UNIVERSITY OF CAPE COAST

INFLUENCE OF RELIGIOSITY ON PSYCHOLOGICAL WELL-BEING OF PERSONS WITH CHRONIC KIDNEY DISEASE RECEIVING DIALYSIS TREATMENT AT THE CAPE COAST TEACHING HOSPITAL, GHANA

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BY

EDWARD, ASAAH

Thesis Submitted to the Department of Education and Psychology of the Faculty of Educational Foundations, College of Education Studies, University of Cape Coast in partial fulfilment of the requirements for the award of Master of Philosophy Degree in Clinical Health Psychology.

JANUARY 202

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: Edward, Asaah

Supervisors' Declaration

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

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

Name: Dr. Kofi Krafona

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

Name: Dr. Mark Owusu Amponsah

ABSTRACT

The research investigated the influence of religiosity on the psychological well-being (PWB) of persons with chronic kidney disease (CKD) receiving dialysis treatment at the Cape Coast Teaching Hospital-Ghana. The descriptive cross-sectional survey design was employed and the purposive sampling technique was used in selecting sixty-two (62) CKD patients for the study. Data was collected on the respondents' demographic characteristics, their religiosity, and their PWB using demographic questionnaire, adapted Centrality of Religiosity Scale interreligious version (CRSi-18) and an adapted Ryff's Psychological Well-being Scale (SPWB-32). Results from Pearson's product moment correlations revealed that overall levels of religiosity had a significant positive relationship with overall levels of PWB. Again, four components of religiosity (ideological, public practice, private practice, and experiential) had significant positive relationship with overall PWB. From hierarchical regression analysis, experiential religiosity was found to be the most significant predictor of the PWB of CKD patients. Further, partial correlation also found that age and duration of respondents' CKD had significant influence on the relationship between respondents' religiosity and their PWB. Finally, findings from independent samples t-test revealed no gender difference in the CKD patients overall PWB. It was recommended that healthcare agencies in Ghana should encourage religious-based interventions in Ghanaian health services in order to address patients' religious needs in relation to their PWB.

KEY WORDS

Albumin-Creatinine Ratio

Cape Coast Teaching Hospital

Chronic Diseases

Chronic Kidney Disease

Dialysis Treatment

Dialysis Unit

End-Stage Renal Disease

Glomerular Filtration Rate

Health

Positive Psychology

Psychological well-being

Religiosity

Subjective Well-being

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Finally, I very much appreciate the immense contributions of all individuals who volunteered to participate in this study, and everyone I could not name here in making this dream a reality. God bless you all.

DEDICATION

To My Daughter, Nana Afradua Asaah

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LISTS OF ACRONYMS

ACR	Albumin-Creatinine Ratio
APA	American Psychological Association
CCTH	Cape Coast Teaching Hospital
CD	Chronic Diseases
CKD	Chronic Kidney Disease
CRS-20	Centrality of Religiosity Scale-20
CRSi-20	Centrality of Religiosity Scale-20 interreligious version
DUREL	Duke Religiosity Scale
eGFR	Estimated Glomerular Filtration Rate
ERC	Ethical Review Committee
ESRD	End-Stage Renal Disease
ESRF	End-Stage Renal Failure
fMRI	functional Magnetic Resonance Imaging
GDP	Gross Domestic Products
GHS	Ghana Health Service
GSS	Ghana Statistical Service
HADS	Hospital Anxiety Depression Inventory
HRQoL	Health Related Quality of Life
LMICs	Low to Middle Income Countries
MoH	Ministry of Health
NHIS	National Health Insurance Scheme
PD	Psychological Distress
PWB	PWB
rPWBS	Ryff's Psychological Well-being Scale

SOC	Sense of Coherence
SPWB	Scale of Psychological Well-being
UCC-SGS	University of Cape Coast- School of Graduate Studies
WHO	World Health Organisation
WHOQoL	World Health Organisation's Quality of Life

CHAPTER ONE

INTRODUCTION

People in Sub-Sahara Africa and Ghanaians in particular are likely to think along religious dimensions when trying to understand and explain the cause to any suffering they experience in life such as death of loved ones, illness, poverty, loss of job, failure in life, among others (Adjei, Naab & Donkor, 2017; Batson, Schoenrade & Ventis, 1993; Puchalski, 2001; Sovran, 2013;) Religious coping is fundamental among African and Africa-American (Pargament, Koenig & Perez, 2000; Bussing et al, 2009). According to Assimeng (2010), we all, in some respects, and in many respects are affected by the impact of religiosity. At the sociological level, decisions affecting programmes, policies and governance within the community may be greatly influenced by the ideas of some religious groups or leaders who wilfully or otherwise carry their religious orientation in the process (Assimeng, 2010). At the individual level, we are gradually shaped by religious doctrines or dogmas that were passed down from our caregivers, which with time, became more and more permanent and formed part of our identity and personality (Dureiz & Soenens, 2009). For instance, our construction about the world and creation may be largely based on religious themes that were told to us. Even though religiosity may provide us important resources in times of crisis (Pargament, 2002), it may influence our decisions in times of crisis such us health challenges. It is not surprising that religiosity would have some significant impact on a person's health and well-being.

Background to the Study

The battle against diseases dates back to prehistoric times. This battle had a focus on communicable diseases and ways to ameliorate their far-reaching effects. Recently, there has been a positive stride in this aspect from both medical and paramedical scopes. For instance, the World Health Organisation (WHO) coordinates global infectious diseases surveillance, which includes setting international epidemic surveillance standards, providing technical assistance in surveillance activities, and training field epidemiologists among others. WHO also maintains international collaborating networks for infectious diseases (for example, WHO Network of Collaborating Centres for Influenza Surveillance, the Cholera Taskforce, and the International Coordinating Group (ICG) on Vaccine Provision for Epidemic Meningitis Control among others. By so doing, infectious diseases such as malaria, influenza, tuberculosis, cholera, bilharzia, and measles, among others have been well explored and curtailed to some appreciable degree (WHO, 2010). In Ghana, the activities of the Public Health Unit of the Ghana Health Services are tailored toward control of infectious diseases as evident in the provision of vaccines for yellow fever, measles, and influenza among others (Adams, Darko & Accorsi, 2004; WHO, Country Cooperation Strategy, 2018).

Further, advancement in scientific technology such as the discovery of microscope and the development of effective medications for treatment has offered major breakthroughs in fighting the menace of infectious diseases globally even though they still remain a challenge in developing countries such as Ghana and Sub-Saharan Africa in general (Adams, et al., 2004). The WHO estimates of cause of death indicated that in 2008, in the more developed

countries, less than 10% of all deaths were attributable to infectious diseases as well as maternal, perinatal and nutritional conditions. Non-communicable diseases (NCDs), thus 'CDs' were responsible for 80% of deaths in these countries. In stark contrast, large proportions (61%) of death in several less developed countries across the globe and specifically in Africa were as a result of infectious diseases. CDs accounted for only 32% of deaths in these 2008 causes of death estimates (Lozano et al., 2012).

CDs by their pervasive or chronic nature require intensive progressive management procedures from the time of onset (that is, diet and medication regulation, exercises and life style modification, among others) (Sarfo et al., 2015). For instance, CDs such as hypertension, chronic coronary heart disease, diabetes, and obesity among others are incurable but can be managed with appropriate lifestyle modifications such as regular exercises, good diet, stress reduction, quitting smoking and alcoholism, and with medications (Sarfo, et al., 2015). Again, for persons with Chronic Kidney Diseases (CKD) in Ghana in particular and Africa in general, dialysis therapy is the widely used alternative treatment. Though kidney transplant may correct it, the cost is unaffordable by the average person whiles chances of survival cannot be guaranteed so it is rarely practiced in Africa.

Paradoxically, advancement in technology, improved communications, population ageing, modernization and globalization and changes in lifestyle has brought in its wake a new trend in diseases from the previously curable infectious diseases to a more lifestyle-related CDs (GSS, GHS and ICF Macro; 2009). For instance, hypertension is an important cause of mortality and it is a major risk factor for cardiovascular diseases, stroke and renal problems (Bloom

et al., 2012; Lozano et al., 2012; Lawes, Vander, & Rodgers, 2008; Osafo, Mate-Kole, Affram & Adu, 2011). Historically, such diseases were known to affect people in developed countries; however, current studies show a far-spread of such diseases in developing countries too (Lozano et al., 2012).

In Ghanaians, hypertension, diabetes, stroke, and cancer are counted among the top ten causes of death (Aikins, 2007); whereas hypertension and diabetes has been found to be the major causes of CKD (Amoako, Laryea, Bedu-Addo & Awuku, 2014; Addo, Smeeth & Leon, 2009). CKD is projected to rise from the sixteenth to the fifth cause of death by 2030 (GBD, 2017 Risk Factor Collaborators, 2018). Some studies have found that CD's contribution to cause of death in Ghana parallels that of infectious diseases (Bosu, 2007; Aikins, 2007).

Managing CDs is not easy as one medical treatment (for example, kidney transplant for CKD) is very unaffordable if borne by the individual. According to Mate-Kole (2007), cost for dialysis treatment for CKD is very expensive to the extent that most individuals quit sessions of their dialysis. The dearth of the issue concerning economic burden of CD on the individual is that the current Ghana National Health Insurance Scheme does not fully cover for such CDs. Though CDs contribution to death in Ghana parallels that of infectious diseases (Bosu, 2007; Aikins, 2007), there is virtually absence of national policies for funding CDs in Ghana.

CDs do not only take a toll on affected persons financially. The presence of such CDs renders most afflicted persons indisposed or incapable (Von Korff et al., 2005). For most individuals, frequent hospitalisation, adherence to routine medical regimen and multiple medical procedures make life unbearable. Leite,

Nogueira and Terra (2015) reported that patients may have their psychological balances threatened by necessary changes in the course of a disease of which treatment sometimes affected their self-concept and PWB. McCorkle et al. (2011) also reported that the presence of CD may produce pervasive and unwarranted distress on the affected individual. Bertan and Castro (2010) saw that breaking the news about a person's diagnosis of CD throws them off their psychological balance. This is extremely so for individual who feel they have exhausted all available avenues of physical (for example, funding and medication) and social (for example, family and friends) resources for dealing with the CD facing them or feel they have fewer of such resources available (Harrison, Koenig, Hays, Eme-Akwari & Pargament, 2001).

In many cases however, multiple CD may co-occur which make management more complex and multifaceted (Madala Thusi, Assounga & Naicker., 2014; Tonelli et al., 2006; Addo, Smeeth and Leon, 2009). Of major concern is that whereas fewer individuals recuperate from their situations, majority of them battle with and grief their ill-health till death (Tonelli et al., 2006; Gill & Lowes, 2014). Studies show that it is not merely the presence of CDs that really is a problem to the affected individual. Psychological variables also take tolls on their lives—the daily stress, worries about conditions getting worse over time, a change in person's everyday routines and diet, and a thought of being dependent on others for activities independently done previously (García-Llana, Remor, & Selgas, 2013).

