daily life, psychological impact, impact on relationships, social impact and coping responses) were identified to influence quality of life. It was thus concluded that patients' quality of life was adversely affected and low. This was due to the fact that there are considerable psychological burden on both the patients and the carers which might have contributed to the low quality of life experienced. However, it is not very much unexpected to see haemodialysis patients have low quality of life most especially when they might have lacked some form of social support.

Additionally, a study by Nankeu, Balde, Kaba, Bah, and Rostaing (2014) evaluated Quality of life of patients with end-stage renal disease in Guinea. The aim of this paper was to find out the level of quality of life of patients receiving haemodialysis treatment at the nephrology department of the Donka national hospital in Canakry. The study included 69 patients from the Republic of Guinea with end-stage renal disease (ESRD) and was conducted over 12 months. Data was collected using the HRQOLSF-36 questionnaire which explored eight different domains grouped into two dimensions. The analysis of the data collected revealed that majority of ESRD patients (84%) had a poor quality of life. Many factors have been identified as having influence on the health related quality of life of patients with end-stage renal disease. However, it is believed that quality of life could be substantially improved by working on the modifiable factors including better treatment for the comorbidities or any other diseases that come about as a result of the kidney failure thus doing away with any opportunistic infections and improving their quality of life. Again, giving more effective pain control and assistance with social and physical limitations will also go a long way to improve on their quality of life.

In China, Wan, Chen, Choi, Wong, Chan, Chan and Lam (2015) conducted a comparative study to examine the patterns of HRQOL and its associated factors within patients undergoing haemodialysis. The study employed cross-sectional comparative studies as the study design. Data was collected from 244 ESRD patients and were consequently one to one matched with subject in a general population. Analysis of the data showed that in sum, ESRD patients had poorer HRQOL when compared to general population.

This poor HRQOL of the patients was attributed to the impairment in physical functioning, body pains, being female, unemployed, and smoking habits. These are some challenges faced by most patients for which they think about almost all the time and therefore would definitely have adverse effect on their quality of life.

Similarly, Pei et al (2019) conducted an observational study on health-related quality of life as predictor of mortality in end-stage renal disease patients. The study was purported to determine the predictive role of HRQOL on mortality of persons with ESRD. The sample comprised 400 patients who were undergoing dialysis and 8930 individuals who represented the Swedish population. The medical Outcome Study questionnaire was used to collect data for the assessment of the two major aspects of the quality of life of patients. The questionnaire had eight domains that were grouped into two dimensions. The results from the analysis showed that among End Stage Renal Disease (ESRD) patients' HRQOL was lower compared to the normative Swedish population. However, it was concluded that this low level of quality of life was much expected in ESRD patients due to the fact that there were many or large differences between the two samples used. Therefore, this finding might not be very conclusive.

In Ghana, Tannor, Norman, Adusei, Sarfo, Davids and Bedu-Addo (2019) assessed QOL in patients with moderate to advanced Chronic Kidney Disease and establish its determinants. The study was a cross-sectional observatory study conducted at the renal outpatient clinic at the Komfo Anokye Teaching Hospital. The study employed and collected demographic, clinical and demographic data from 202 patients who attended the clinic.

These data were collected using a pre-tested self-administered questionnaire corporation 36-item health survey questionnaire as well as computing for the scores in the physical and mental component summary of quality of life. The findings revealed that both moderate and advanced patients with chronic kidney showed poor levels of quality of life. To conclude, some factors such as anaemia and low-income were found to be significant determinants of the poor quality of life experienced by patients with chronic kidney disease.

From the above literature, it was seen that though the various studies were conducted in different contexts, all the results showed that patients who are on haemodialysis had low health related quality of life. This could probably due to the fact that almost all the studies used the same questionnaire to collect the data for the analysis. However, different studies reported different factors as possible reasons why patients with chronic kidney disease might have low or poor quality of life. Thus, it can be concluded that different situations call for different forms of support to help improve the quality of life of patients with chronic illnesses.

Relationship between Social Support and Emotional Regulation

The association that exists between social support and emotional regulation is one of the central objectives of this study. Some researchers have sought to examine the relationship that exists between social support and emotional regulation and has revealed several interesting findings. For instance Picardi et al (2005) investigated the role of stressful events, perceived social support, attachment security, and alexithymia in triggering exacerbations of diffuse plaque psoriasis. One of the objectives of their study was to examine the correlation between social support and emotional regulation. Using a cross-sectional analytic design, the researchers sampled 106 patients from a general hospital in Italy. The respondents were required to answer questionnaire that measures social support and emotional regulation. Results from the correlational analysis revealed a positive relationship between social support and emotional regulation. Based on the findings, Picardi et al. (2005) concluded that better social support enhance an individual's ability to manage and control his or her emotions.

Another study by Montes-Berges and Augusto (2007) also sought to examine the relationship between social support and emotional regulation among mental health nursing students in Spain. The study was descriptive study that sampled 119 first grade nursing students at the University of Jaén. The data was gathered using questionnaires that required participants to rate their levels of social support and emotional regulation. Using Pearson correlation, the results of the study revealed that social support and emotional regulation do not have a statistically significant relationship. Although the results indicated that a significant relationship does not exist between emotional regulation and social support, the researchers concluded that having support from other people like family and friends, and ability to regulation one's emotions can go a long way to enhance psychological well-being.

Zhou, Wu and Zhen (2016) in a recent study also sought to examine the relationship between social support and posttraumatic stress disorder/posttraumatic growth, and the role of emotion regulation among adolescents in Beijing. The study included 309 respondents who were randomly sampled. Data was gathered through an online survey and a variety of statistical approaches were used in analysing the data. Statistical analyses included structural equation modeling and Pearson correlation. The results revealed that social support has a significant relationship with emotional regulation (r= .47, p< .001). Again the results depicted that social emotional regulation played a moderating role in the relationship between social support and post-traumatic growth. The findings of the study emphasize the importance of social support and emotional regulation in the lives of adolescents. By way recommendation, the researchers stated that it important to explore ways of regulating emotions related to traumatic experience since it has positive outcomes.

The studies reviewed examined the association between social support and emotional regulation. It is obvious that the researches reviewed have divergent findings. Whereas others agree that a relation exists between emotional regulation and social support, there are some studies that reveal the opposite. It is observed that only one study explored the relationship between social support and emotional regulation, the relationship was not significant. Again, although the findings are important, none of these studies were conducted in the African and Ghanaian context and thus makes it difficult to generalize the findings.

Social Support and HRQoL among Dialysis Patients

A study by Vazquez, Valderrábano, Fort, Jofré, López-Gómez, Moreno and Sanz-Guajardo (2005) examine the relationship among psychosocial status (depressive symptoms, trait anxiety, and social support) and HRQoL in haemodialysis patients in Spain. The main aim of the study was to evaluate the association between social support and Kidney Disease Quality of Life (KDQoL) scales in haemodialysis patients by controlling the influence of sociodemographic and clinical variables. In the study, 194 patients from 43 dialysis centres across the country were enrolled to respond to structured questionnaires. Quality of life and social support were measured using the KDQoL, Cognitive Depression Index, Trait Anxiety Inventory and Scale of Perceived Social Support. Analysis was done by running two regression models. Data analysis revealed that social support was positively associated with quality of life. This finding indicated that patients with good social support are likely to have better quality of life. Anxiety and depressive symptoms were also seen to be strongly associated with quality of life and therefore could have contributed to the reasons why the patients had poor quality of life. It is therefore recommended that some of these factors be given enough consideration when assessing the well-being and quality of life of patients with chronic kidney disease.

Plantinga, et al also (2010) conducted a study exploring the relationship between social support and outcome incidence in dialysis patients. The study was a longitudinal study which employed 949 patients from 77 health facilities over a period of three (3) years. The study observed functional social support scores (scaled 0 to 100) both overall and in emotional, tangible, affectionate, and social interaction subdomains and measured quality of life with part of the CHOICE Health Experience Questionnaire (CHEQ). Employing overall and modality-stratified multivariable logistic, Poisson and Cox proportional hazards models, the results of the data analysis revealed a positive correlation between social support and quality of life. This indicated that patients with the highest overall social support scores were more likely to have excellent quality of life whereas patients with low or poor social support have poor quality of life. Thus, it could be seen that social support is very important in the determination of greater satisfaction and HRQOL and fewer hospitalizations of patients with chronic illnesses such as chronic kidney diseases. In sum, the authors recommended that since social support could lead to substantially reduced hospitalization-associated costs, all dialysis patients should be targeted for social support intervention studies.

A similar study by Untas et al (2011) studied the influence of social support and other psychosocial factors on mortality, adherence to medical care recommendations, and physical quality of life among haemodialysis patients. The study was aimed at investigating the influence of social support and other psychosocial factors on the quality of life of patients receiving haemodialysis. The study enrolled 32,332 haemodialysis patients in 12 countries. The Kidney Disease Quality of Life Short Form (KDQoL-SF) was used to gather data on quality of life while social support was measured using four key questions rated on a Likert scale and dichotomized for the purposes of the analyses. Cox regression and logistic regression were used to examine associations of baseline social support and other psychosocial factors. The results from the analysis of the data indicated that poorer social support were associated with higher mortality risk, lower adherence to medical care, and poorer physical quality of life in haemodialysis patients whereas good social support were associated with better quality. It was concluded that more researches are needed to explore whether interventions to improve social support would help improve the quality of life patients.

Again, a study by Alexopoulou et al (2016) examined the association between perceived social support and quality of life in haemodialysis patients.

The study was purported to explore the influence of social support on the quality of life of patients undergoing haemodialysis. The study used a sample of 258 haemodialysis patients. The Multidimensional Scale of Perceived Social Support (MSPSS) was used to assess perceived social support and the Missoula-VITAS Quality of Life Index (MVQOLI–15) to assess the quality of life of patients. Analyses of the data were done using Spearman correlation coefficient and multiple linear regression. The results of the data analyses revealed a positive correlation between all three subscales of the social support and quality of life. This means that a higher social support for dialysis patients leads to a better quality of life. In other words, social support is linked directly and indirectly with improvements in haemodialysis patients' quality of life. Though these relationships were relatively low, it did not change the fact that there were still some forms of relationships between them. It was thus concluded that an understanding of the relationship between social support and quality of life can provide to health professionals insight into prompt beneficial care to haemodialysis patients.

Further, Pan, Hung, Chen, Lu, Shih, and Huang (2019) conducted a study that investigated the relationship among social support, sleep disturbances, depressive symptoms, and health-related quality of life in patients undergoing haemodialysis. The study employed a cross-sectional survey design. Using a convenience sample technique, 178 patients were sampled to represent the patients with End Stage Renal Disease. Eligibility for inclusion or selection included being 20 years and above of age, should be undergoing routine haemodialysis treatment and having no other severe diseases such as cancer. Data collection was done with the help of well-structured questionnaire. Social support was measured with the Social Support Inventory and Health Related Quality of Life was measured with the Short Form-36 Health Survey. With a 96% response rate, data collected was analysed mainly with the help of Structural Equation Model (SEM). The findings from the analysis showed a positive correlation between social support and quality of life. This implies that dialysis patients who appraised better social support had better and an enhanced physical quality of life and a reduced depressive symptom whilst the opposite was also true. However, there were evidences of high prevalence of depression and sleep disturbances among the patients which might have accounted for the poor quality of life. With social support playing an important role in the enhancement of quality of life, it is recommended that healthcare professionals and carers are given better understanding on proper ways of utilising social support.