Golden, et al. (2008) found state-related depression to be comorbid with CD. However, individuals who received psychological and religious-based interventions positively appraised their conditions which reduced their levels of

depression (Golden et al., 2008). These individuals adapted good lifestyles and lived longer than their anticipated life expectancy following diagnosis with improved PWB (Simon, Von Korff, & Lin (2005). A person's ability to cope with the psychological problems attendant to their CD depends on: (a) the person's personality traits and perceived sense of control and optimism (Haidt & Rodin, 1999); (b) the coping strategies adapted and; (c) the person's physical resources such as finances and social support (Bilfield, Wildman, & Karazsia, 2005; Cohen, 2004) and all these factors may be influenced by religiosity. Also, underlying mental health problems may undermine effective coping and PWB (Adelmann, 2003).

Bearing in mind that CDs have several psychological repercussions on the sufferer, it would be fatal if approaches to help manage such psychological impacts were non-existent and other existing coping strategies prove futile. More research would be required to add up to the existing body of knowledge that would resource interventionist with varying techniques to help deal with the psychological problems that come with CDs.

In the area of health, PWB has been neglected for a long time in favour of subjective well-being (Wood & Joseph, 2010). However, there is increasing evidence that PWB is an important protective shield in reducing the risk for disease and promoting health (Seligman, 2008). Seligman also believes that PWB is not the direct opposite of psychological distress but the two concepts only partially overlap.

PWB is conceptualised as a combination of positive-negative affects such as happiness (hedonism), and functioning with optimal effectiveness in individual's social life (Deci & Ryan, 2008). Put simply by Huppert (2009),

PWB is not all about lives going well: it is the combination of feeling good and functioning effectively at every state and stage of life. PWB is about the extent to which people feel they are in control of their lives (Ryff & Singer, 2008).

Literature is replete with evidence supporting the impact of religiosity on a number of measures of health and well-being. For instance, Koenig (1998a) noted that many individuals with health problems relied on religious resources to cope. Pargament, Koenig & Perez (2000) also noted that positive religious coping was associated with life satisfaction and overall PWB. Conversely, physical health states such as near-death experiences and threatening illness increased a person's religiosity (Greyson, 2012). This according Greyson (2012), does not necessarily lead to increased involvement in organized religion, but tends to foster an internal sense of connection to the divine and to something greater than the self. This implies that the relationship between religiosity and health is not always unidirectional.

Among several other factors such as gender and socioeconomic status, religiosity has been found to affect illness perception and medication adherence among persons with CD (Kyei, Nyarko, Al Dueck, & Indart, 2012; Khongsdir, George, Mukherjee, & Norman, 2015). Clinical and epidemiological studies have shown that the religiously committed individual had much less psychological distress than the uncommitted (William, Buckler, Heckman, Larson, & Pyle, 1991; Ellison & Smith, 1991; Pyles, 2007). Similarly, other longitudinal studies have shown that regular religious involvement led to much less psychological distress and depression in different spheres of life (Boswell, Kahana, & Dilworth-Anderson, 2006; Watlington & Murphy, 2006).

Koenig (1995) noted that anxieties of growing up as a young person tend to decrease if such individuals were religious. He further asserts that individuals who reported higher spiritual strivings through religiosity showed greater purpose in life, better life-satisfaction and higher level of subjective well-being. Persons with stronger religious faith have also reported higher levels of life satisfaction, fewer negative psychosocial consequences and positive coping with traumatic life events (Pargament & Saunders, 2007; Pargament, Koenig & Perez, 2000). Thus, there is little doubt that religiosity plays an important role in the lives of many people.

An incredible connection was found among religiosity, PWB, and improved health when religiosity was assessed in terms of religious beliefs. Religiosity provided hope in despair and helped people to experience deep inner peace even in the midst of mental distress such as psychosis and self-esteem (Underwood & Teresi, 2002).

The two concepts—Religiosity and Spirituality—though distinct, they oftentimes occur concomitantly and are used to refer to the same concept (Hall, Meador & Koenig, 2008). The similitude between them is, in part, because efforts to define and quantify spirituality are often described in religious terms which are easier to observe.

Bergan and McConatha (2000) defined religiosity as a number of dimensions associated with religious beliefs and involvements such as religious attendance, private devotions, denominational connections and, personal sense of the divine. Spirituality on the other hand is the process of full, adequate, proper, and harmonious development of man's innate spiritual capacities

(Hatcher, 1982). That is spirituality gives a transcendent meaning to life and may include the inner, personal, and emotional manifestation of the 'Sacred'.

Religiosity sometimes referred to as religiousness can be distinguished from spirituality—the former, institutionalised, and outward expression of the sacred, often assessed by measuring importance of religion, belief in sacred, and frequency of religious attendance, prayer or meditation (Koenig 1998b; Miller & Thoresen 2003); the latter, an inner search for enlightenment or ultimate reality with or without organized religion (Koenig 1998b).

Religiosity and spirituality however, have the following in common; (1) belief in existence of higher power of some kind (2) desire to have a relationship with this higher power (3) engagement in "rituals" or practices. However, this present study focuses primarily on the concept of religiosity and not on spirituality or its related constructs and for that matter distinctions should be well noted.

Statement of the Problem

Like individuals with CDs such as hypertension, stroke, asthma, diabetes, and cancers among others, persons living with CKD's adherence to routine medical regimen coupled with vicissitudes of daily living precipitate psychological disturbance (Patten, 2001). This condition may compel such individuals to seek interventions among which it is presumed that most of them resort to religious adaption mechanisms. It is not clear whether such individuals are able to maintain their psychological balances when they fall on these religious resources. Even though some studies have confirmed a relationship between religiosity and PWB and other health outcomes, these studies often relied on single measures of religiosity which are not sufficient to cover a

person's overall religious life. For example, Koenig (2002) studied the effect of prayer as part of the measurement of 'religious faith' on mental health. Hughes et al., (2004) studied the association between 'intrinsic religiosity' and trait and state anxiety of persons with cardiac disease. Another study by Herbert, Dang and Schulz (2007) focused on the effect of meditative prayer on mental health. Banthia, Moskowitz, Acree and Folkman (2007) also studied the associated between prayer and self-reported health symptoms. Tareke (2016) looked at religious involvement as predictor of self-esteem, depression, personal meaning to life, autonomy and overall PWB.

Various facets of religiosity may give or reduce meaning to life (Park, 2007); reduce or increase depression and psychological distress (Kirkpatrick, 2005; Williams et al 2001); and reduce or increase morbidity and mortality. Such findings have elicited considerable attention from health researchers in many disciplines in psychology, sociology, gerontology, and epidemiology. However, other research findings on religiosity and well-being seem to be on the contrary. Exline and Rose (2003) stated that suffering Christians may find it difficult to resolve anger toward God because God will not apologise to them. This negative view of God can cloud ones' perception of the world leading to greater distress. Psycho-religious crisis could lead to psychopathology (Piedmont et al., 2009). Among adults, religiosity has been linked to higher levels of sexual orientation prejudice (Leak & Finken, 2011).

The recent shift of paradigm of healthcare from the biomedical model of health to the bio-psychosocial model; and current agitation by some advocates to adopt a biopsychosocial-spiritual dimension of healing and medical care (Richardson, 2003; Efficace & Marrone, 2002; Barrows & Jacobs,

2002) calls for the need to examine religiosity, an important route toward reaching spirituality among many individuals, and to draw on these research outcomes in making health-related decisions.

Irrespective of the numerous benefits derived from religiosity in the area of health and well-being and the consequences herein, research on the relationship between religiosity and health has paid attention mainly to the area of physical and mental health neglecting the more relevant underlying psychological repercussions of these health conditions. It seems to appear that little has been done to examining the influence exerted by religiosity on PWB among persons with CDs which leaves knowledge gap. This study sought to bridge the gap by exploring the influence of five domains of religiosity on PWB of persons with CDs specifically persons living with CKD.

Purpose of the Study

The purpose of the study was to investigate the influence of religiosity on PWB of persons with CDs, specifically persons with CKD in Cape Coast Metropolis.

Specifically, the study sought to;

1. assess the levels of religiosity among persons with CKD
2. assess the levels of PWB among persons with CKD.
3. examine the relationship between domains of religiosity and the overall PWB of persons with CKD.
4. identify the dimension(s) of religiosity (that is; Intellectual, Ideological, Private practice, Public practice, or Experiential) that predict(s) more of the PWB of persons with CKD.

5. examine the effect of age and duration of CKD in the relationship between religiosity and PWB
6. explore gender difference in the PWB of persons with CKD.

Research Questions

The following research questions guided the study;

1. What are the levels of religiosity among persons with CKD?
2. What are the levels of PWB among persons with CKD?
3. What is the relationship between domains of religiosity and overall PWB among persons with CKD?
4. Which of these dimensions of religiosity (Intellectual, Ideological, Private practice, Public practice, or Experiential) predicts more of the PWB of persons with CKD?

Research Hypotheses

The following research hypotheses were investigated in the study;

1. H_0: Controlling for the effect of age and duration of CKD, there will be no statistically significant relationship between CKD person's overall religiosity and their overall PWB.

   H_1: Controlling for the effect of age and duration of CKD, there will be statistically significant relationship between CKD person's overall religiosity and overall PWB.
2. H_0: There will be no statistically significant difference between male and female CKD person's overall PWB.

   H_1: There will be statistically significant difference between male and female CKD person's overall PWB.

Significance of the Study

The findings from this study will contribute to knowledge and provide the basis for further research in the area of religiosity in respect of physical health, PWB, and overall quality of life of people thereby promoting quality delivery of health services. The findings would also serve as basis for developing modules that could be used to facilitate therapeutic techniques offered for persons living with CD such as CKD. Again, considering speculations that, Africans in general and Ghanaians in particular, are inclined to seeking religious connotations to major sufferings they experience which often interfered with medical treatment and adherence (Kisenyi, Muliira & Ayebare, 2013), this study is timely as it will illuminate this assertion.

Delimitations

It was not my interest to deepen the existing debate about the existence or otherwise of the "Supreme Being", "The Sacred" or "God" but to explore the influence that religiosity put on the PWB of persons living with CD. The World Health Organisation (WHO) documents an inconclusive list of CDs which affect people globally. However, this study was delimited to persons living with CKD. The study was conducted within the Cape Coast Metropolis using the Dialysis Centre of the Cape Coast Teaching Hospital as the study setting. Several propositions have been made concerning the definition of religiosity and the various constructs therein. This study adopted the Glock and Stark (1968) model of religiosity expanded on by Huber and Huber (2012). The dimensions of PWB were defined in line with the Ryff's (1989) components of PWB.

Limitations of the Study

A major limitation to this study was its reliance on the self-reports and opinions of respondents. In situations where social desirability was eminent, respondents did not give their accurate views about the items on the questionnaire. This therefore distorted the reliability of the research data and its key findings.

Another limitation to the study was the accessible population for the study. These were mainly persons living with CKD who were reporting to the CCTH for dialysis treatment. This was considered a limitation to the study because such people may have overcome their psychological distresses or disturbances associated with CKD because they may have received psychotherapy as part of their dialysis management package. Hence, their level of PWB may be low as compared to those who may have found it extremely challenging to access dialysis treatment and therefore may not have come to the hospital.