Contrary to these studies, Ibrahim, Teo, Din, Gafor, and Ismail (2015) examine the influence of personality and social support on health-related quality of life in patients with chronic kidney disease. This study was purported to discover the contributions of the Big Five personality traits and social support to HRQoL in patients with CKD. The study employed the cross-sectional design. With a purposive sampling method, a total of 200 patients experiencing various stages of chronic kidney disease were sampled. The HRQOL – Short-Form 36 (SF-36), Big Five Inventory (BFI) and the Medical Outcomes Study (MOS) Social Support questionnaires were the instruments used to measure the variables. Using Pearson correlation, it was found that social support was not a significant predictor of HRQOL. However, it was discovered that patients with higher levels of extraversion and lower perceived affectionate social support were associated with higher physical HRQoL, whereas higher levels of neuroticism were associated with poorer mental HRQoL. In conclusion, it was found that though under normal circumstances high levels of social support would lead to a better quality of life, this study found the opposite. However, it could be seen that personality traits played an important role on the influence social support has on quality of life. This means that with some personality traits like high neuroticism, no matter the kind of support given to the patients, it might not have any effect on his or her quality of life. It is therefore recommended that personality traits are given consideration in the diagnosis and treatment of persons with chronic diseases like CKD.

In the review majority of studies establish an important association between social support and HRQOL among dialysis patients irrespective of the inconsistency in sample sizes, inadequate control for medical and treatment variable, geographical location, and study designs. Though, there were several factors inclusive, almost all results revealed that a good social support could lead to a better quality of life. The opposing finding by Ibrahim et al (2015) may be a result of different measures of social support as well as other variables like the personality traits that played a significant role. This may imply that it is not always the case that giving out social support will lead to better quality of life.

Emotional Regulation and HRQoL among Dialysis Patients

Chronic renal failure adversely affects patients’ lifestyle, health status, his role in society, and his occupational-social and family status (Subramanian et al., 2017). Meaningful coping induced positive emotions that sustains the coping process through re-enactment emotional focused coping and includes the positive reappraisal, revised goals, spiritual beliefs, and positive events. According to Saini and Sumeriya (2017) factors such as social support and coping style has been found to moderate the adjustment to different situations and building relationship with other people.

A research on how the emotional self-regulation program improves the psychological health and quality of life of diabetes patients was conducted by McCraty, Atkinson and Lipsenthal (2000). The purpose of the study was to examine improvements in psychological status, quality of life and haematological measures that predict long-term health and well-being in patients with diabetes after stress reduction and emotional self-regulation. The participants included twenty-two (22) patients with Type 1 or Type 2 diabetes mellitus. The variables were measured using self-report measures of stress, psychological status and quality of life administered before and six months following the intervention. Regression analysis suggested that emotional self-regulation intervention reduced stress, improved psychological health, enhanced quality of life and helped with the overall wellbeing of individuals with diabetes and other chronic illnesses. It is thus concluded that emotional regulation is very important in the life of every person. It is important that persons with chronic illnesses are taught ways of properly managing their emotions so as to boost their quality of life.

Likewise, Gillanders, Wild, Deighan, and Gillanders (2008) explored the relationship between two emotion regulation strategies (reappraisal and suppression) and their impact on patient wellbeing among 106 haemodialysis patients and 94 friends or relatives. It was a cross-sectional study that employed 106 haemodialysis patients undergoing renal replacement therapy and 94 friends or relatives. Data were collected from participants using Positive and Negative Affect Scale, the Brief COPE questionnaire, the Kidney Disease Quality-of-Life Short Form, and the Brief Symptom Inventory. The findings from the analysis of the study confirmed that better emotional regulation strategies (reappraisal) offers protection from stressors through positive emotional experiences, stronger social support and greater wellbeing. Suppressing emotions was associated with expressing less positive emotion, poor use of social support, feeling unsupported by friends and family, higher levels anxiety, depression and somatization. However, the extent to which emotional regulation moderate and mediate social support and HRQOL among haemodialysis patient was not identified.

Another study by Barberis et al (2017) centred on the relationship between coping, emotion regulation and quality of life of patients on dialysis. The main aim of the study was to assess the impact of coping and emotional regulation on the quality of life of patients on dialysis. Seventy-eight (78) patients on dialysis were sampled from Sicily and Calabria. The study employed three questionnaires (Orientations to Problems Experienced, Short Form (36), and Cognitive Emotion Regulation Questionnaire) to collect the data. Regression analyses were used to establish associations between emotional regulation, coping, and HRQOL quality of life. The results showed that emotional regulation predicted quality of life. The results indicated that maladaptive strategies of emotional regulation correlated negatively with all dimensions of quality of life. By implication, emotional regulation determines the way in which the patients appraised their treatment thus influencing their quality of life. For example, using a strategy like self-blame tend to regard themselves as responsible for the happenings in their lives including their diseases which favours the beginning of mood disturbances thus affecting their quality of life. The study concluded that there is the need for total care for patients, where physical and psychosocial assessment must be emphasised.

Also, Nikmanesh, Shirazi, and Farazinezhad (2017) conducted a study to examine the predictive role of emotional self-regulation in quality of life and perception of suffering among patients with breast cancer. The study were purported to mainly assess the predictive role of emotional self-regulation in quality of life and perception of suffering among patients with breast cancer. The study employed a descriptive-analytical study followed by a correlational design. The sample consisted of 42 breast cancer patients using the census method. Data was collected with the help of questionnaires measuring emotional regulation, quality of life and perception of suffering. Data collected were analysed with Pearson correlation and regression analysis. The results indicated a significant positive relationship between emotional self-regulation and the general and functional dimensions of the quality of life. On the other hand, emotional self-regulation inversely correlated with the symptoms dimension of the quality of life. This indicated that a better management and regulation of one's emotions would lead to a better functional quality of life whilst reducing the negative symptoms. It is thus very important that a critical attention is given to helping patient's better deal with their emotions so as to improve their general wellbeing.

Ghaffari, Morowatisharifabad, Mehrabi, Zare, Askari, and Alizadeh (2019) conducted a qualitative study to discover haemodialysis patients coping style with stress. The study was purported to explain the coping styles in haemodialysis patients in relation to stress factors based on transactional model. The study enrolled 22 dialysis patients using the purposive sampling technique. The main data collection method was a deep semi-structured interview which included several key questions. Analysis of data resulted in 8 categories of transactional stress model (problem management, emotional regulation, social support, dispositional coping styles, positive reappraisal, revised goals, spiritual beliefs and positive events) and 3 categories of coping structures (coping efforts, meaning-based coping and moderators). Results showed that a large number of haemodialysis patients used emotion regulation, social support and religious practice to resolve stress induced by illness. It is thus assumed that the use of emotion regulation and Social support in resolving the stresses presented by ESRD would lead to better HRQOL.

Though the above literatures were conducted at different places and with different samples, all results indicated that emotional regulation is very crucial component that must be given much attention. This is because, results showed that emotional regulation has great influence on the quality of life and the general wellbeing of patients with chronic illnesses like CKD. However, there might be other factors that might probably contribute to the influence emotional regulation has on quality of life.

Conceptual Framework

The conceptual framework depicts the proposed connection among the variable under study. In Figure 1, the predictor variables are social support and emotional regulation while HRQoL is the criterion variable. The conceptual framework depicts a relationship between emotional regulation and social support and how they both interact to predict HRQoL among patients with ESRD.

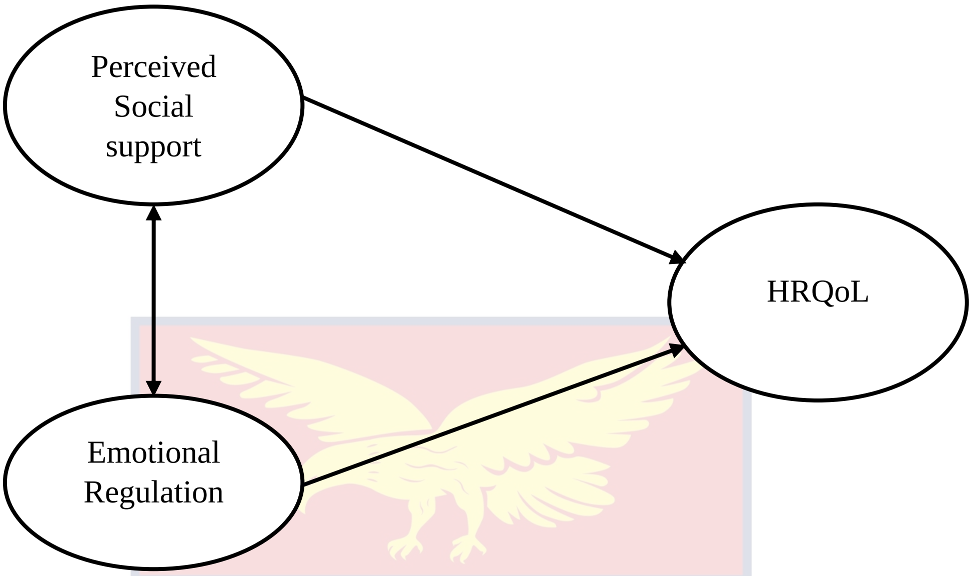

Figure 1: Relationship between Perceived Social Support and Emotional Regulation, as they both predict HRQoL

Chapter Summary

This chapter reviewed related literature that is relevant to this study. This chapter defined the theoretical review of this study emphasizing the Self-regulation model of illness, Health Related Quality of Life Model and the Biopsychosocial model. The chapter also defined the variables in the study and how they are related to each other. It also revealed varying empirical findings of studies done in Africa, Asia and Europe patients and non-patients. The findings from the review are considered relevant in discussing the findings from this study. The next chapter presents the research methodology that guided this study.

In the review it was found that patients with chronic disease received some form of social support. Some patients received high levels of social support whilst others received low levels of social support. Again, the social support came in various forms like tangibles, emotional support and information. Most support came from families and friends as well as significant others. As expected, almost all patients in the review had low health related quality of life.

The review again showed that there are some relationships between social support and health related quality of life. This implies that social support has influence on health related quality of life. Patients who received high levels of social support had good quality of life and vice versa. Again, literature review showed that patients who are able to regulate their emotions properly also had good quality of life while those who were poor with regulating their emotions had poor quality of life. How it is important to know that some other factors could have contributed to these relationships. From the review, it could be seen that both social support and emotional regulation had some relationships with health related quality of life, however, the combination of these two variables and their effect on health related quality of life needs to be explored.

CHAPTER THREE

RESEARCH METHODS

Introduction

This study aimed at assessing the influence of perceived social support and emotional regulation on the health-related quality of life of individuals with end stage renal disease. The previous chapter reviewed theories and concepts related to the study and also empirical studies that have been conducted in the area. This chapter outlines the various research methodologies that were applied in the study.

Research Design

The research design forms the pattern or recipe for a research and specifies the methods used by the researcher to acquire subjects, collect data, analyze data and interpret results. It is a strategy for how a person intends to perform the research (Babbie, 2007; Creswell, 2014). For this study, a quantitative, non-experimental, descriptive approach was used. Measurement and quantification are involved in quantitative research: it is also a comprehensive and regulated design (Borg & Gall, 2006). The researcher tries to obtain complete and accurate information about the characteristics of a particular individual, event or group in descriptive research. It is also an endeavour to identify what occurs and to determine frequencies (Creswell, 2014). In descriptive studies, in order to answer the research question, phenomena under observation need to be described.

This study can be considered a descriptive survey because its purpose is to describe a particular phenomenon, namely that perceived social support and emotional regulation predict the quality of life of patients with End Stage Renal Disease related to health and the role of emotional regulation on the impact. The most appropriate type of method and also the most convenient way to obtain the data is a quantitative approach.

Study Area

The study area was the Cape Coast Metropolis. Cape Coast is the administrative capital of Cape Coast Metropolitan District and Central Region of Ghana. According to the 2010 population census in Ghana, Cape Coast had a settlement population of 169,894 people (Ghana Statistical Services, 2012) and the native language of the people of Cape Coast is Fante. However, most people in Cape Coast can understand simple English language and terminologies. Cape Coast is typically a fishing community but has smaller farming communities in its surrounding communities. The city has a number of educational second cycle institutions like Mfantsipim Senior High School and major tertiary institutions like the University of Cape Coast. Cape Coast is home to the Cape Coast Teaching Hospital (CCTH), commonly referred to as "Interberton" which is also the central regional hospital. The Cape Coast Teaching Hospital was chosen because majority of chronic health cases are referred form neighbouring towns and villages for treatment at the Cape Coast Teaching Hospital. CCTH is the only health facility in the central region that provides management for end stage renal disease using haemodialysis. A $1.3 million Haemodialysis Centre was inaugurated at the Cape Coast Teaching Hospital in the Central Region of Ghana in the year 2013 and was ranked as the second largest haemodialysis facility in the country with 10 dialysis machines hence the reason to select the Cape Coast Teaching hospital for the study.

Population

The target population for this study was all end stage renal disease patients within the Cape Coast Metropolis. This target population included entire set of units for which the study data was to make inferences (Cohen et al., 2011). The accessible population was the patients with end stage renal disease seeking medical treatment at CCTH. At the time the study was conducted, the population was made of 146 individuals with male patients being the majority.

Sample and Sampling Procedure

The study applies the purposive sampling technique. The purposive sampling technique is a form of non-probability sampling which the investigator relies on personal judgements when selecting members of the population to participate in the study (Creswell, 2010; Cooper, 2010). In purposive sampling, the sample is selected based on specific characteristics that members of the population possess (Fink, 2012). Census technique was used for this study. In census, every unit of the population is involved in the study. Information obtained from the dialysis unit of CCTH revealed that there are a total of 146 patients with end stage renal disease. Census technique was considered more appropriate for the study since the researcher sought to include all 146 patients receiving CKD treatment at the CCTH.

Data Collection Instruments

A well-structured questionnaire was used in this study. A questionnaire is a tool consisting of a written list of items for the purpose of collecting data. It requires participants to read, understand and provide written responses to meet the study's goals (Creswell, 2014). The questionnaire was selected because it is less costly and provides more anonymity or privacy, especially when it involves sensitive issues. It is also helpful when a large sample is examined (Cohen et al., 2011). Given these advantages, the questionnaire has several limitations that include low response rates, lack of opportunity on the researcher's journey to explain problems that are not obvious to respondents (Kothari, 2004). The questionnaire for the study consisted of adapted versions of various standardized and non-standardized inventories, with the aim of eliciting various forms of information from the research participants. The instruments that were used are further explained below:

Health Related Quality of Life Short Form-12 (HRQoL-SF-12)

An adapted form of the HRQoL-SF-12 was used in collecting data on health-related quality of life. The HRQoL-SF-12 is a health-related quality of life questionnaire consisting of twelve questions and two sub-scales that measure quality of life in eight health domains to assess physical and mental health. Physical health-related domains include General Health, Physical Functioning, Role Physical, and Body Pain. Mental health-related scales include Vitality, Social Functioning, Role Emotional, and Mental Health. The instrument is measured on a 5-point Likert-type scale ranging from 1 to 5 (1= None of the time, 2= A little of the time, 3= Sometimes, 4= Most times and 5= All the time). While the lowest possible score on the HRQoL-SF-12 is 12, the highest possible score is 60. Higher scores depict higher health-related quality of life. The instrument is a shorter version of the HRQoL-SF-36 developed by Jenkinson, Layte, Jenkinson, Lawrence, Petersen, Paice and Stradling (1997). The instrument has been used in several empirical studies (de Tejada, Escobar, Herrera, García, Aizpuru & Sarasqueta, 2010). The scale has been proven to have a high concurrent validity of .80 with the HRQoL-SF-36 in a study by Learmonth, Hubbard, McAuley and Motl (2014). Also, the HRQoL-SF-12 has been observed to have a Cronbach alpha ranging from .73 to .90 across American, Hispanic and Asian populations (Busija, Pausenberger, Haines, Haymes, Buchbinder & Osborne, 2011; Newcombe, Sheffield & Chang, 2013; Kim, Jo, Ahn, Ock, Shin & Park, 2014). The reliability coefficient from the sample involved in the study was .88, which signifies a high internal consistency for the HRQoL-SF-12.

Multidimensional Scale of Perceived Social Support (MSPSS)

An adapted form of the Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet, Dahlem, Zimet and Farley (1988) would was to collect data on social support. MSPSS is made up of 12-item self-report that measures the social support level of an individual: medium, moderate or low (Zimet et al., 1988). The scale has three subscales and the elements are linked to the source of social support. They are family, friends and significant others. The MSPSS is a 7-point Likert scale and the Likert responses on MSPSS ranges from 1 to 7 (1= Very Strongly Disagree, 2= Strongly Disagree, 3= Mildly Disagree, 4= Neutral, 5= Mildly Agree, 6= Strongly Agree and 7= Very Strongly Agree). Both subscale scores and composite scores can be used in interpretation. Higher scores on the MSPSS depict higher levels of social support (Zimet et al 1988). According to Bagherian-Sararoudi, Hajian, Ehsan, Sarafraz and Zimet, (2013), the MSPSS has a Cronbach alpha of .91 and a test retest reliability of .84. The instrument also has moderate construct validity (Zimet et al., 1988). Again, Zhou et al. (2015) state that MSPSS has an overall Cronbach alpha of .90 (subscales range: .81 to .83) when applied to an Asian sample and also has a convergent validity of .68 when administered to a Chinese sample. The MSPSS has acceptable reliability and convergent/discriminant validity, easy to understand and complete and is appropriate for this study. From the sample involved in the study, the reliability coefficient obtained was .78, thus implying a high internal consistency for the MSPSS.

The Emotional Regulation Questionnaire (ERQ)

An adapted version of the Emotional Regulation Questionnaire (ERQ) was used to gather data on emotional regulation of the respondents. The Emotion Regulation Questionnaire (Gross & John, 2003) is intended to evaluate and measure two strategies for emotion regulation; the constant tendency to control emotions through cognitive reappraisal or expressive suppression. Respondents are invited to consider statements about their emotional life, especially how they control or regulate emotions. The scale is made up of 10-items and measured on a 6-point Likert scale, ranging from 1 to 6 (1= Strongly Disagree, 2= Disagree, 3= Mildly Disagree, 4= Mildly Agree, 5= Agree and 6= Strongly Agree). The lowest score on the ERQ is 10, while the highest score is 60. Higher scores on the ERQ mean better emotional regulation. The ERQ has been used to assess emotional regulation in both clinical and non-clinical samples (Chen, Xu, Jing & Chan, 2011). On the

ERQ, higher scores imply that the individual has higher level of emotional regulation (Gross & John, 2003). The ERQ had been proven to have a test-retest reliability of .77 and a Cronbach alpha of .84 among patients in Italy (Balzarotti, John & Gross, 2010). Higher reliability has been found in European and American populations (Sala, Molina, Abler, Kessler, Vanbrabant & van de Schoot, 2012; Cabello, Salguero, Fernández-Berrocal & Gross, 2013). Reliability analysis from the sample involved in the study revealed a reliability coefficient of .71, which communicates a good internal consistency for the emotional regulation questionnaire.

Pilot-testing of Instrument

In order to determine the reliability of the data collection instrument, it was pilot-tested. Thabane et al. (2010), claim that pilot-testing is a small trial, where a few respondents respond to a research instrument and comment on the viability and nature of instrument. Pilot-testing was done with 17 CKD patients receiving treatment at the Effia-Nkwanta Hospital in Takoradi. The 17 patients included in the pilot testing included 12 males and 5 females, with an average age of 50.7. These 17 participants were only used in the pilot-testing of the instrument and were not included in the sample for the study. Results from the reliability analysis of the various instruments used are shown in Table1.

Table 1- *Reliability Test from Pilot-testing of Research Instruments*

Scale	Cronbach alpha
Multidimensional Scale of Perceived Social Support	.796
The Emotion Regulation Questionnaire	.762
Health Related Quality of Life Short Form-12	.841

Source: Field survey, 2020

The results in Table 1 show the Cronbach's alpha coefficients of the instruments used in the research. The results from the reliability analyses reveal that all the instrument have high internal consistency (above .70) and thus imply that instruments are reliable.

Data Collection Procedure

An introductory letter and ethical clearance were acquired from the Department of Education and Psychology, and the Institutional Review Board in the University of Cape Coast respectively and delivered to the Cape Coast Teaching Hospital. Also, ethical clearance and approval were acquired from the Ethical Review Board of the Cape Coast Teaching Hospital and the unit involved. After the researcher was taken through the required procedures, contact was made with the head of the dialysis unit to be allowed to conduct the survey with the patients during clinic hours. The researcher briefly introduced the topic, the purpose of the research and the importance of the study to the participants. The participants were assured of confidentiality and voluntary participation. The questionnaires were distributed to patients who accepted to participate in the survey. Patients who could not respond to the questionnaire on their own were assisted by the researcher. Six respondents were unable to respond to the questionnaire in the English language, thus they were interviewed in the local Twi language and questionnaires were filled on their behalf by the researcher. The acquired data was kept confidential. There was no identification information on the questionnaire thus the questionnaires were filled anonymously by the participants. Participants took between 25 to 35 minutes to complete the questionnaire. Data collection took approximately 6 weeks (June to July 2020). No data collection assistants were required since the researcher took the data personally. With a target of 146 respondents, only 144 individuals participated in the study, giving 98.6% response rate. This rate was deemed adequate for analyses in quantitative study (Saunders & Thornhill, 2007).