Again, a key limitation to this study was the use of quantitative approach to collect data from persons living with CKD. This is because constructs such as religiosity and PWB can be better explained using qualitative approach that allows for in-depth probing of the constructs to obtain deep insight about the participants' non-verbal and verbal indicators.

Another key limitation to this study was the research instruments (SPWB-32 and the CRSi-18) that were used for the study. These instruments were originally designed by European Psychologists based on the European socio-cultural context which were different from the Ghanaian socio-cultural

context. Since the instruments have not been standardised among the Ghanaian population, it lacked validity.

Again, the sample and the sample size used for the study posed a significant limitation to the study. This was because a number of persons living with CKD who were attending the CCTH for dialysis treatment were not willing to participate in the research due to the sensitive nature of their condition as well as fatigue syndromes. This reduced the number of participants substantially. A sample size of 62 was woefully inadequate especially for the multiple regression analysis.

Finally, I guided the respondents through the research instruments because substantial number of them could not independently read and understand the instruments. By doing so, the study could be confounded by my understanding and interpretation of the research instruments.

Definition of Terms

Religiosity: the degree to which a person engages in extrinsic or intrinsic institutionalised activities toward the search for the "Sacred", the "Divine", or "High Power".

Chronic Disease: any physical health condition which persists for more than three months and expected to last throughout the affected persons' entire life.

The Sacred/Divine/High power: an entity believed to be higher, powerful and superior to those who revere it (for example, God).

Chronic Kidney Disease: a medical condition in which the kidney filtration output drops below 90mL/min/1.73m^2 when estimated with Glomerular Filtration Rate (eGFR).

Religious belief: a dimension of religiosity that is concern with the worldview of the individual about the Sacred.

Organisation of the Rest of the Study

This work was organised into five chapters. Chapter one addressed the background to the study, the statement of problem, purpose of the study, research questions, significance of the study as well as the delimitation and limitation of the study. Chapter two was devoted for reviewing relevant theoretical, conceptual, and empirical literature on religiosity, PWB, and CD. In chapter three, issues relating to research methods are well demonstrated. The chapter four highlighted results and discussions of the data collected for the study. The final chapter five, presented a summary of key findings, conclusions and recommendations based on key findings and suggested areas for further studies.

CHAPTER TWO

LITERATURE REVIEW

Overview

This study sought to explore the influence of religiosity on PWB of persons with CD specifically among person living with CKD. In this chapter, I reviewed relevant theoretical, conceptual, and empirical literature relating to religiosity, PWB and CD. Relevant theories and models underpinning this study such as the biopsychosocial model, positive psychology, the existentialist theory, and sense of coherence theory were considered. The conceptual review looked at the concept of religiosity and related dimensions (that is; intellectual, ideological, public practice, private practice, and experiential religiosity), PWB and its related dimensions, as well as an overview of CD and CKD. I further tried to trace the associations among these constructs through review of previous empirical studies in these areas. The empirical review highlighted key research findings on the relationship between domains of religiosity and overall PWB among persons living with CKD. Levels of religiosity and levels of PWB among persons with CKD were also explored. A conceptual framework has been formulated base on the review of relevant theories and concepts. An annotated figure showing the relationship between religiosity and PWB has been presented in figure 1 as a conceptual framework.

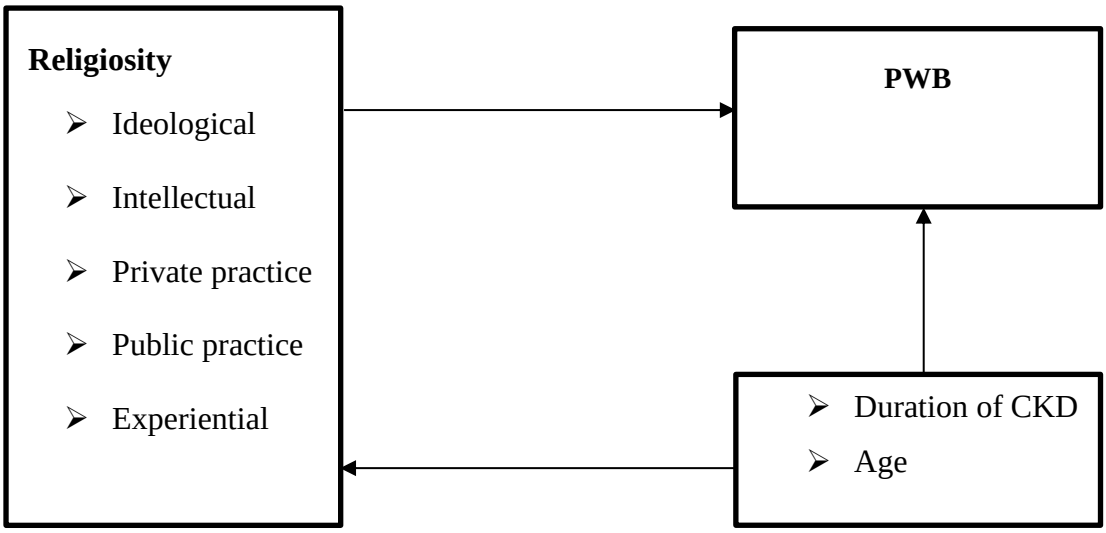

Figure 1: The Relationship between Religiosity and PWB: A Conceptual Framework.
Source: Author's Own Construct, (2018)

From figure 1, I drew an assumption that overall religiosity as well as subdomains of religiosity (that is, ideological, intellectual, private practice, public practice, and experiential) were directly related to overall PWB. Age and duration of CKD were related to religiosity and its subdomains Again age and duration of CKD was also directly related to PWB. Finally, age and duration of CKD was directly related to CKD patients' religiosity.

Theoretical Review

The Biopsychosocial Model

During the turn of the 19th and through the 20th century, the efficacy of the biomedical model became highly questionable when massive new non-infectious CD occurred. Engel (1977) criticised the existing biomedical model and set foundations for a biopsychosocial model by which he supported the integration of biological, psychological and social factors in the study, prevention and treatment of disease. The biopsychosocial model was valuable as a reaction to biomedical reductionism (that is; illness is based solely on biological processes). The biopsychosocial model assumes that illness is a

complex phenomenon and biological principles were not sufficient to explain their cause. A holistic exploration of biological (genes, hormones, humours, and cells among others), psychological (stress, thoughts, emotions, perceptions, and motivations among others) and social (socio-cultural norms including; religiosity; socio-economic status; familial and social relationships, among others) factors that affected health was very necessary (Engel, 1977).

The biopsychosocial model served as a valuable resource for many practitioners in healthcare in formulating diagnosis and treatments for diseases in Ghana and across the world. By applying this model to the management of persons with CD such as CKD, it is imperative that the healthcare provider does not only seek to provide remedy to the abnormal kidney function through haemodialysis therapy and medications but should also address the religiosity of the patient as they form an integral component of the healing process. Current addition to this model is the concept of human spirituality. Interestingly, religiosity has been found to serve as a vehicle through which many people rekindle their spirituality (Stoll, 1989).

As mentioned earlier on, a growing interest in health and well-being has sparked the interest of many researchers to reconsider extending the present highly hailed biopsychosocial model to cover spiritual component—"the biopsychosocial-spiritual model"—as has been found to be very relevant in a person's state of being more especially among chronically ill individuals. This calls for the need to investigate the spirituality components and how they impact health. As Oldnall (1996) noted, every individual's spirituality needs to be addressed during healthcare: it unifies the 'whole person' and is an inbuilt feature of the human species; a vital component of being human and anything

that threatens it is likely to throw the individual into a state of dysfunction. However, one fundamental way of nurturing, enhancing and harnessing one's spirituality has been through religiosity (Faiver, 2001).

Positive Psychology

The idea of positive psychology was first articulated by Seligman and Csikszentmihalyi. Seligman and Csikszentmihalyi (2000) positive psychology model discourages earlier pathology-oriented focus (pathogenesis) of healthcare and promulgates a salutogenic model that embrace and promotes the positive features of human that makes life worth living. Seligman and Csikszentmihalyi defined positive psychology as a science of positive subjective experience, positive individual traits and positive institutions to improve quality of life and prevent the pathologies that arise when life is barren and meaningless. Positive psychology at the subjective level according to Seligman and Csikszentmihalyi, is about valued subjective experiences: well-being, contentment, and satisfaction (in the past), hope and optimism (for the future) and flow and happiness (in the present). At the individual level, it is about positive individual traits: the capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future mindedness, spirituality, high talent, and wisdom (Seligman, 2002). In more simple terms, positive psychology concentrates on positive experiences and positive character or virtues (that is; human strength) and places little emphasis on pathology, faults, and dysfunctions. Borrowing from this understanding of positive psychology, it is essential for interventionist working with persons with CD to focus more on what will make life meaningful for such individuals even in the face of the ailing health instead of focusing primarily on

fixing the ill-health which might be highly impossible. By so doing, they will be able to manage the psychological problems that come with CD, thereby prolonging the lifespan of their patients.

The idea of positive psychology was in line with Strumpfer's term "fortology" that emphasised human strength. Inspired by Strumpfer's term, Wisssing and Van Elden (1997) proposed "psychofortology" as a discipline that emphasised the origin and study of the nature, manifestations, and ways to enhancing PWB and development of human capacities as opposed to psychopathology.

The subject of resilience is an important hallmark of positive psychology that is concerned with the ability of the individual to cope with whatever life throws at them. A resilient person works through challenges by using personal resources, strengths and other positive capacities of psychological capital such as hope, optimism, and self-efficacy. Battling with CD such as CKD means that the individuals do not only draw on physical resources such as money but also on the invested spiritual capacities that have been built through religiosity or other sources which must be sufficient to keep them going.

The Existentialist Theory

Existential psychologists like Frankl (1998) is of the view that humans are in constant search for meaning to life. The experience of meaninglessness life during crisis becomes a major problem in many people's lives and it may lead to a number of concrete difficulties in life. Existential psychologists argue that humans are in constant search for answers to existential questions that precipitate existential anxieties and answers to these questions provide a sense of meaning and purpose in life even during situation of suffering (Frankl, 2011).

These questions were often perceived by religious persons as having their answers routed in religious teachings and beliefs and thus served as a scaffold for exploring one's spirituality.

Theory of Sense of Coherence

Antonovsky (1987) Sense of Coherence (SOC) theory makes the argument for a positive association between religiosity and PWB at the cognitive and emotional levels. This theory attempts to explain how individuals cope with daily stressing situations, and how they integrate these experiences into a coherent worldview. According to Antonovsky, high SOC in which the world and life experiences were seen as comprehensible, manageable and important helped mediated highly stressful events in the environments. Antonovsky proposed SOC and subsequently, salutogenesis as the constructs that explains successful coping with stressors and a drive towards the health end of the health-disease continuum, or as the core of the organisation of a complex human system for successful processing of information and energy. The SOC model recognises the imminence of struggles in all of humans' existence. When persons with strong SOC are confronted with struggles of various forms including being hit with CD, they search for meaning and resolution, and not to escape the burden. The development and maintenance of a strong SOC then facilitate successful resolution of the innumerable struggles of complex existences such as onset and progress of CD (Antonovsky, 1990).