Data Processing and Analysis

When data collection was completed it was important to subject the data to statistical analyses and interpretation. Data collected from the survey were organised and categorised using the Statistical Package for Social Science (SPSS version 26). The total score of responses on the various inventories were calculated based on the interpretations of the various developers. Composite scores and sub-scale scores of the various inventories were calculated in order to aid parametric data analysis. Statistical analysis consisting both descriptive and inferential analyses of the responses were provided.

Data on research questions 1, 2 and 3 was analysed using descriptive analyses, more specifically frequencies and percentages as well as means and standard deviations where applicable. This was so since the researcher sought to determine the levels of social support, common types of social support and the level of health-related quality of life of respondents. Research hypothesis 1 was analysed with Pearson Product Moment Correlation Coefficient, in order to examine the relation between perceived social support and emotional regulation. Research hypothesis 2 was tested using multivariate regression. This is because the researcher aimed at determining how social support predicted HRQoL. Since social support has three dimensions (family, friends and significant other) and HRQoL has two dimensions (physical health and mental health) multivariate regression was considered to be most appropriate. This is because multivariate regression shows the individual contribution of each dimension in predicting dimensions of HRQoL among the respondents. Research hypothesis 3 was also tested using multivariate regression. The researcher again aimed to assess how emotional regulation predicts HRQoL among patients with ESRD. With emotional regulation also having two sub-scales (cognitive reappraisal and expressive suppression), multivariate regression was deemed the most suitable. This is because multivariate regression shows the individual contribution of each sub-scale in predicting the two dimensions of HRQoL among the participants. All statistical tests were conducted at .05 level of significance.

Chapter Summary

This chapter examined the research methodology employed in the study. The chapter looked at the research design, population, sample and sampling procedure, instruments, data collection procedure and data analysis. The study used the descriptive survey research design. The estimated accessible population was 146, consisting of patients under the main health condition under study. Using the census technique, the study included all 146 ESRD patients receiving treatment at CCTH. The instrument used was the questionnaire which comprises various psychological tests and inventories. Data collection was done systematically. Data analysis included descriptive approaches such as means, standard deviations, percentages and frequencies. Further statistical analysis included inferential approaches specifically multivariate regression.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This research focused on investigating social support and emotional regulation as predictors of health-related quality of life among patients with end-stage renal disease. The preceding chapter outlined the research methods that were applied in the study. This chapter is a presentation of the results from the data collected from the field. The findings from the results are also discussed as related to previous literature.

The results from the analyses of data have been presented. It covers the description of the sample, results from the data analyses on the research questions, and results from the hypothesis tested. Tables have been presented to support results and findings.

Description of Sample (Demographic Information)

This section describes the demographic information of the respondents involved in the study. Demographic information included, gender, age, level of education and number of year on dialysis.

Gender of Respondents

The gender distribution of respondents in the study is shown in Table 2.

Table 2- *Gender Distribution of Respondents*

Gender	Frequency	Percentage (%)
Male	75	52.1
Female	69	47.9
Total	144	100.0

Source: Field survey, 2020

Table 2 shows that more than half of the respondents were males, representing 52.1% of the total sample size.

Age of Respondents

The age of respondents was thought to be important to the study, this is because Mallappallil, Friedman, Delano, McFarlane and Salifu, (2014) suggest the age is a factor in the development of CKD. Therefore the researcher sought to establish the mean age of the respondents. The average age of respondents in this study was approximately 57 years (*SD* = 18.4). This is considered significant since age is a factor in the development of CKD.

Level of Education

The level of education of respondents is shown in Table 3.

Table 3- *Level of Education of Respondents*

Level of education	Frequency	Percentage (%)
No formal education	4	2.8
Basic education	13	9.0
Secondary education	66	45.8
Tertiary education	61	42.4
Total	144	100.0

Source: Field survey, 2020

From Table 3 it is obvious that most of the participants have some form of formal education. However 4 (2.8%) of the respondents had no formal education.

Number of Years on Dialysis

Table 4 shows the distribution of respondent according the number of years they have been on dialysis treatment

Table 4- *Number of Years on Dialysis*

Number of years	Frequency	Percentage (%)
Less than 1 year	103	71.5
1 to 5 years	40	27.8
More than 5 years	1	0.7
Total	144	100.0

Source: Field survey, 2020

From Table 4, it is obvious that more ath two-thirds (71.5%) of the respondents have been on dialysis treatment for less than a year. Meanwhile only one respondent has been on dialysis treatment for more than five years.

Analysis of Data on Research Questions

The results from analysis of data on the three research questions in the study have been presented. Answering the research questions was important to meeting the objectives of the study.

Research question 1: What is the level of perceived social support of patients with ESRD?

The first research question sought to examine the level of social support among the patients with ESRD involved in the study. Data on this research question was analysed using frequencies and percentages. Table 5 show the level of social support among the participants. Level of social support was categorised into low, moderate or high. Level of social support is shown in Table 5.

Table 5- *Level of Perceived Social Support among Patients with ESRD*

Social Support	Score range	Frequency	Percentage (%)
Low	1.0 – 24.0	13	9.0
Moderate	25.0 – 49.0	99	68.8
High	50 and above	32	22.2
Total		144	100.0

Source: Field Survey, 2020

From Table 5, more than two-thirds (68.8%) of the respondents in the study had a moderate level of perceived social support. High level of perceived social support was reported by 32 (22.2%) of the respondents. However, low level of perceived social support was found in only 9% of the respondents in the study. Based on the results, it is apparent that while many patients with ESRD have normal to high level of perceived social support, low level of perceived social support is also common.

Research question 2: What is the most common type of perceived social support available to patients with ESRD?

Research question two aimed to investigate the most common type of perceived social support available to the patients with ESRD involved in the study. Mean and standard deviation was used to analyse data on this research question. Perceived social support was assessed under three dimensions: family, friends and significant other. Thus the dimension with the highest mean was considered to be the most common type of perceived social support available to patients with ESRD. Results of the most common type of perceived social support is shown in Table 6.

Table 6- *Common Type of Perceived Social Support among Patients with ESRD*

Social Support	Score range	Mean	SD
Family	1.0 – 24.0	16.15	4.49
Friends	1.0 – 24.0	9.97	4.69
Significant Other	1.0 – 24.0	17.99	4.43

Source: Field Survey, 2020 SD= Standard deviation N= 144

Table 6, shows that “Significant other” M= 17.99 (*SD*= 4.43) is the most common form of perceived social support available to patients with ESRD. Family support was the next most common form of perceived social support with a mean of 16.15 (*SD*= 4.49). It is also evident that support from friends is the least used type of perceived social support among patients involved in the study. The results communicate the idea that patients with ESRD would rather rely on significant others such as spouses, and family members for support rather than friends.

Research question 3: What is the level of HRQoL of patients with ESRD?

This research question was meant to examine the level of HRQoL among patients with ESRD involved in the study. HRQoL was measured continuously under two domains: Physical Health and Mental Health. Means and standard deviation were used to analyse data on this research question. A standard mean of 18 was set for each domain (physical health and mental health) of HRQoL. The mean of each was compared to the set standard (18). Thus a mean above 18 was considered as above average HRQoL while a mean below 18 was regarded as below average HRQoL. The results on level of quality of life are shown in Table 7.

Table 7- *Level of HRQoL among Patients with ESRD*

HRQoL	Score range	Mean	Standard deviation
Physical Health	1.0 – 30.0	19.03	3.06
Mental Health	1.0 – 30.0	19.27	2.76
Mean of means & SD		38.30	5.02

Source: Field Survey, 2020 N= 144

The results in Table 7 shows that the patients with ESRD involved in the study generally have above average HRQoL (*M*= 38.30, *SD*= 5.02). Above average HRQoL was also found in the two domains of HRQoL, with physical health component obtaining a mean of 19.03 (*SD*= 3.06) and the mental health component obtaining a mean score of 19.27 (*SD*= 2.76). Although the participants reported above average HRQoL, the mean scores obtained on both domains were a little above the set standard (18).

Analysis of Data on Research Hypotheses

The study was guided by two research hypotheses. This section under the results presents the results from the testing of these research hypotheses.

Research Hypothesis 1

H_0: There is no statistical relationship between perceived social support and emotional regulation

H_1: There is a statistical relationship between perceived social support and emotional regulation

The first research hypothesis sought to examine the relationship between perceived social support and emotional regulation. Pearson Product Moment Correlation Coefficient was used to examine this relationship. The results from the correlational analysis are shown in Table 8.

Table 8- *Correlation between Perceived Social Support and Emotional regulation*

	Variable	Perceived social support	Emotional regulation
Correlation (r)	Perceived social support	1.000	
	Emotional regulation	.134	1.000

Source: Field Survey, 2020 p =.22 df= 142 N= 144

Table 8 shows the results from the correlational analysis between perceived social support and emotional regulation. The results reveal that there is no significant relation between perceived social support and emotional regulation r(142) = .134, *p* =.220. Although the results depict a positive relationship between perceived social support and emotional regulation; that as scores for perceived social support increase that of emotional regulation increase, this relationship is not statistically significant. Hence perceived social support is not significantly related to the emotional regulation of patients with ESRD.