Review of Concepts

Religiosity: Nature, Concepts and Measurements

The term religiosity is a complex phenomenon that defiles a single definition especially when paired with spirituality (Mattis, 2000). Some authors see religiosity as that which emanate from beliefs inherent in religion as they see religion as a set of beliefs into gods or a supernatural force (Mattis, 2000; Mattis & Jager, 2001). Religion is a system of beliefs, norms, customs and institutions that centers on divine, holy or supernatural forces and basic values and practices that arrange the relations between a human and the god(s), (Mattis & Jager, 2001). In this sense, different religions might be alike in their religiosity. However, religiosity can be considered wider than a mere 'belief' into one or several gods. To define religiosity, it is important to understand religion so that we can draw on this understanding to describe the concept of religiosity. This is a synthesis of the various key definitions of religion put forward by several authors from the area of sociology, anthropology and psychology:

Glock and Stark (1965) defined religion as that which societies hold to be sacred and comprise an institutionalised system of symbols, beliefs, values, and practices focused on questions of ultimate meaning. From this perspective, a person's religiosity may refer to the extent to which a person draws on these set of systems of symbols, beliefs, values and practices to make everyday decisions about life in relation to ultimate reality.

Geertz (1993) defined religion as a system of symbols which acts to establish powerful, pervasive, and long-lasting moods and motivations in men by formulating conceptions of a general order of existence and making these

conceptions so factual such that the moods and motivations seem uniquely realistic). Geertz's definition is general to include those phenomena that are similar to religious, yet are connected neither to religious institutions nor to the supernatural.

According to Atran (2002; p 420), "religion is community's costly and hard-to-fake commitment to a counterfactual and counterintuitive world of supernatural agents who master people's existential anxieties, such as death and deception". Religions may be different but religiosity is far less varied, as they all share common religious stance. It is therefore better to speak about religiosity both within and beyond organized religious institutions.

As noted by Holdcroft (2006), the term "religiosity" is used differently depending on the academic specialty of the individual doing the definition. For example, a theologian would define religiosity by faith (Ratzinger, 2004); a psychologist, as devotion and piety (Groome & Corso, 1999) whereas a sociologist would mention church membership, church attendance, or doctrinal knowledge (Cardwell, 1980 as cited by Holdcroft, 2006). Religiosity is found to be synonymous with such terms as religiousness, orthodoxy, faith, belief, piousness, devotion, mysticism, God-power, and holiness (Groome & Corso, 1999). These synonyms reflect what studies of religiosity would term as attributes of religiosity, rather than terms that are equivalent to religiosity.

Mattis and Jager (2001) defined religiosity as an "individual's degree of adherence to the beliefs, doctrines, and practices of a religion". (p;520)

Hill and Hood (1999) broadly define religiosity as a phenomenon that encourages traditional institutionalised search to acknowledge and maintain some relationship with the transcendent.

Attempting to describe the broadest range of religiosity, Bergan and McConatha (2000) defined religiosity as a number of dimensions associated with religious beliefs and involvement. In arriving at this definition, they pointed out that early research associated with religiosity focuses primarily on the one-dimensional concept of religious attendance. These researchers noted that reliance on religious attendance alone as a measure of global religiosity could lead to incorrect conclusions. For instance, a study that involves the religiosity of frail adults, whose health problems hinder regular church attendance, thus dwelling on religious attendances as a means of measurement may identify such individual as not religious. For this population, the aspects or dimensions of religiosity, such as private devotions and religious belief systems, may serve as more accurate measures of religiosity (Kristensen, Pedersen, & Williams, 2001).

Religiosity is a general term that is used in the scientific study of religion to refer to the beliefs and behaviours of individuals that address ultimate or transcendent concern (Zinnbauer, Pargament & Scott, 1999). According to Glock and Stark, religiosity is multidimensional, whilst different dimensions can have little interdependence. For example, one might believe in the core doctrines of a certain religion (ideological), yet not attend church (ritualistic) (Glock & Stark, 1965). Glock and colleague assert that to assess a person's religiosity, one must take a holistic look at the various dimensions of religiosity rather than a discrete assessment of specific seemingly independent domains. Tarakeshwar, Mahoney, Pargament and Swaank, (2001) also believe that it was not practical for assessors to attempt to assess a person's religiosity from composite score obtained from various dimensions of religiosity. Tarakeshwar,

Pargament and Swank explained that individual may score differently on the various dimensions which may affect they overall score. For example, an individual may score very high on private practice religiosity but for mobility problems this individual may not be able to attend church (public practice religiosity). Such individual may be judge as less religious if the sum their religious private practice and their religious public practice scores were considered together. Tarakeshwar and colleague concludes that it was important to examine separately diverse dimensions of religious which were of interest to researchers.

Differentiating Religiosity from Spirituality

Having noted some key definitions of religiosity, I attempt to look at various definitions of spirituality so as to be clear on these two concepts and how they differ or merge. Various definitions of spirituality have been proposed. Mickley, Carson and Soecken (1995) as cited by Lindholm (2013) noted that spirituality refers to both the existence and experience of interconnectedness of human and the environment.

Elkins, Hedstrom, Hughes, Leaf, and Saunders (1988) also defined spirituality as a way of being and experiences that come about through awareness of a transcendent dimension characterised by certain identifiable values in regard to self, others, nature and life. Elkins and colleagues attempt to broaden the concept of spirituality to include both religious and nonreligious beliefs and expressions. Adapting the definition of spirituality and spiritual dimensions proposed by Elkins and colleagues, Woods (2007) proposed four basic dimensions of spirituality: (1) feeling confident that life is meaningful; (2) interconnectedness; (3) transcendence of life; and (4) belief in the sacredness of

life. Koenig et al., (2012) conceptualised a model of spirituality that proposed that spirituality is a broader concept and covers religiosity and some aspect of secular activities. Thus, religiosity is subsumed under the bigger umbrella of spirituality. From this discourse, it could be concluded that one could be spiritual but not religious and another could be religious but not spiritual. Among religious people religiosity may serve as a very important tool for bolstering spirituality.

Dimensions of Religiosity

Debates as to whether religiosity is a unitary or multidimensional phenomenon has a very long history and has led to culmination of many theories of religiosity (Wearing & Brown, 1972). Instead of using the concept 'dimension' Verbit (1970) proposed the concept 'components' in his attempt to develop a theoretical framework to understand religiosity. Consequently, many psychometric measures have been developed to assess religiosity with varying psychometric properties. However, because of lack of widely accepted components of religiosity, several of these instruments have dwelt on what many writers term as attributes of religiosity rather than a true reflection of what constitute religiosity. In this work, it was important to review relevant literature about the basic models and dimensions of religiosity and to understand how the various theoretical viewpoints commensurate with one another. This will broaden our understanding about the concept of religiosity and provide the basis for identifying appropriate psychometric measure for assessing the religiosity of persons with CKD.

Fukuyama (1960) examined four dimensions of religiosity that he identified as cognitive, cultic, creedal, and devotional, which are summarised by Cardwell (1980) as;

1. the cognitive is concerned with what individuals know about religion, that is; religious abstract knowledge (for example, The Ten Commandment in the Bible).
2. the cultic dimension makes reference to the individual's religious practices, that is; ritualistic behavior (for example, congregational observance).
3. the creedal dimension is concerned with a personal religious belief (for example, belief about the existence of the "Supreme Being"), and
4. the devotional dimension refers to a person's religious feelings and experiences, that is; the experiential dimension of Glock (1962).

According to Cardwell, it was possible for one to exemplify religiosity through religious knowledge but lack in the other three dimensions (cultic, creedal, and devotional). Like Glock and Stark (1965), Cardwell also believes that an acquisition of one dimension of religiosity does not naturally guarantee the acquisition of any of the others dimensions of religiosity.

Allport and Ross (1967) identified two basic dimensions of religiosity: extrinsic and intrinsic. They interpreted extrinsic religiosity as a self-serving and practical expression of religion that provides the believer with comfort in salvation (externalising the creed of faith through religious attendance, religious membership, among others). The extrinsic religious individuals are liable to use religion for their own ends, such as status, sociability, and self-justification. A person with intrinsic religiosity on the other hand is one who internalises the total creed of his or her faith and moves beyond mere religious attendance.

These individuals live their religion and other needs are brought into harmony with their religious beliefs. According to Ross and Allport, the extrinsically motivated person uses his religion, whereas the intrinsically motivated person lives his religion. Again, this finding is similar to previously reported research by Lenski (1963) who identified four different ways in which religiosity might be expressed: associational, communal, doctrinal, and devotional. In agreement with Glock and Stark (1965), Lenski felt that it was possible to be religious in one way without being religious in other ways. For instance, a person could be highly visible within a church community but not truly accept its doctrines. A religious person may not allow some dimensions of religiosity to invade daily life; a person may know or believe, but not live accordingly.

Other recent studies of religiosity that stressed a multidimensional focus of religiosity to encompass such concepts as the subjective, cognitive, behavioral, social, and cultural dimensions include (Chumbler, 1996; Ellison, 1991; Ellison, Gay & Glass, 1989). Aspects of religiosity such as private devotion are also accepted as important, going beyond the emphasis merely on church attendance.

Interest in the measurement of religiosity has led to an exploration of multiple dimensions of religiosity. For example, Lenski (1963) proposed four-dimensional model of religiosity in terms of religious orientation and religious group involvement. These dimensions were: associational (aspect which includes frequency of religious involvement in worship and prayer services); communal (that is, preference and frequency of engagement in one's primary-type relations); doctrinal orthodoxy (that is; knowledge in and acceptance of the prescribed doctrines of one's religion); and devotionalism which involves

private or personal communion with God through prayers, meditation and religious behavior. These proposed dimensions are often seen as ways through which religiosity is expressed rather than dimensions of religiosity (Lenski, 1963).

Glock (1962) also proposed a five-dimensional model which to date serves as conceptual framework for the systematic study of differential religiosity. Glock argues that though religions across the world differ greatly in a variety of ways including mode of practices, doctrines, beliefs, among others; all religions share general areas in which religiosity is manifested. These were the five core dimensions of religiosity according to Glock: the experiential, the ritualistic, the ideological, the intellectual, and the consequential dimensions;
The experiential: experiential dimension of religiosity refers to the achievement of direct knowledge of the ultimate reality or experience of religious emotions in the form of exaltation, fear, humility, joyfulness and peace. The ideological dimension draws on the fact that all religions expect their members or followers to hold certain beliefs which they are expected to adhere to.

The ritualistic dimension: Faulkner & DeJong (1966) see this dimension to include both specific public and private religious practices expected of religious followers. Among them prayer, worship, congregational observance, religious membership can be mentioned.

The ‘intellectual dimension’ in Glock’s framework, constituted the expectation that the religious people have some knowledge about the basic tenets of their faith and its religious scriptures.

The ‘consequential dimension’ on the other hand, encompasses man’s relation to man. This means that the consequential dimension’ includes religious

prescriptions which determine attitudes of the adherents as a consequence of their religious belief. Glock argues that these core dimensions of religiosity are shared by different religions of the world.

Himmerlfarb (1975) suggested a form of a typology of religiosity and argued that religiosity has at least two elements: 'doctrinal beliefs' and 'ritual observance. Several other propositions affirm a multidimensional nature of the term religiosity with new dimensions been identified sporadically (King, 1967; Verbit, 1970; Ellison, Gay & Glass, 1989; Fischer & Richards, 1998; Bridges & Moore, 2002).

Modified Stark and Glock (1968) Five-Dimensional Model of Religiosity and its Relation to other Proposed Models

Glock and Stark (1965) model of religiosity has been used in several studies including DeJong and Faulkner (1966) who saw that the consequential dimension does not usually correlate with the other dimensions of religiosity and sought to replace it by breaking the ritualistic dimension into public and private religious practices to maintain the five proposed dimensions. This modified model (that is; intellectual, ideological, private religious practice, public religious practice and experiential dimensions) was extensively studied by Huber (2008) from which the centrality of religiosity scale was later developed and validated (Huber & Huber, 2012). The scale measures the intensity and salience of religious constructs in a person total religious life. I briefly examine the five dimensions of religiosity proposed by Glock and Stark as follows;

Intellectual religiosity often referred in other literature as religious literacy or religious knowledge is concerned with the amount of information a

person holds in relation to a type of faith a person practices and it involves a cognitive appraisal of abstract religious themes, doctrines or teachings (Modestino, Reinhofer & O'Toole, 2016). Intellectual religiosity may be achieved among other ways, through for example, reading of sacred materials such as the Bible, Quran, and other materials that present information about the origin and practices of a religion. Other avenues for building a bank of intellectual religiosity has been through listening to tales and myths about a particular religion of interest from their disciples. Studies have noted that having intellectual religiosity does not necessarily translate into other domains of religiosity (Glock & Stark, 1965). For instance, one may be adept with the teaching of a particular religion yet may not attend church or may know of forgiveness yet might not practice it.

Ideological religiosity otherwise 'doctrinal orthodoxy' (Lenski, 1963) or religious fundamentalism (Pargament, 2002), or simply, religious beliefs (Pearce, Hayward & Pearlman, 2017) or doctrinal religiosity reflect a social expectation that religious people accept and adhere to certain norms, beliefs, values or creeds that form the basic tenet of their faith. It is the acceptance of a standard set of highly structured religious beliefs (for example, belief in existence of God, "the supernatural" or "the sacred"; belief in rituals; belief in afterlife, among others) that are learned from religious teachings (Whitehouse, 2002).

Public practice religiosity, often researched dimensions of religiosity across several disciplines, proven to have direct relations with health and well-being. This dimension covers a wide range of religious behaviours such as church membership, religious attendance, religious affiliation, organisational

observance, and religio-social activities (Pearce, Hayward, & Pearlman 2017) which Allport and Ross (1967) earlier termed as extrinsic religiosity. This dimension provides individuals some sort of social network and identity that give comfort and makes individual who desire social relationships at ease (Miller, Davies & Greenwald, 2000). It also offers the opportunity for religious individuals to congregate and socialise (Hardy & Carlo, 2005). Persons with CKD may be limited in their mobility and agility because of their ill-health and as such might lead to fluctuation in public religious attendance hence a decrease in public practice religiosity.

Private practice religiosity differs from public religiosity (an outward expression of religion). This dimension is much like what Lenski (1963) referred to as "devotionalism". It emphasises a personal connection to the sacred (Roof 1976). It involves religious behaviours usually done on one's own, thus requiring a level of personal commitment. It is projected that persons with CKD would on their own practice their religion. Private practice religiosity is assessed by considering how salient a person engages in prayer and meditative procedures aimed at establishing personal and intimate connection with the sacred. Individual with CKD are likely to engage in, private practice religiosity at the expense of public practice religiosity because their ill health might place a significant restriction on movement to religious places.

Finally, the experiential religiosity refers to an expectation that a religious person may, at some point in time, have an encounter of some sort with the sacred (Glock & Stark, 1968; Himmerlfarb, 1975; Huber & Huber, 2012). James (2003) characterised it as related to one's personal relationship with a supernatural entity and the desire for related experiences. This may

manifest in for example speaking of 'tongues', experiencing the 'Holy Spirit', experience of awe and sanctity and other conversion experiences associated with religious practices. This is where a person experiences the esoteric deeper meaning in relation to the transcendent. Gibson and Zahl (2012) state that experiential religiosity is affect-laden experiences of the sacred based on personal beliefs.

Various neuroimaging and brain studies investigating the experiential religiosity have found neuroanatomical changes in brain structure and functioning in those who claimed to have a "life-changing religious experience (Aleman & van Elk, 2017; Kapogiannis, et al., 2009). This may shed light on why religiosity may have some association with physical health and PWB.

In sum, I argue that these five unique dimensions of religiosity are important in the lives of persons living with CKD, hence the need to assess whether these dimensions singly or together predict these individuals PWB.

PWB: Concepts and Dimensions

In the area of health, PWB has been neglected for a long time in favour of general subjective well-being (Wood & Joseph, 2010). There is increasing evidence that supports the assertion that PWB is an important protective shield in reducing the risk for disease and promoting lifespan. Seligman (2008) believes that PWB is not the direct opposite of psychological distress (PD) but the two concepts only partially overlap. Central to PWB is the concept of resilience which reflects the capacity to maintain or regain well-being in the face of adversity.

PWB and related dimensions comes from a Greek word coined by Aristotle "eudaimonia" meaning, the "highest human good" as in strong

opposition to proponents who assumed that PWB was about happiness (hedonism), feeling good or satisfying desires (Deci & Ryan, 2008). The term hedonism only suffices in measures of general subjective well-being which has to do with life satisfaction, the presence of positive mood, and the absence of negative mood (Diener, 2000). But Broadie (1991) asserts that PWB is about activities of the soul that are in accord with virtue, striving to achieve the best in us, to know who we are and to become what we want to be—in short, realisation of one's true nature.

PWB is also about the extent to which people feel they are in control of their lives, feel that their actions are meaningful and worthwhile, and also about the fact that they have the ability to establish good relationships with other individuals (Ryff & Singer, 2008). Lifelong physical health predicts PWB (Heidrich & Ryff, 1993). Among frail older adults, religiosity serves as an important resource for maintaining PWB (Kirby, Coleman & Daley, 2004).

A Six-factor PWB Model developed by Ryff (1989) determines six factors which contribute to an individual's PWB, contentment, and happiness. According to Ryff, PWB consists of positive relationships with others, environmental mastery, autonomy, a feeling of purpose and meaning in life, and personal growth and development. PWB is attained by achieving a state of balance affected by both challenging and rewarding life events. This six-factor model has been confirmed in several studies in different cultural context including work by van Dierendonck, Diaz, Rodriguez-Carvajal, Blanco, and Moreno-Jimenez (2008). I briefly describe these components of PWB;

Self-Acceptance.

Ryff and Keyes (2006) noted that persons with high self-acceptance have positive attitude toward themselves, acknowledge and accept multiple aspects of themselves including both good and bad qualities and they feel positive about their past lives. Ryff and Keyes also believe that the opposite is true for persons with low self-acceptance: they feel dissatisfied about themselves and are disappointed with what has occurred in their past lives. They are troubled about certain personal qualities and would wish to be different from what they have been (Keyes, 2006; Ryff, 1989).

Personal Growth.

According to Ryff (1989), personal growth attitudes are exemplified by a feeling of continued development, growth and expansion and openness to new learning experiences. Persons with strong personal growth have the sense of realizing their potential, see improvement in their lives and behaviour over time, and are changing in ways that reflect more self-knowledge and effectiveness. However, weak personal growth depicts sense of personal stagnation and lack the sense of improvement or expansion over time. Such individuals feel bored and uninterested with life; and feel unable to develop new attitudes or behaviours (Ryff, 1989; Ryff, 2013).

Purpose in Life.

Ryff (1989) proposed that strong purpose in life is characterised by a sense of directedness towards life goals; a feeling that there is meaning to one's present and past life and holding belief, aims, and objectives that gives life purpose and worth living. Persons with weak purpose in life lack a sense of meaning in life; have few goals or aims, lack a sense of direction, do not see

purpose in their past life not to mention of present life; and have no outlook or beliefs that make life meaningful in the future (Ryff, 1989).

Positive Relations with Others.

This concept of positive relations with others according to Edmondson and MacLeod (2015) symbolizes quality relations and affiliations that contribute to a sense of belongingness (that is; having warm and trusting interactions with other people and being able to display empathy, affection and intimacy). Persons with weak relations with others find it difficult to be warm, open, and concerned about others; they enjoy solitude because they feel frustrated in interpersonal relationships and are not willing to make compromises to sustain important ties with others. Positive relations may be fostered by some religions (Clawson et al., 2015).

Environmental Mastery.

Ryff and Keyes (1995) defined environmental mastery as the capacity to manage effectively one's life and surrounding world while Strauser, Lustig and Ciftci (2008) viewed environmental mastery as an individual's ability to choose and create environments that meet the individual's specific needs. Persons with high environmental mastery have a sense of competence and ability to manage and control complex arrays of external activities (for example; daily hassles, change of job and neighbourhood, among others) in their environments and make effective use of surrounding opportunities. Persons with low environmental mastery have difficulty managing everyday affairs; feel unable to change or improve surrounding contexts; are unaware of surrounding opportunities; and lack a sense of control over the external world. Windle and Woods (2004) found environmental mastery to contribute to the absence of

mood disorder in rheumatoid arthritis sufferers. Also, Windle and Woods reported on a mediation model that demonstrated that environmental mastery is the key to experiencing life satisfaction in the midst of adversity. Knight, Davison, Mccabe and Mellor (2011) found environmental mastery to reduce depression of hospice adults.

Autonomy

Schmuck, Kasser and Ryan (2000) refer autonomy to the experience of behaving in accord with one's own interests or values supported by non-controlling, supportive relationships. Persons with high autonomy are self-determined and independent; are able to resist social pressures to think and act in certain ways; regulate behaviour from within; and evaluate themselves by personal standards. Low autonomy persons are concerned about the expectations and evaluations of others; rely on judgments of others to make important decisions; and conform to social pressures to think and act in certain ways (Ryff, 1989).

In summary, I assert that a person's religiosity (that is; intellectual, ideological, private practice, public practice and experiential) will predict his or her PWB in the areas of environmental mastery, personal growth, positive relations, autonomy, purpose in life and self-acceptance if such individual were battling with CKD.