Research Hypothesis 2

H_0: Perceived social support is not a significant predictor HRQoL in patients with ESRD

H_1: Perceived social support is a significant predictor of HRQoL in patients with ESRD

Research hypothesis 2 focused on examining how perceived social support predicts HRQoL. Perceived social support was the predictor while HRQoL was the criterion variable. Perceived social support has three subscales: significant others, family and friends. HRQoL also has two subscales: physical health and mental health. With regard to the nature of variables and how they were measured, the Multivariate regression was considered appropriate in testing this hypothesis. Tables 9 and 10 respectively show the results from the descriptive statistics of the criterion variables and the parameter estimates of the multivariate regression analysis that show how perceived social support predicted HRQoL

Table 9- *Descriptive Statistics for Physical Health and Mental Health*

Variable	Mean	Standard. Deviation
Physical Health	19.03	3.059
Mental Health	19.27	2.764

Source: Field Survey, 2020 N= 144

Table 9 shows the descriptive statistics of the criterion variable. From Table 9, physical health has mean of 19.03 (*SD*= 3.06), while mental health obtained a mean of 19.3 (*SD*= 2.8)

Table 10- *Parameter Estimates for Perceived Social Support on HRQoL*

Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared
Physical health	SO	.494	.087	5.693	.000	.187
	FAM	.493	.094	5.241	.000	.163
	FRDS	.137	.084	1.626	.106	.018
Mental health	SO	.531	.074	7.130	.000	.265
	FM	.484	.081	5.998	.000	.203
	FRDS	.123	.072	1.699	.091	.020

Source: Field Survey, 2020
Note: SO- Significant Other, FAM- Family, FRDS- Friends

Table 10 shows the details of the regression coefficient for how perceived social support (significant others, family and friends) predicted HRQoL (physical health and mental health). Table 10 contains the unique contribution of significant others, family and friends on the two dimensions of the criterion variable (HRQoL). From the results in Table 10, significant other dimension of perceived social support is a significant predictor of the physical health dimension of HRQoL (*B* = .494, *t* = 5.69, *p* < .01, partial eta squared = .187). The significant other dimension of perceived social support was also a significant predictor of the mental health dimension of HRQoL (*B* = .531, *t* = 7.13, *p* < .01, partial eta squared = .265). Table 10 also shows that the family dimension of perceived social support was a significant predictor of the physical health dimension of HRQoL (*B* = .493, *t* = 5.24, *p* < .01, partial eta squared = .163). The family dimension again was a significant predictor of the mental health dimension of HRQoL (*B* = .484, *t* = 5.59, *p* < .01, partial eta squared = .203). On the other hand, the friends dimension of social support did not significantly predict the mental health dimension of HRQoL (*B* = .137, *t* = 1.62, *p* > .05, partial eta squared = .018) and the physical health dimension of HRQoL (*B* = .123, *t* = 1.69, *p* > .05, partial eta squared = .020). From the results, it can be deduced perceived support from significant others and family members is more likely to enhance the health-related quality of life on patients with ESRD. However, support from friends is less likely to improve quality of life of patients with ESRD. Since two dimensions of perceived social support (significant other and family) significantly predicted the HRQoL of patients with ESRD, the null hypothesis that perceived social support is not a significant predictor of HRQoL among patients with ESRD is rejected. The alternate hypothesis is partially supported

Research Hypothesis 3

H_0: Emotional regulation is not a significant predictor of HRQoL in patients with ESRD

H_1: Emotional regulation is a significant predictor of HRQoL in patients with ESRD

The third research hypothesis sought to predict HRQoL based on emotional regulation. Emotional regulation was the predictor with HRQoL as the criterion variable. Emotional regulation has two subscales: cognitive reappraisal and expressive suppression. HRQoL also has two subscales: physical health and mental health. The nature of variables and how they were measured, it was required that a Multivariate multiple regression test be conducted. Multivariate regression assessed how the components of emotional regulation: cognitive reappraisal and expressive suppression predicted the components of HRQoL: physical health and mental health. The results from the descriptive statistics of the criterion variables and the parameter estimated of the regression analysis that show how emotional regulation predicts HRQoL are shown in Table 11 and 12 respectively.

Table 11- *Descriptive Statistics for Physical Health and Mental health*

Variable	Mean	Standard. Deviation
Physical Health	19.03	3.059
Mental Health	19.27	2.764

Source: Field Survey, 2020

Table 11 shows the descriptive statistics of the criterion variable. From Table 11, physical health has mean of 19.03 (*SD*= 3.06), while mental health obtained a mean of 19.3 (*SD*= 2.8).

Table 12- *Parameter Estimates for Emotional Regulation on HRQoL*

Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared
Physical health	CR	.494	.088	5.608	.000	.181
	ES	.471	.086	5.451	.000	.173
Mental health	CR	.511	.088	5.807	.000	.192
	ES	.465	.086	5.381	.000	.169

Source: Field Survey, 2020
Note: CR- Cognitive Reappraisal, ES- Expressive Suppression

The details of the regression coefficients for how emotion regulation (cognitive reappraisal and expressive suppression) predicted HRQoL (physical health and mental health) are shown in Table 12. Table 12 displays the specific contribution of cognitive reappraisal an expressive suppression on the two dimensions of the criterion variable (HRQoL). From the results in Table 12, cognitive reappraisal dimension of emotional regulation is a significant predictor of the physical health dimension of HRQoL (*B* = .494, *t* = 5.60, *p* < .01, partial eta squared = .181). The cognitive reappraisal dimension of emotional regulation was also a significant predictor of the mental health dimension of HRQoL (*B* = .511, *t* = .580, *p* < .01, partial eta squared = .192). Table 14 also shows that the expressive suppression dimension of emotional regulation was a significantly predicted the physical health dimension of HRQoL (*B* = .471, *t* = 5.45, *p* < .01, partial eta squared = .173), and also the mental health (*B* = .465, *t* = 5.31, *p* < .01, partial eta squared = .169) dimension of HRQoL. The results communicate the idea that emotional regulation is likely to augment the health-related quality of life on patients with ESRD. As the two dimensions emotional regulation (cognitive reappraisal an expressive suppression) significantly predicted the HRQoL of patients with ESRD, the null hypothesis that emotional regulation is not a significant predictor of HRQoL among patients with ESRD is rejected.

Modified Conceptual Framework Based on the Findings of the Study

From findings of the study, the conceptual framework has been adapted to suit the results of the study. The findings of the study revealed that perceived social support is not significantly related to emotional regulation. Again, from the finding of the study, only two dimensions of perceived social support (family and significant other) significantly predicted HRQoL, while emotional regulation in general also significantly predicted HRQoL. The revised conceptual model is depicted in Figure 2.

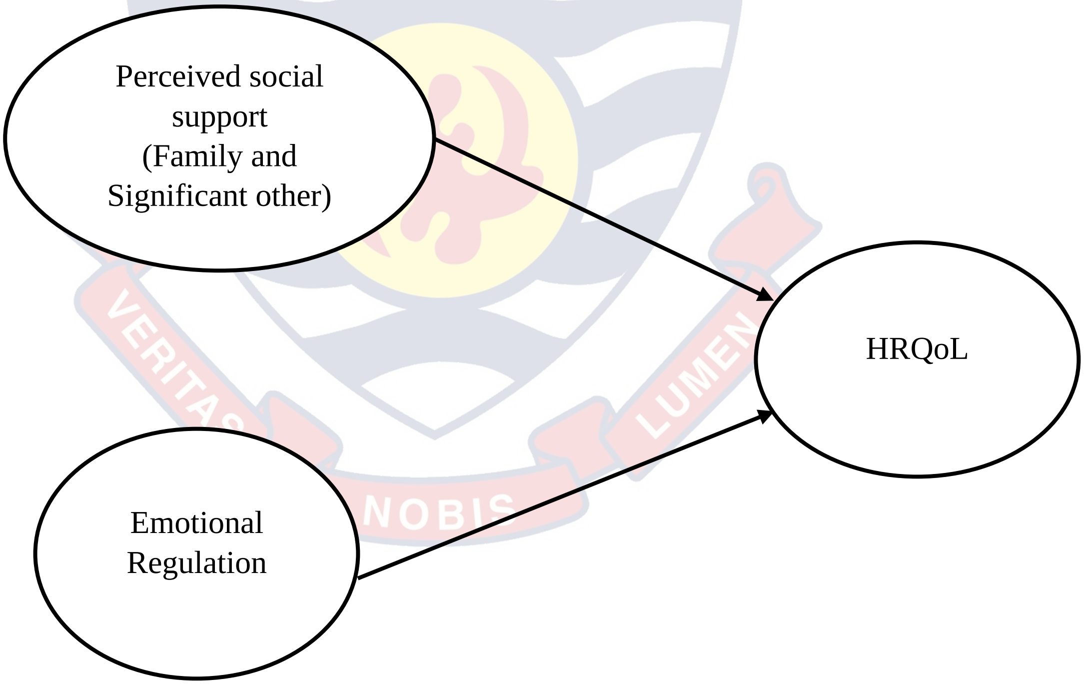

Figure 2: Perceived Social Support and Emotional Regulation and Predictors of HRQoL among Patients with ESRD

Discussion of Research Findings

The findings of the study are discussed in relation to previous empirical literature. The discussion justifies the findings of the study and also outlines areas where the findings from this study are consistent with other research findings as well as areas where there are discrepancies.

Level of Perceived Social Support of Patients with ESRD

Social support is seen as an important aspect of human interaction in the enhancement of quality of life among with and without health related conditions. Generally, the results of the study revealed that moderate to high level of perceived social support was found in majority of the patients with ESRD (see Table 5). Nonetheless, low level of social support was also found in some of the patients. Social support is considered as one of the ways to overcome challenges related to chronic health conditions such as chronic kidney disease. Again, it is possible that social support among patients with ESRD moderate due to the nature of their health condition. The nature of ESRD requires that patients are cared for by their family or caregivers on a regular basis. Since social support is high in patients with ESRD, in can be deduced that patients are able to share their frustration with individuals who care and support them in their moment of need.

Previous studies have also reported high levels of social support among patients with CKD and ESRD. These previous findings are somewhat in line with the findings from this study. For instance a study by Plantinga et al. (2010) explored the association between social support and outcome incidence in dialysis patients in the USA and revealed that social support in both peritoneal dialysis and haemodialysis were significantly higher level of social support. Alexopoulou et al. (2016) also found that levels of social support were higher in patients on dialysis while assessing the effect social support on the quality of life of dialysis patients in Greece. Again the findings from this study is supported by the work of Silva et al. (2016) who measured the social support of adults and elderly with chronic kidney disease (CKD) on dialysis in Brazil. Analysis of data gathered on social support by Silva and colleagues showed that patients report receiving a moderate to high level of social support from family and friends.

Although some research findings are consistent with the findings of this study, there are some studies that report divergent findings. Studies by Ahrari et al. (2014) that focused on the relationship between social support and adherence of dietary and fluids restrictions among haemodialysis patients in Iran, revealed that patients with kidney related problems report below average social support. In the same vein, a cross-sectional a study by Ahrari et al. (2016) that investigated anxiety and perceived social support and the relationship between them among patients under haemodialysis also revealed findings that are contradictory of the findings of this study. Ahrari et al. (2016) found that more than half of patients received below average level of perceived social support. There is the possibility that contextual factors and variation and the instruments used could account for the discrepancies in the findings of this study and that of Ahrari et al. (2014) and Ahrari et al. (2016). Although, the findings are different, it highlights the importance of social support and how important it is to provide social support to patients with chronic health conditions like ESRD.

Common Types of Perceived Social Support available to Patients with ESRD

Examining the common form of perceived social support available patients with ESRD was one of the main objectives of this study. From the results of the study, it was evident that perceived support from family and significant others were the common form of perceived social support available to the patients with ESRD involved in the study (see Table 6). It was again found that the participants in the study sparsely rely on support from friends. Depending on support from family and significant others is understandable. This is because patients with chronic health conditions would rather seek for support from family members such as siblings, children and parents, and significant others like spouses, fiancés, partners and religious leaders than from friends. This is so since, patients are likely to find close relative such family and significant others more trustworthy and able to cater for their needs during their time of need.