Chronic Diseases (CD) and Chronic Kidney Disease (CKD)

Over the past decades a phenomenon known as epidemiological transition has taken place in several countries, in which the major cause of disease and death has shifted from communicable diseases to non-communicable CD, with both communicable and CD occurring at the same time

in many developing countries—the so-called "double burden of disease" (CDC 1998; WHO, 2010; Lozano et al., 2012; Global Burden of Disease, 2017). The World Health Organisation (WHO) reported that out of 58 million deaths occurring worldwide in 2005, 35 million of these were due to CD and 80% of the deaths occurred in middle to lower income countries (Lozano et al., 2012; WHO, 2005).

CD are slower to develop, may progress over time, and may have a number of warning signs or no signs at all (Byers et al., 2002). Common CD include arthritis, Alzheimer's disease, diabetes, heart disease, and CKD. Unlike acute conditions, CD usually cannot be cured—only controlled or managed (WHO, 2005; Byers et al., 2002). Controlling (or managing) the symptoms of a CD can often be done by creating a health care plan in partnership with a physician—the plan may include taking medication, healthy eating, physical or occupational therapy, exercise, or complementary treatments, such as acupuncture or meditation (Byers et al., 2002). Frequently, CD can be prevented by practicing healthy lifestyle behaviours, such as staying physically active; maintaining a healthy weight and nutritional status; and refraining from the abuse drugs, smoking, and excessive alcohol use (Byers et al., 2002). The major CD of principal focus in this study is CKD whose prevalence is on the ascendency in Ghana and other sub-Saharan African countries. I briefly describe CKD, its causes, economic burden and management techniques.

The definition and classification for CKD was proposed by the National Kidney Foundation: Kidney Disease Outcomes Quality Initiative (NKF-KDOQI) in 2002 and endorsed by the Kidney Disease: Improving Global Outcomes (KDIGO) in 2004. Levey (2012) summarises NKF-KDOQI 2002

definition of CKD as the gradual loss of kidney function over time. It encompasses all degrees of damaged or decreased renal function; at risk through mild, moderate and severe kidney failure. It is more common among people-of -colour and people of South Asian origin. A patient is said to have CKD if they have abnormalities of kidney function or structure, present for more than three months. The definition of CKD includes all individuals with markers of kidney damage or those with an estimated glomerular filtration rate (eGFR) of less than 60ml/min/1.73m^2 on at least two occasions 90 days apart (with or without markers of kidney damage) (Inker et al., 2014).

CKD, also known as chronic renal failure (CRF), chronic renal disease (CRD), or chronic kidney failure (CKF), is much more widespread than people realise; it often goes undetected and undiagnosed until the disease is well advanced (Inker et al., 2014). According to Inker and colleague, it is not unusual for people to realise they have CKD only when their kidney function is down to 25 percent of normal functioning. As kidney failure advances and the organ's function is severely impaired, dangerous levels of waste and fluid can rapidly build up in the body (Brenner, Meyer & Hostetter, 1982). Brenner, Meyer and Hostetter (1982) emphasised that treatment should aim at stopping or slowing down the progression of the disease - this is usually done by controlling its underlying cause. Kopple (2001) also suggested a good and appropriate nutritional intake.

CKD includes conditions that damage the kidneys and hinders it from performing its basic functions to keep the body healthy. Complications like high blood pressure, anemia, weak bones, poor nutritional health and nerve damage

may be developed as a result of CKD. Also, kidney disease increases the risk of having heart and blood vessel disease (Inker et al., 2014).

In classifying the stages of CKD, Levey et al. (2003) noted that it was important to consider the markers of kidney disease. These markers of kidney disease may include albuminuria-creatinine ratio (ACR > 3mg/mmol), haematuria, electrolyte abnormalities, renal histological abnormalities, structural abnormalities detected by imaging (for example, polycystic kidneys, reflux nephropathy) or a history of kidney transplantation.

CKD is classified according to estimated GFR (eGFR) and albumin-creatinine ratio (ACR), using 'G' to denote the GFR category (G1-G5) and 'A' for the ACR category (A1-A3) (Levey, et, al., 2003). For example: a person with an estimated Glomerular Filtration Rate (eGFR) of 25mL/min/1.73m^2 and an ACR of 15mg/mmol has CKD G4A2. An eGFR of less than 15mL/min/1.73m^2 (GFR category G5) is referred to as kidney failure (Levey, Inker & Coresh, 2014; Inker, 2014; Levey, et, al., 2003). Levey, Becker and Inker (2015) more modern classification of CKD based on estimated GFR and albuminuria recognises five stages of kidney disease, as follows:

Stage 1: Normal GFR; GFR >90mL/min/1.73 m^2 with other evidence of chronic kidney damage.

Stage 2: Mild impairment: GFR 60-89mL/min/1.73m^2 with other evidence of chronic kidney damage.

Stage 3 A & 3B: CKD split into two subcategories defined by GFR 45-59 mL/min/1.73m^2 (stage 3A) and GFR 30-44mL/min/1.73m^2 (stage 3B)

Stage 4: Severe impairment: GFR 15-29mL/min/1.73m^2 and;

Stage 5: Established renal failure (ERF): GFR < 15mL/min/1.73m^2 (usually requires dialysis therapy).

Types and causes of CKD include: hypertensive nephrosclerosis (CKD attributed to systemic hypertension) (Morgado & Neves, 2012); diabetic nephropathy (CKD caused by uncontrolled diabetes); sickle cell nephropathy; membranous nephropathy; and childhood onset nephritic syndrome. Diabetes and hypertension are the leading cause of CKD (Centre for Disease Control and Prevention; National Diabetes Fact Sheet, 2011; Centres for Disease Control and Prevention, 2015; Parati, Thomopoulos, & Zanchetti, 2016).

Many other conditions that can harm the kidneys include: Glomerulonephritis; inherited diseases, like polycystic kidney disease that causes cysts to form in the kidneys; lupus and other diseases that affect the body's immune functioning, among others. Obstructions caused by problems like abnormally shaped ureters, kidney stones, tumors, or an enlarged prostate gland in men and repeated urinary tract infections may also cause CKD (Coresh et al., 2014).

CKD is now recognised as a global public health problem. While the disease magnitude has been better characterised in developed countries; increasing evidence shows developing countries to receiving even the greater burden (GBD Mortality Causes of Death Collaborators, 2015; Barsoum, 2006). CKD contribute substantially to the disparate burden of illness, disability and premature death across sex, age, race/ethnicity, socioeconomic status, and geographic boundaries (GBD Mortality Causes of Death Collaborators, 2015).

According to an extensive review by Barsoum (2006), chronic glomerulonephritis and interstitial nephritis are currently the principal causes of

CKD in developing countries, reflecting the high prevalence of bacterial, viral, and parasitic infections that affect the kidneys. Diabetic nephropathy is estimated to be prevalent in South Africa (14.5–16.7%), Zambia (23.8%), Egypt (12.4%), Sudan (8.9–9.2%), and Ethiopia (6.1%). In addition, it was estimated that by the year 2030, more than 70% of patients with CKD will be residents of developing countries demanding organisational and financial resources for the prevention and early detection of CKD (Barsoum, 2006). Although middle-aged and elderly populations are predominantly affected in developed countries; in sub-Saharan Africa, CKD mainly affects economically productive young society between the ages of 20 and 50 years with hypertension or diabetes, or both and infections.

According to a research done in Congo by Sumaili et al., (2016), the prevalence of CKD among the study subjects was 36%. A retrospective study in Dakar showed that 243 in-patients of chronic renal failure were managed in Dakar University Hospital Internal Medicine Department during a three-year period where the majorities were young and about a third was ESRD.

ElHafeez et al., (2018) conducted a study on the prevalence and burden of CKD among the general population and high-risk groups in Africa. The prevalence was reported to range from 2% to 41% (that is, 16.5% in all the cases reviewed) in the West/Central-West, followed by the Central Region where the prevalence ranged from 12% to 17% (pooled estimate: 16%). In the Southern, the CKD prevalence range was 6%–29% (pooled estimate: 12.2%) whereas in the Eastern, the prevalence ranged from 7% to 15% (pooled estimate: 11.0%) and in the North, the prevalence ranged from 3% to 13% (pooled estimate: 4%)

In sub-Saharan Africa, the prevalence ranged from 2% to 14% (pooled prevalence: 14.02%).

In a cross-sectional study conducted in Southern Ghana on prevalence of CKD among the high-risk population by Ephraim et al. (2015), it was found that the prevalence of CKD in patients with hypertension was 22% and 27% in patients with diabetes. The study further reported that in patients with both hypertension and diabetes, the prevalence was 74 %, and 26 % had category G4 CKD. Clinical factors associated with a greater risk of CKD were the presence of both hypertension and diabetes, and duration on medication (anti-diabetic and antihypertensive) (Ephraim et al., 2015).

Economic growth studies suggest that the highest macroeconomic burden of CKD and other CD falls on low to middle income countries (LMICs) where high prevalence and the costs of treating disease create a greater proportional burden on the gross domestic product (GDP) of the country. In 2005, CD reduced GDP by an estimated 1% in Russia, and this number was expected to be over 5% by 2015 (Abegunde, Mathers, Adam, Ortegon & Strong (2007). More recently, Abegunde and Stanciole (2006) estimated the effects of four CD on the economies of 23 high-burden developing countries. These 23 countries accounted for approximately 80% of the total burden of CD mortality rate in developing countries. The study concluded that $84 billion of economic production will be lost due to heart disease, stroke, CKD and diabetes in these countries between 2006 and 2015.

Majority of patients who suffered CKD were their families' bread winners and sometimes their means to survive (Togoe, 2012). Financing for hemodialysis sessions may compromise the finances of their families (Nugent,

Nugent, Fathima, Feigl & Chyung, 2011; Togoe, 2012; Antwi, 2015). In Ghana, the cost per session of hemodialysis service is averagely GH¢200 (~$65). Dialysis for acute kidney injury is covered by the National Health Insurance Scheme (NHIS) with a flat fee of GH¢850 (~$265). Clients whose cumulative bill for dialysis sessions exceeded this amount had to top up the difference from their pockets (Mate-Kole, 2007). This financing burden, according to Mate-Kole, forces patients who are unable to afford to quit treatment. Moreover, the NHIS does not cover fully for chronic dialysis services and patients pay from their pocket or from other sources (Antwi, Moriya & Simon, 2015; Antwi, 2015).

Aside from physical challenges (fluid and diet restrictions, accessibility to the treatment site, adherence to strict medical regimen, mobility restrictions, among others), Achempim-Ansong and Donkor (2012) noted that CKD patients experienced psychological (anxiety, depression, anger, worry, and fear of death); social (intentional isolation, inability to attend social functions and marital problem, among others); and economic (difficulty in financing the treatment, loss of job and limited income and lowered productivity, among others) problems which needs to be addressed during treatment. Looking at the myriad of challenges posed by CKD, we hope that these client's religiosity would provide them with some sort of buffer for their PWB that would relief them from these challenges.

Empirical Review

In pursuance of empirical evidence to establish the relationship between religiosity and PWB among persons leaving with CKD, several studies have been reviewed in various disciplines including medicine, psychology and

sociology, with varied outcomes depending on the purpose as well as the methodology employed in the studies. The review of these related studies has been divided into four sections namely; the levels of religiosity, the levels of PWB, the relationship among the distinct domains of religiosity and PWB, and the socio-demographic variables that affects the relationship between religiosity and PWB (age, sex, marital status, and duration of CKD).

Levels of Religiosity among Persons Living with CKD

Though there appear to be scant literature on the nature of religiosity among persons living with CKD, available data show disparities in level of religiosity among young, midlife and late adulthood and these disparities became more apparent at the presence of life-threatening events such as turmoil, disasters, terminal diseases, CD, among others (Snyder, 2000). This segment of the study looks at empirical evidence for identifying the nature, pattern and levels of religiosity among persons with CKD.

Silva et al., (2016) conducted a study to investigate the relationship between hope, optimism and religiosity among persons with chronic kidney disease using 62 participants from Renal Replacement Therapy Unit in the state of Paraiba-PB, Brazil. The participants' age ranged from 18 and above with CKD confirmed by nephrologist and had commenced hemodialysis. One of their major objectives was to ascertain the levels of CKD patients' religiosity using the Duke Religiosity Scale (DUREL) which captures three of the religiosity dimensions that are most related to health outcomes: organisational (public religiosity) non-organisational (private practice religiosity) and intrinsic religiosity. Findings indicated that CKD patients scored higher than average on overall religiosity. However non-organisational religiosity (private practice

religiosity) was seen to be much higher than the other two dimensions. Silva and colleagues asserted that higher levels of private religiosity observed in the study could be that physically imposed mobility limitations made it difficult for these persons to participate in community religious events. According to Silva and colleagues' study, the item "I feel the presence of God or the Holy Spirit in my life" on the DUREL which seem to tap into a person's experiential religiosity scored the highest on the entire scale. This gives an insight that experiential religiosity, even though not assessed in their study, could be high among persons with CKD.

Pargament et al., (2012) studied the relationship among religious coping, psychological distress and health-related quality of life (HRQoL) in patients with ESRD. This study assessed whether positive religious coping was independently associated with psychological distress and HRQoL in haemodialysis patients. In this cross-sectional correlational study, a random sample of 170 patients who had ESRD from three outpatient haemodialysis units completed the Brief RCOPE, the Hospital Anxiety and Depression Scale (HADS) and the World Health Organisation Quality of Life instrument (WHOQoL-Brief). Results indicated that positive or negative religious coping strategies were frequently adopted by haemodialysis patients to deal with ESRD. Religious struggle correlated with both depressive and anxiety symptoms even when controlled for socio-demographic variables whereas positive religious coping was associated with better overall mental and social relations and HRQoL and these associations were independent from psychological distress symptoms, socio-demographic and clinical variables. Religious struggle was an independent correlate of worse overall physical,

mental, social relations and environmental HRQoL. Their study confirmed the relevance of religious factors in the treatment of CKD and their attendant psychological problems. However, this study was conducted among European population. It would be of much importance to examine the religiosity-PWB relationship from the Ghanaian outlook.

Relationship between Religiosity and PWB

Several evidence in literature attempt to establish a link between religiosity and PWB and other health and well-being related variables applying different methodologies and different operationalization of the concept of religiosity (Koenig, King & Carson, 2012).

Cohen et al., (2005) study of religiosity using 1,000 adults aged 65-106 years found a decrease in depressive symptoms in this populations hence concluding that religious participation, both extrinsic and intrinsic, contributed to overall PWB. It should be noted however that as mentioned earlier on, PWB is not the direct opposite of psychological distress and that the absence of psychological distress such as the absence of depressive symptoms as observed in this study does not necessarily give a promising conclusion that such individual had stable PWB.

Stewart, Koeske and Pringle (2008) found that extrinsic religiosity fosters modification of maladaptive lifestyle behaviours (for example, alcoholism) which directly affect physical health and subsequently PWB. This was observed in a study among 85 alcoholics anonymous at a rehabilitation centre who adopted varying techniques in alcohol cessations including religious activities and religious-based cognitive behaviour therapy.

Glass (2014) conducted a study to examine the moderating role of intrinsic religiosity on the association between stress and PWB among African-American women in the North-Eastern Ohio aged 18 to 65 years. Using a causal comparative cross-sectional design on a sample of 143 participants, Glass found intrinsic religiosity to positively influence PWB. Extrinsic religiosity was found to have no association with PWB and neither extrinsic nor intrinsic religiosity was found to be a moderator of the relationship between stress and PWB.

Gardner, Ivtzan, Chan and Prashar (2013) studied the relationship between religiosity/spirituality and PWB. This study attempted to delineate the two constructs (religiosity versus spirituality) and categorised participants into four different groups based on measured levels of religious involvement and spirituality: (1) a high level of religious involvement and spirituality, (2) a low level of religious involvement with a high level of spirituality, (3) a high level of religious involvement with a low level of spirituality, and (4) a low level of religious involvement and spirituality. These groups were tested against three specific measures of PWB (self-actualisation, meaning in life, and personal growth initiatives). A total of 205 participants from a wide range of religious affiliations and faith groups were recruited for the study. Multiple comparisons between the groups on these three measures of PWB revealed that groups (1) and (2) obtained higher scores on all three measures. As such, these results confirmed the importance of spirituality to PWB, regardless of whether it is experienced through religious participation. It must however be emphasised that religiosity is not just merely a measure of religious involvement but extends to cover such measures as religious ideologies, both private and public religious practices, and experiences with the Sacred (Huber, 2009). Again, their study

was conducted using a general population and may not be limited to persons with CKD.

Greenfield and Marks (2007) examined the association between religiosity and PWB using data from the 1995 MIDUS (National Survey of Midlife in the United States) of 25 to 74-year old. Their hypothesis was to examine whether higher religious participation (public religiosity) was associated with higher levels of PWB. This hypothesis was supported by evidence from the data that suggested that public religious participation was positively associated with PWB.

A study was conducted by Sokoya, Muthukrishna and Collings (2005) using 40 adults and 31 children in five farming communities in Ogun State, Nigeria. The study employed the qualitative method using interviews, focus groups and interactive observation. The study found that, for the women, religiosity ("belief in God", that is; ideological religiosity) was a major attribute for defining PWB.

Aflakseir (2012) study investigated the association between personal meaning/purpose in life, religiosity, and PWB among 60 Muslim students studying at the University of Southampton and Birmingham in the UK. The study assessed meaning or purpose in life with Life Attitude Profile-Revised (LAP-R; Reker, 1999) and religiosity was assessed using a single measure scale that inquired about how important religion was in a person's daily life. The study indicated that religiosity enhanced meaning and purpose in life by providing a philosophy of life that served as the stabilising force that provided a frame of reference for interpreting life's challenges and fostered resolutions of difficult conditions. The study also highlighted that participants with higher

levels of personal meaning had higher score on different dimensions of the PWB scale such as self-acceptance, positive relations, environmental mastery and personal growth suggesting that some aspects of PWB may illuminate other aspects of PWB if they were achieved through religiosity. A basic limitation to the study was its reliance on single measure self-report of religiosity which might not be the actual reflection of a person's overall religious life. Again, the study was limited to Muslim populations and not on heterogeneous religious groups hence such finding could not be generalised over other religious groups.

Van Cappellen, Toth-Gauthier, Saroglou and Fredrickson (2016) conducted a study which aimed at understanding how religiosity and spirituality exerted their impact on well-being and investigated the role of some neglected positive emotions. The study employed quantitative approach using 584 samples of US university employees interested in meditations. Samples were predominantly Christians. Measures of religiosity were based on 'self-reported religiousness' (for example; the importance of religion in one's life; and frequency of prayer) and 'church attendance'. Well-being measures were 'life satisfaction' and 'optimism'. A major objective was to find out how cognitive, social and emotional aspects of religious attendance evoked positive emotions that mediated the relationship between religiosity and well-being. Result indicated that self-transcendent positive emotions (experiential religiosity) such as gratitude, awe, love, and peace mediated the relations between religiosity and well-being whereas negative emotions and other emotions such as amusement and pride were not significant mediators of religiosity and well-being association. We can draw from these findings that positive emotions such as gratitude, awe, love, and peace among others are indicators of PWB that can be

derived from the positive side of experiential religiosity. Amusement and pride in this research may be seen as social aspects of religiosity (that is; Glock and Stark's public practice religiosity or Allport's extrinsic religiosity) which has been found in other studies to have little or no association with PWB (Glass, 2014).

Effects of religiosity on PWB was examined by Weber (2012) among 35 college students in Indiana University South Bend using a correlational design. Weber hypothesised that there would be a significant positive correlation between the two constructs. Religiosity was assessed using the Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ) constructed by Plante and Boccannini (1997) and PWB and its six domains were assessed using the SPWB (Ryff, 1989). As has been found in several studies (Steger & Frazier, 2005; Reed & Neville, 2014), the strength of the association differs across domains of PWB. Results from Weber's study also indicated that both Pearson's correlations on the composite score of religiosity and PWB and bivariate correlations with religiosity and the six subscales of PWB revealed no significant relationship. This conflicts with Frazier and colleagues' findings of positive relationship between religiosity and PWB. Weber's research findings should not mislead us to conclude that religiosity does not influence PWB. The methodology and the sample size as well as demographic characteristics of the respondents could be a major factor that affected the research outcome hence the need to broaden the sample size and the scope of conceptualising and measuring religiosity. This could be possible by employing multidimensional measures of religiosity and this current study sought to use this approach.

Reeds and Neville (2014) studied the influence of religiosity/spirituality on PWB among a sample of 167 Black American women in a web-based study using Religious Commitment Inventory (RCI-10). PWB was assessed using the Mental Health Inventory-5 (MHI-5) a 5-item measure that assesses both psychological distress and well-being. The study found that there was a small positive correlation between RCI-10 scores and the MHI-5 (r=.19) suggesting direct link between religiosity/spirituality and PWB.

Green and Elliott (2009) sought to compare the effects of religiosity on health and well-being by controlling for work and family-related influences using 2006 GSS data for a total of 42400 participants. Their results indicated that people who identified as religious reported better health and happiness, regardless of religious affiliation, religious activities, work and family, social support and financial status. The results also indicated the relative effects of the various dimensions of religiosity on health and well-being. In particular, strength of religious identity and the fundamentalist or liberal orientation of beliefs were found to be significantly associated with an individual's health and well-being. However, religious affiliation was unrelated to well-being. Green and Elliot work could be criticised on the bases that considering current models of PWB (Ryff, 1989; Ryff & Keyes, 1995) assessing happiness alone as an indicator of PWB could be deficient in addressing overall PWB.

It can be summarised from the foregoing that different facets of religiosity exerts varying influence and association with different facets of PWB. These differences observed could be due to methodological differences and differences in conceptualisation of both constructs employed in previous studies. Dwelling on these backdrops, this present study sought to employ a

multidimensional measure of religiosity and PWB to explore the association among the various sub-domains of the constructs among persons with CKD.