The finding that the perceived support from family and significant other are most common type of social support available to patients with ESRD has also been observed by previous empirical literature. For instance, in an attempt to explore the association between social support and outcome incidence in dialysis patients in the USA, Plantinga et al. (2010) found that family support and tangible support were the most common form of social support available patients with CKD. Alexopoulou, et al. (2016) also assessed the effect of social support on the quality of life of dialysis patients in Greece and confirmed that support from family and significant others were common of these. However just like the findings of this study, it was identified that support from friends was less received. Silva et al. (2016) also assessed the social support of adults and elderly with CKD on dialysis in Brazil and came out with similar findings. Silva et al. (2016) found that patients got most of their support from the family and the persons living with them, while others got support from significant other such as spouses. Davaridolatabadi and Abdeyazdan (2016) after investigating anxiety and perceived social support and the relationship between them among patients under haemodialysis, also found that patients under haemodialysis rely on family members and significant other for emotional, information and tangible support.

Although the results from this study and other previous empirical studies suggested that patients with ESRD hardly rely on friends for social support, other researchers point out that patients with other forms of health conditions rely on support from friends. For instance Taylor, Chae, Lincoln and Chatters (2015) revealed that support from friends, is common among patients with chronic depressive disorders. Powers, Ressler and Bradley (2009) also confirm that support from friends is common among victims of domestic abuse. The discrepancies in these findings and that of this study can be related to the differences in the conditions studied as well as the nature and severity of ESRD as compared to chronic depression and domestic abuse.

Level of HRQoL of Patients with ESRD

Health-related quality of life is an important aspect that has been the focus of psychological research in recent years. HRQoL was the main criterion variable of interest in the study, and was assessed under two main domains: physical health and mental health. The findings of the study reveal that there is an above average HRQoL among patients with ESRD. This above average

HRQoL was found in both physical health and mental health domains although HRQoL was higher in the mental health domain (see Table 7). This above average HRQoL can be said to imply that the patients with ESRD involved in this study have better quality of life.

From previous studies, HRQoL has been found to be poor among patients with various kinds of chronic health conditions including ESRD. An example is the work of Pakpour et al. (2010) who studied quality of life of 225 Iranian patients on haemodialysis and found that these patients have poor quality of life. The low and poor QoL of patients with kidney related conditions was also confirmed by Finnegan-John and Thomas (2012) who studied QoL qualitatively among patients with ESRD. Further studies conducted by Nankeu et al. (2014), Wan et al. (2015), Pei et al. (2019) and Tannor et al. (2019) all concur that that HRQoL is significantly lower as compared to individuals in the general population and other individuals with other non-chronic health conditions. The findings of these previous studies are in contrast with the outcomes of this study in the sense that this study reports above average HRQoL among patients with ESRD. There are a variety of factors that may be responsible for the inconsistencies in the findings of this study and that of previous research. They could include contextual variations: differences in the study areas as well as the lack of uniformity in the data collection instruments used.

The above average HRQoL of patients with ESRD involved in this study could be associated to the fact that perceived social support they receive from family and significant others is high. Although this study does not reveal any evidence that this is true, several studies have pointed out that high social support has the capacity to improve the quality of life and life satisfaction of patients with terminal health (Costa et al., 2017) conditions like ESRD.

Relationship between Perceived Social Support and Emotional Regulation

As part of the objectives of the study, it was important to examine the relationship between perceived social support and emotional regulation among patients with ESRD. The findings of the study revealed that perceived social support is not significantly associated with emotional regulation. Thus, support from family, friends and significant others of patients with ESRD involved in this study does not help in managing and controlling the emotions of the patients.

This finding is considered to be contrary to the findings of Picardi et al (2005) which revealed a positive relationship between social support and emotional regulation. The findings from Zhou et al. (2016) also show that social support has a significant relationship with emotional regulation, which is in contrast of the findings of this study. However, the work Montes-Berges and Augusto (2007) that sought to examine the relationship between social support and emotional regulation among mental health nursing students in Spain outlines findings that are somewhat similar to the findings of this study. It is possible that how the variables were measured account for the difference in the findings of this study and previous research. Again, another factor that could account the discrepancies in the findings of this study and that of Picardi et al. (2005) and Zhou et al. (2016) is contextual difference that may have accounted for social support and emotional regulation. Although there was no link between social support and emotional regulation as shown in this study, the importance of social support and emotional regulation cannot be understated.

Perceived Social Support predicts HRQoL in Patients with ESRD

Social support in this study was conceptualised as perceived support to patients given with ESRD by family, friends and significant other. This perceived social support was deemed vital in enhancing HRQoL of patients. Generally, the findings of the study suggested that social support serves as an antecedent to HRQoL among patients with ESRD. Further enquiry revealed that support from family members and significant others are the major forms of social support that influence the two domains of HRQoL (physical health and mental health). Support from friends was not found to be a major contributor of HRQoL among the patients with ESRD involved in the study. This is understandable since individuals with chronic health conditions are more likely to rely on family and other significant individuals for support when needed. Again, those with terminal health conditions may sometimes want to maintain some form of privacy and thus are less likely to turn to their friends for support. However, it is evident that patients with good social support have better HRQoL; this also implies that patients with lower social support may have poor HRQoL.

Social support has been confirmed by previous studies as a major factor in improving quality of life among patients. An example is the study by Vazquez et al. (2005) who examined the relationship among psychosocial status (depressive symptoms, trait anxiety, and social support) and HRQOL and indicated that patients with good social support are likely to have better quality of life. Plantinga, et al. (2010) also observed that social support and quality of life are positively correlated among patients with chronic health condition. In the same vein, recent researches by Alexopoulou et al. (2016) and Pan et al. (2019) are in agreement with the finding of this study as they also communicate the notion that social support likely to enhance the HRQoL among patients with ESRD.

Contrary to the finding of this research as well as other previous studies, Ibrahim et al. (2015) who examined the influence of personality and social support on HRQoL in patients with CKD revealed conflicting findings. Ibrahim and colleagues found that social support had no influence on HRQoL; however personality influenced HRQoL of patients with CKD. It is possible that certain contextual factors and differences in the samples used in the studies account for the variations in the findings of this study and that of Ibrahim et al. (2015).

Emotional Regulation Predicts HRQoL in Patients with ESRD

Emotional regulation was one of the major variables of this research, and it was important to examine its relevance in predicting HRQoL among the patients with ESRD involved in this study. Basically, the findings of the study pointed out that emotional regulation is also significant and positive predictor of both the psychical and mental health domains of HRQoL. This implies that patients who are able to control and regulate their emotions are likely to have better HRQoL, while those who are unable may have to suffer adverse physical and mental health consequences. Thus having the ability to check and manage one’s own emotions could go a long to improve one’s health in general. The findings suggest that emotional relevance of emotional regulation cannot be understated since it has also been found to be effective in dealing with psychological problems such as depression and stress.

Just as the outcome of this study reveals that emotional regulation could lead to better HRQoL in patients with ESRD, other previous studies have also been able to come out with similar findings. Gillanders et al. (2008) who explored the relationship between two emotion regulation strategies (reappraisal and suppression) and their impact on patient well-being among 106 haemodialysis patients, confirms that better emotional regulation strategies offer protection from stressors and leads to greater well-being among patients. Likewise, Barberis et al. (2017) who also focused on the relationship between coping, emotion regulation and quality of life of patients on dialysis found that ability to regulate emotions results in better psychological health. Furthermore, the findings of the study concur with findings and conclusions made by Nikmanesh et al. (2017) and Ghaffari et al. (2019) who contend that proper emotional regulation helps improve the HRQoL and satisfaction among breast cancer and CKD patients respectively.

Currently, there are no known studies that put across the idea that emotional regulation is not relevant in coping with adverse situations, promoting psychological health and enhancing HRQoL among patients. This goes to prove that emotional regulation is very important for both individuals with and without health conditions since it has positive impact on general health and well-being.

Chapter Summary

This chapter presented the analyses and findings from the data collected from the field. The data analysed consisted of both descriptive and inferential statistical procedures. From the findings, moderate to high social support was reported by majority of respondents involved in the study. Again, it was evident that majority of the respondents rely on support from family members and significant others. The finding further revealed that patients with ESRD involved in the study have above average HRQoL. Further regression analyses revealed that only family and significant other components of social support significantly predict HRQoL, while emotional regulation also significantly predicted HRQoL. The outcomes of the study were discussed in relation with previous empirical literature to outline areas where the findings concur as well as areas where there are inconsistencies. The summary, conclusions and recommendations based on the findings are presented in the final chapter.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview

This study was driven by the overall purpose of investigating HRQoL among patients with ESRD. It explicitly focused on examining how social support and emotional regulation predicts the HRQoL in patients with ESRD. Precisely, the study sought to:

1. Investigate the level of perceived social support of patients with ESRD
2. Assess the most common type of perceived social support available to patients with ESRD
3. Examine the level of HRQoL of patients with ESRD
4. Examine the relationship between perceived social support and emotional regulation.
5. Determine how perceived social support predicts HRQoL in patients with ESRD
6. Determine how emotional regulation predicts HRQoL in patients with ESRD

The study was purely quantitative and specifically employed the descriptive survey design. However, the study did not apply any sampling procedure since all 146 patients with ESRD were included in the study. Out of all the 146 potential participants, 144 patients took part in the study. Participants were required to respond to a 38-item questionnaire that measured the variables in the study. Adapted versions of the Health Related Quality of

Life Short Form-12 (HRQoL-SF-12) by Jenkinson et al. (1997), Multidimensional Scale of Perceived Social Support (MSPSS) by Zimet et al. (1988) and Emotion Regulation Questionnaire by Gross and John (2003) were used to gather data on health-related quality of life, perceived social support and emotional regulation. Data collected was analysed using descriptive statistics such as frequencies and percentages, and means and standard deviations, while inferential statistical approaches included multivariate regression.

Summary of Findings

The following were findings of the study:

1. Based on the results, it was found that majority of the patients with ESRD in this study had moderate to high level of perceived social support. Although over half of the patients with ESRD involved in the study had moderate to high social support, a handful of respondents reported low perceived social support.
2. Again, it was found that the most common forms of perceived social support available to patients with ESRD was support from family members and significant others. However, it was evident that support from friends was not very common for patients with ESRD involved in this study.
3. The findings of the study also revealed that the patients with ESRD involved in this research have above average HRQoL in both the physical health and mental health domains. Even though the patients are above average both domains of HRQoL, it was clear that the

respondents reported higher mental health quality of life than physical health aspect of quality of life.

4. From the results of the study, it was also found that there was no significant relationship between social support and emotional regulation among patients with ESRD involved in this study.
5. In general perceived social support was found to be a significant predictor of HRQoL. Further enquiry revealed that perceived support from family and significant others were significant predictors of both physical and mental health domains of HRQoL among patients with ESRD in this study. Friends support however, did not significantly predict HRQoL in ESRD patients.
6. Also, emotional regulation significantly predicted HRQoL in the participants involved in this study. Both subscales of emotional regulation: cognitive reappraisal and expressive suppression, significantly predicted both the physical health and mental health domains of HRQoL.

Conclusions

In recent years there has been a constant yearly rise in non-communicable chronic health conditions like CKD which in some cases eventually leads to ESRD. Developing a condition such ESRD comes along with certain psychological implications that could affect the HRQoL of patients. HRQoL can be conceptualised as physical and mental health of an individual. Examining HRQoL among patients with ESRD in this study offers the realisation that patients with ESRD have better HRQoL of life as compared to other research findings. The nature of HRQoL suggest that several factors that can account for it among patients with ESRD. Some of these factors could be medical: which includes continuous use of medication, deteriorating health status and medical procedures like haemodialysis. Other factors according to this study are social support and emotional regulation.

Based on the findings of this research it can be concluded that social support is important to individuals with ESRD however support from family members and significant others is considered more important to these patients than support from friends. It is possible that patients rely on family such siblings, children and parents, as well as significant others such as spouses and relationship partners. Support from family and significant others are important in enhancing the HRQoL of patients. This form of support from family and significant others have the capacity to significantly improve both the physical and mental health of patients with ESRD

Over the years, human emotions have emerged as an essential aspect of both physical and mental health. Scholars have persistently accentuated on the helpful nature of positive emotions in promoting all aspects of health particularly among patients with chronic diseases such as ESRD. Based on the findings of this study, a patient's ability to exert control over their feeling either using cognitive reappraisal (re-evaluating the thought about the illness) or expressive suppression (reducing how the emotion are expressed) have the capacity to significantly enhance both the physical and mental health of patients with ESRD. Being able to effectively control emotions related to chronic condition such as ESRD essentially shields the patients from illness-related stress and also reduces the negative impact of condition on the patient.

The importance of social support and emotional regulation in promoting physical and mental health cannot be understated.

Recommendations

Based on the findings of this study, it is recommended that:

1. A holistic approach in treatment should be adopted in Ghana's healthcare delivery system. Caring for individuals with ESRD should focus on physical, social and psychological health. In most healthcare facilities in Ghana, treating CKD and ESRD almost always focuses on the physical aspect of the condition and the effectiveness of dialysis treatment without paying much attention to the psychosocial needs of patients. Thus it is therefore important for the Ghana Health Service to adopt the Biopsychosocial and spiritual approach in the management and treatment for patients with ESRD.
2. Clinical health psychologists, clinical psychologists and physicians should also focus on helping patients with ESRD develop proactive ways of handling their emotions related to the disease. This would go a long way to help patients deal with the stressors associated with chronic health conditions and also improve their physical and mental health in general.
3. Again, medical and mental health professionals such as clinical psychologists, clinical health psychologists, doctors and nurses should ensure that they educate the family and significant others of patients with ESRD on the need to provide support to patients. Providing enough social support to patients with ESRD could impact the HRQoL positively.

Suggestions for Further Research

1. This study only included patients with ESRD in the Cape Coast Teaching Hospital, hence it is suggested that studies of this nature must be undertaken in patients with ESRD and other chronic conditions in other parts of Ghana, so as to offer a broader picture from the Ghanaian perspective as well as national generalisation.
2. Researchers should also take into consideration other factors such as emotional intelligence, religiosity and spirituality among other factors and how they could impact the HRQoL of patients with ESRD
3. Future studies should also make an effort to apply longitudinal studies in examining how perceived social support and emotional regulation can influence HRQoL of patients with ESRD.

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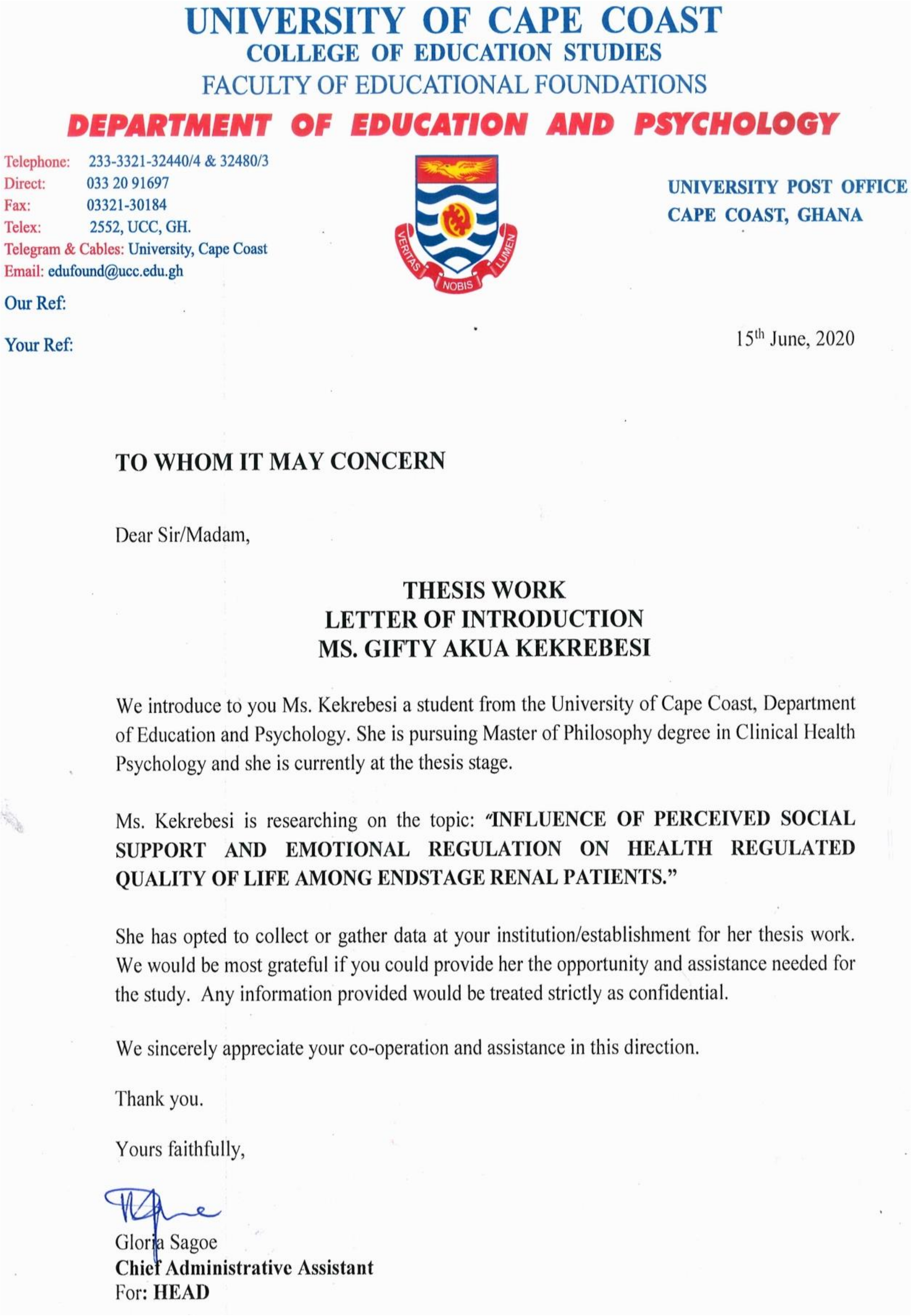
APPENDICES

APPENDIX A

INTRODUCTORY LETTER



UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF EDUCATIONAL FOUNDATIONS
DEPARTMENT OF EDUCATION AND PSYCHOLOGY

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UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref:

15th June, 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

THESIS WORK
LETTER OF INTRODUCTION
MS. GIFTY AKUA KEKREBESI

We introduce to you Ms. Kekrebesi a student from the University of Cape Coast, Department of Education and Psychology. She is pursuing Master of Philosophy degree in Clinical Health Psychology and she is currently at the thesis stage.

Ms. Kekrebesi is researching on the topic: **"INFLUENCE OF PERCEIVED SOCIAL SUPPORT AND EMOTIONAL REGULATION ON HEALTH REGULATED QUALITY OF LIFE AMONG ENDSTAGE RENAL PATIENTS."**

She has opted to collect or gather data at your institution/establishment for her thesis work. We would be most grateful if you could provide her the opportunity and assistance needed for the study. Any information provided would be treated strictly as confidential.

We sincerely appreciate your co-operation and assistance in this direction.

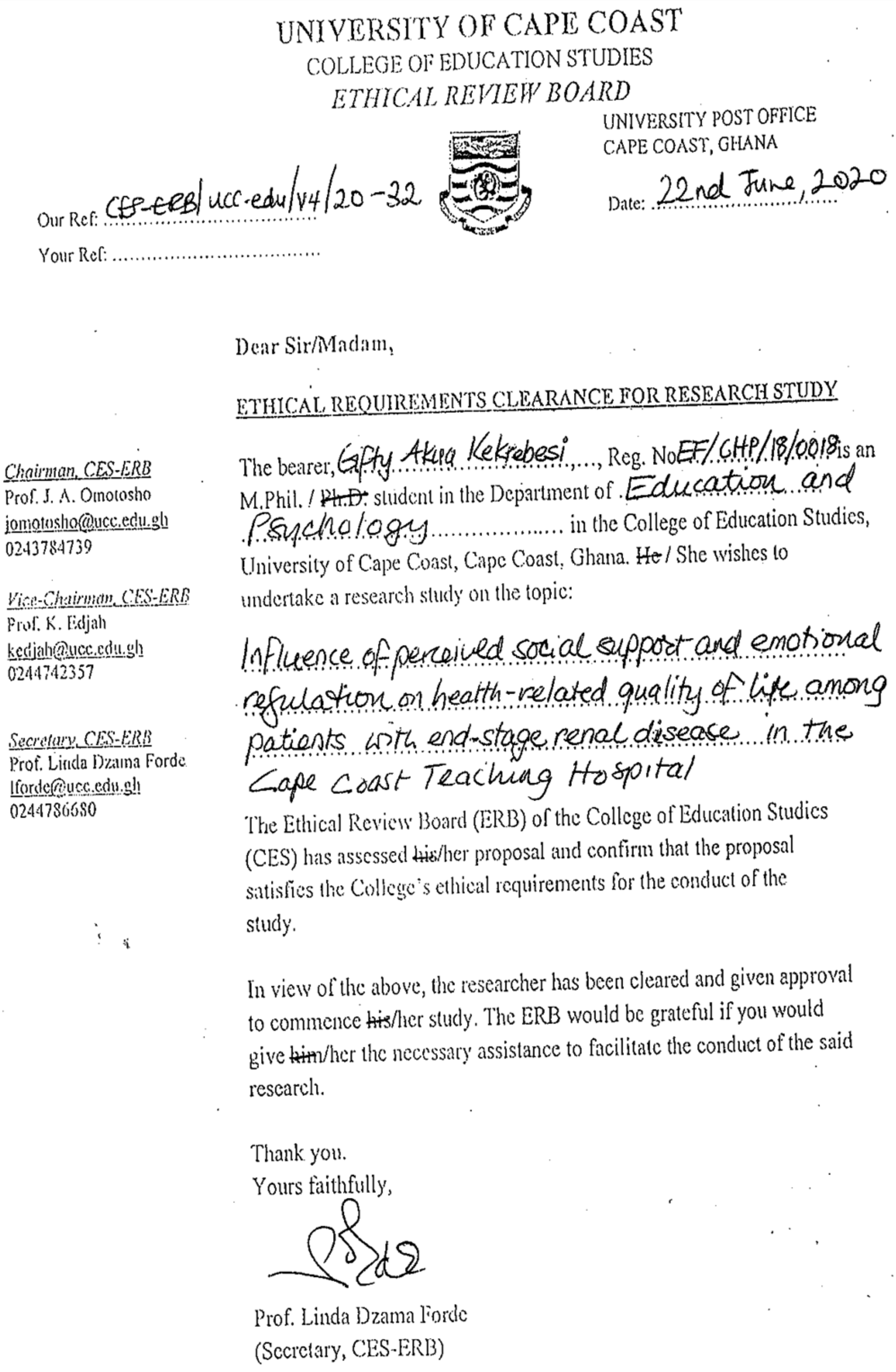
Thank you.

Yours faithfully,

Gloria Sagoe
Chief Administrative Assistant
For: **HEAD**

APPENDIX B

ETHICAL CLEARANCE



UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES-ERB/ucc.edu/v4/20-32

Your Ref: ....

Date: 22nd June, 2020

Chairman, CES-ERB
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Vice-Chairman, CES-ERB
Prof. K. Edjah
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Secretary, CES-ERB
Prof. Linda Dzama Forde
lforde@ucc.edu.gh
0244786680

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

The bearer, Gifty Akua Kekrebesi, Reg. No EF/GHP/18/0018 is an M.Phil. / ~~Ph.D.~~ student in the Department of Education and Psychology in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. ~~He~~ / She wishes to undertake a research study on the topic:

Influence of perceived social support and emotional regulation on health-related quality of life among patients with end-stage renal disease in the Cape Coast Teaching Hospital

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed ~~his~~/her proposal and confirm that the proposal satisfies the College's ethical requirements for the conduct of the study.

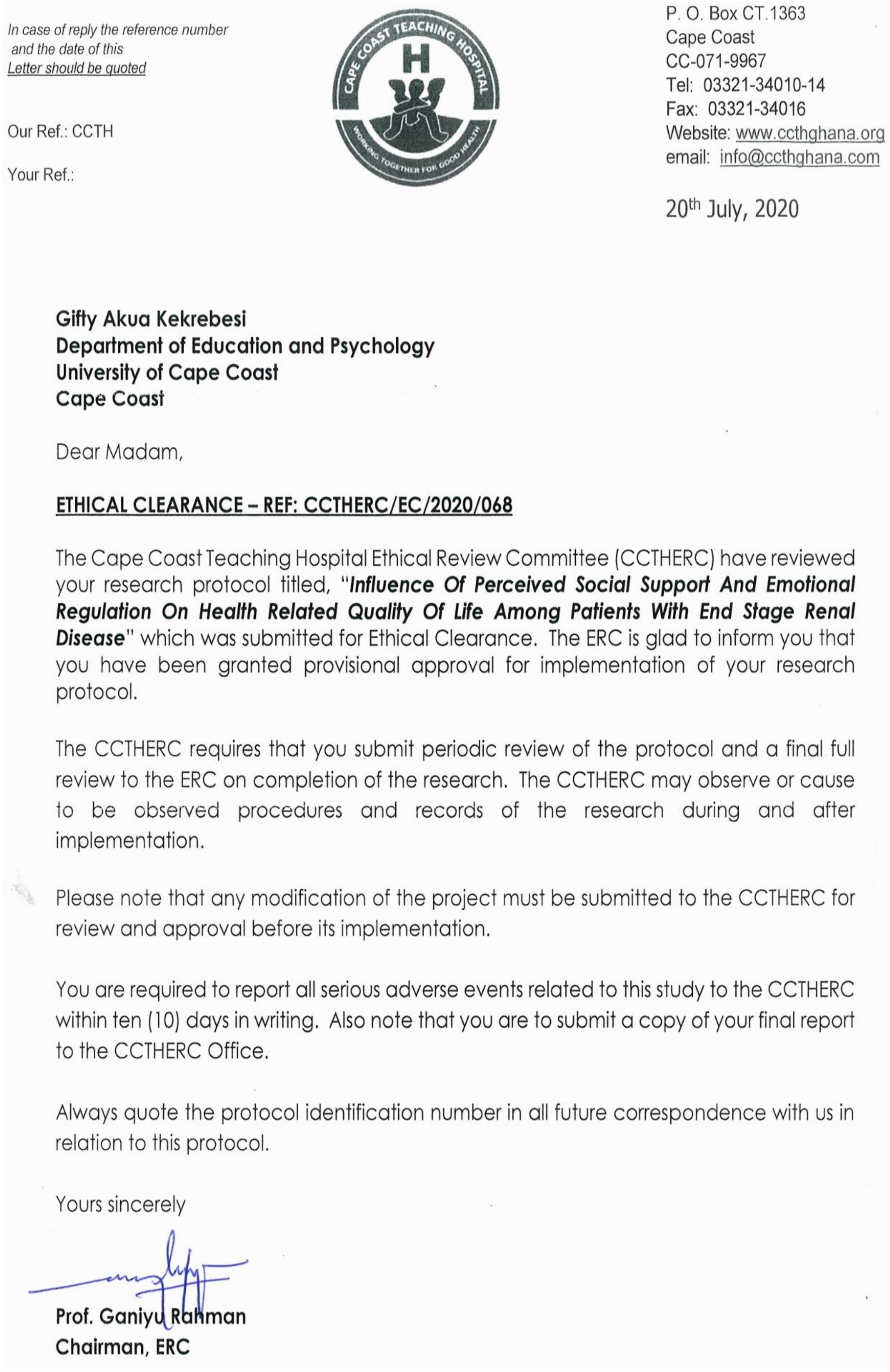
In view of the above, the researcher has been cleared and given approval to commence ~~his~~/her study. The ERB would be grateful if you would give ~~him~~/her the necessary assistance to facilitate the conduct of the said research.

Thank you.
Yours faithfully,

Prof. Linda Dzama Forde
(Secretary, CES-ERB)

APPENDIX C

ETHICAL CLEARANCE



In case of reply the reference number
and the date of this
Letter should be quoted

Our Ref.: CCTH

Your Ref.:

P. O. Box CT.1363
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CC-071-9967
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Website: www.ccthghana.org
email: info@ccthghana.com

20th July, 2020

Gifty Akua Kekrebesi
Department of Education and Psychology
University of Cape Coast
Cape Coast

Dear Madam,

ETHICAL CLEARANCE – REF: CCTHERC/EC/2020/068

The Cape Coast Teaching Hospital Ethical Review Committee (CCTHERC) have reviewed your research protocol titled, "***Influence Of Perceived Social Support And Emotional Regulation On Health Related Quality Of Life Among Patients With End Stage Renal Disease***" which was submitted for Ethical Clearance. The ERC is glad to inform you that you have been granted provisional approval for implementation of your research protocol.

The CCTHERC requires that you submit periodic review of the protocol and a final full review to the ERC on completion of the research. The CCTHERC may observe or cause to be observed procedures and records of the research during and after implementation.

Please note that any modification of the project must be submitted to the CCTHERC for review and approval before its implementation.

You are required to report all serious adverse events related to this study to the CCTHERC within ten (10) days in writing. Also note that you are to submit a copy of your final report to the CCTHERC Office.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours sincerely

Prof. Ganiyu Rahman
Chairman, ERC

APPENDIX D

QUESTIONNAIRE

UNIVERSITY OF CAPE COAST
DEPARTMENT OF EDUCATION AND PSYCHOLOGY

This questionnaire is designed to gather information on the influence of social support and emotional regulation on the health-related quality of life of patients with end-stage renal disease. Information given is solely for academic purpose. Participation is voluntary, and also the respondent is assured that no information will be revealed to any third party without their consent. Thank you.

SECTION A
DEMOGRAPHIC INFORMATION

Respondents are required to please tick the appropriate responses.

1. **Gender**

   Male [ ] Female [ ]

2. **Age**...

3. **Educational background**

   No Formal Education [ ] Basic Education [ ]

   Secondary Education [ ] Tertiary Education [ ]

4. **Number of years of dialysis**

   Less than 1 year [ ] 1 to 5 years [ ]

   6 to 10 years [ ] More than 10 years [ ]

SECTION B

SOCIAL SUPPORT

Please indicate by ticking the extent to which you agree with the following statements 1= Very Strongly Disagree, 2= Strongly Disagree, 3= Mildly Disagree, 4= Mildly Agree, 5= Strongly Agree and 6= Very Strongly Agree

	Statements	**1**	**2**	**3**	**4**	**5**	**6**
1	There is a special person around me when I am in need						
2	There is a special person I can share my joys and sorrows with						
3	My family really tries to help me						
4	I get the emotional help and support I need from my family						
5	I have a special person who is a real source of comfort to me						
6	My friends really try to help me						
7	I can count on my friends when things go wrong						
8	I can talk about my problems with family						
9	I have friends with whom I can share my joys and sorrows						
10	There is a special person in my life who cares about my feeling						
11	My family is willing to help me make decision						
12	I can talk about my problems with my friends						

SECTION C

EMOTIONAL REGULATION

Please indicate by ticking the extent to which you agree with the following statements 1= Strongly Disagree, 2= Disagree, 3= Mildly Disagree, 4= Mildly Agree 5= Agree, 6= Strongly Agree

	Statements	**1**	**2**	**3**	**4**	**5**	**6**
1	When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.						
2	I keep my emotions to myself.						
3	When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.						
4	When I am feeling positive emotions, I am careful not to express them.						
5	When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.						
6	I control my emotions by not expressing them.						
7	When I want to feel more positive emotion, I change the way I'm thinking about the situation.						
8	I control my emotions by changing the way I think about the situation I'm in.						
9	When I am feeling negative emotions, I make sure not to express them.						
10	When I want to feel less negative emotion, I change the way I'm thinking about the situation						

SECTION D

HEALTH-RELATED QUALITY OF LIFE

Please respond by ticking how often these statements apply to you

1= None of the time, 2= A little of the time, 3= Sometimes, 4= Most times and 5= All the time

	Statements	**1**	**2**	**3**	**4**	**5**
1	I can perform moderate activities					
2	I am able to climb several flights of stairs					
3	I accomplish less than what I would like					
4	I am limited in the kind of work or activities to do					
5	Severe pain interferes with normal work					
6	In general, my health is good					
7	I have a lot of energy					
8	My physical health and emotional health interferes with my social activities					
9	I accomplish less than what is required of me					
10	I work and do other activities more carefully					
11	I feel calm and peaceful					
12	I feel sad and depressed					