Levels of PWB among Persons Living with CKD

Below are syntheses of relevant empirical findings about the nature and level of PWB among persons living with CD especially among persons with CKD. Within this review demographic characteristics affecting person's PWB have been explored.

Cruice, Worrall and Kickson (2011) assessed the levels of PWB among geriatric stroke patients with chronic aphasia and compared their scores with their unaffected counterparts using excerpts from the Ryff (1989) PWB Scale. Thirty and 40 affected and unaffected participants were drawn respectively for the study. Results indicated that individuals with aphasia after stroke had statistically similar range and average PWB as the unaffected populations with the exception of lower environmental mastery. A small number of individuals (affected and unaffected) reported lower than average PWB. A limitation was that the study was carried out among geriatrics. We should bear in mind that PWB is affected by demographic variables such as age (Bobak et al., 2018; Stone, Schwartz, Broderick & Deaton, 2010) and that this average to lower level PWB observed among the affected and the unaffected could be accounted for by an uncontrolled confounding 'age' factor.

Jansen et al., (2010) examined the association between illness perception, perceived autonomy (a subdomain of PWB proposed by Ryff) and self-esteem, and labour participations among Stage 4 CKD patients using a cross-sectional study design on a total sample of 105 participants. Autonomy was assessed using the Control, Autonomy, Support Pleasure and Self-

realisation Scale (CAPS-19). Results showed that people on dialysis management on the average, had moderate to low level of autonomy. This indicates that they did not often feel a sense of autonomy because of their health conditions. The implication was that dialysis care should incorporate interventions that would be permissive for revamping personal autonomy among patients on dialysis and religiosity seems to be promising.

Relationship between PWB and Demographic Variables

The relationship between PWB and demographic characteristics of persons with CKD were extensively reviewed. The demographic characteristics that were of interest in this study included; age, sex, marital status, level of education, and duration of patients' CKD as has been found in previous studies to be relevant to PWB.

Bobak et al. (2018) examined changes in PWB among older Lithuanian city dwellers in a 10-year cohort study using a sample of 7,115 men and women of age 45-72 years. PWB was evaluated using CASP-12 questionnaire and demographic factors that were considered were age and socio-economic factors. Their study found that PWB deteriorated in all age groups during 10-years follow-up. Poor quality of life, poor self-rated health, having depressive symptoms, and not being a member of social organisation are associated with lower PWB after 10 years in men and women.

Stone, Schwartz, Broderick and Deaton (2010) examined the association of age, marital status level of education, and income level on PWB using data from a gallop poll from the MIDUS over a total sample of 340,847 individuals. The weighted sample was 48% male and had an average age of 47.3 years. Global and hedonic well-being indices represented different aspects of well-

being. Results indicated that all well-being measures were associated with age, yet the patterns differed across the well-being measures. Before 50 years, positive well-being (global measure and positive hedonic) decreased somewhat with increasing age. In dramatic contrast, the pattern of ahedonic (for example, worry and sadness) was fairly constant during this period or improved with age (for example, stress and anger). Arthur and colleagues found that after the age of 50 years, Americans had increasing levels of well-being as indicated by increased global well-being and positive emotion and by decreased levels of negative emotions (except sadness). As people age, they are less troubled by stress and anger, and although worry persists, without increasing, until middle age, it also fades after the age of 50. Even though Arthur and colleague's work provided a valuable insight into the nature of PWB across different ages, their participants were mainly healthy Americans. However, this current study draws sample from an African population (Ghana) with varying sociocultural and socioeconomic characteristics from that of America. Again, their study seemed to tap more into subjective well-being rather than true PWB (Ryff & Keyes, 1995) which this current study sought to investigate.

Relationship between Religiosity and Demographic Variables

Demographic variables such as age, sex, marital status, levels of education, and income levels among others have not been a focus of literature attention. However, some studies suggest a relationship among these variables and an individual's religiosity (Fuller et al., 2004; Keeter, Smith & Masci, 2018). In this present study, I review empirical literature on age, sex, marital status and duration of CKD as they may influence religiosity of persons living with CKD.

Kendler, Xiao-Qing, Gardner, McCullough, Larson, and Prescott (2003) study examined dimensions of religiosity and their relationship to lifetime psychiatric and substance use with a sample of 2,616 male and female. In their study, religiosity was based on multidimensional measures (general religiosity, social religiosity, thankfulness, forgiving, among others). Significant sex differences were seen for all seven dimensions. For six dimensions, higher levels were seen for female than for male participants, with the effect being particularly large for general religiosity and also substantial for social religiosity, involved God, and forgiveness. For four of the seven dimensions, Kendler and colleagues found a significant association with years of education. Out of these, three (social religiosity, involved God, and God as judge), was negative relationship whiles one factor, unvengefulness, was positively and significantly associated with years of education. The magnitude of the association with education was strongest for God as judge.

Fuller et al., (2004) found among Thai populations that married men have higher religiosity than married women. However, women have higher religiosity based on the quality of their marriages. This findings seem to suggest that person with CKD who are not married or have poor quality marriages are more likely to have low religiosity.

Keeter, Smith and Masci, (2018) meta-analysis study of the Pew Research Centre Survey of Global Religiosity found that over the last decade (2006-2017), in 106 countries, there has been a general decline in religiosity with age and educational levels in many countries. However, in the West African country of Ghana, younger adults were, on average, more religious than their elders. Similar patterns were also found using three other standard

measures of religiosity: affiliation with a religious group, daily prayer and weekly worship attendance. In 41 countries, adults under age 40 were significantly less likely than their elders to have a religious affiliation, while in only two countries (Chad and Ghana) younger adults were more likely to identify with a religious group. In 63 countries, there was no statistically significant difference in affiliation rates.

Summary of Literature Review

This chapter of the study sought to review relevant theoretical, conceptual and empirical literature. Key concepts of religiosity and its theoretical underpinning were extensively reviewed. An extensive review of the literature also examined the current nature and prevalence of CKD both from the global perspective and the Ghanaian outlook. From a review of relevant empirical, conceptual and theoretical literature, the relationship between religiosity and PWB seemed to be unequivocal. Whilst some proportions of the literature on this religiosity-PWB suggest some relationship others do not confirm any relationship. These researches, nonetheless, may be flawed with methodological and conceptual problems; they provide valuable insight into investigating the nature of the relationship between religiosity dimensions and PWB among persons with CKD with the hope that this current study would add to existing body of knowledge and provide data in support or refutation of the current assertion. From empirical review, both religiosity and PWB were seen to have some relations with demographic variables such as age, gender and level of education among others.

CHAPTER THREE

RESEARCH METHODS

Overview

The focus of this study was to investigate the influence of religiosity on the PWB of persons with chronic physical health conditions in the Cape Coast Metropolis of Central Region-Ghana. This section of the study presents the research methods employed in conducting the study. Precisely, it comprises; the research design, the study area, the population, the sampling procedure including sample size, data collection instruments, and its characteristic components, and ethical considerations. The section also addresses the data collection procedure and the techniques for the data processing and analysis.

Research Design

Leedy and Ormrod (2013) opined that for a research to be very effective and efficient, it was a necessary requirement for the researcher to adhere to design that met their specific research objectives. This is because research design details the procedures essential for obtaining the information needed to solve research problems.

The study adopted the positivists' paradigm and adhered mostly to quantitative research methods in data collection, analysis and interpretation. Specifically, I used descriptive cross-sectional survey design. Quantitative approach involves employing objective measure to a numerical data with the view of demonstrating the relationships that exist between the variables (Creswell, 2014). The quantitative approach, allows the use of quantitative

methods to assess the magnitude and frequency of constructs and to explore meaning and understanding of the constructs (Creswell, Klassen, Smith & Plano-Clark, 2011). The core assumptions characteristic to descriptive research design of the quantitative approach involves the use of numerical analysis of hypothesis and testing or formulation of research questions that we seek to answer. It also makes it possible to use data to objectively measure reality (Creswell, 2014). The intent is to establish, confirm or validate relationships and to develop generalisations that contribute to concepts (Leedy & Ormrod, 2005). By applying the qualitative descriptive cross-sectional survey design, emphasis therefore was to bring to light both posteriori and priori knowledge regarding religiosity variables and how they relate and influence ones' PWB particularly, persons living with CKD.

Rationale for the Design

Considering the key benefits of descriptive surveys, that is: (1) used to gather data at a particular point in time with the intention of describing the nature of existing conditions or identifying standards against which existing conditions can be compared (Creswell, 2012) and; (2) capable of providing descriptive, inferential and explanatory information that can be used to ascertain correlations between items and the themes of the survey (Cohen, Manion & Morrison, 2007), against the objectives of this present study, the descriptive cross-sectional survey design was ideal for this study. It helped me to explore various facets of religiosity and how they related to PWB among persons with CKD by collecting data from sampled respondents through the administration and interpretation of standard questionnaires.

Irrespective of the key benefits, descriptive survey research design has it known weaknesses. As Neuman (2010) pointed out, a major weakness to quantitative approaches of research is that it fails to provide an in-depth description of participants' experiences regarding a study. It must be pointed out that, like most quantitative research methods, descriptive survey research design fails to ask probing questions and researchers employing this technique do not have the ability to seek clarifications or to control possible confounding factors (possible in traditional experimental designs), especially when structured or closed ended questionnaires were used as data collection instruments.

Despite the deficiencies, the descriptive survey design was chosen for the study because it permitted me to collect data just at one point in time on religiosity and PWB among CKD patients on dialysis therapy at CCTH. It was also chosen over the experimental approach because it appears to be much flexible in terms of meeting ethical standards. It permitted me to dwell on the self-report and the relative descriptive opinions and viewpoints of participants to make analysis and interpretation concerning religiosity and its relations to PWB, which by far, is vaguely understood.

Study Area

The study was conducted in the Cape Coast Metropolis within the Central Region of Ghana using samples from the Cape Coast Teaching Hospital. The Cape Coast Regional Hospital which gained its teaching hospital status in 2011 as a result of the inception of the University of Cape Coast Medical School (now Cape Coast Teaching Hospital-CCTH) is the only teaching hospital at the heart of the Central Region of Ghana. Under the auspices of the Ministry of

Health (MoH), this hospital provides medical care for people within the Cape Coast Metropolis and its environs and is a major point of referral for major acute and chronic medical health conditions. Within Central Region of Ghana, CCTH can boast of being the only healthcare unit that provides dialysis management for person's with renal disease through haemodialysis. What it meant is that any person within Central Region and its environs who had renal problem that required dialysis management would have to come to the CCTH hence this hospital could be a good point of data collection for studies involving persons with renal problems.

Population

Leedy and Ormrod (2013) explained that in research, population refers to the group of subjects out of which a sample is selected to generate results of a study. In this study, the target population involved persons with CKD within Central Region of Ghana and its environs. However, the accessible population were persons with CKD who were under dialysis treatment by the Cape Coast Teaching Hospital in the Central Region of Ghana. The total accessible population was 80 patients. This comprised 44 males and 36 females. They had a mean age of 46.4, SD=14.98) (CCTH Dialysis Unit, 2018).

Sampling Procedure

I purposively selected the Cape Coast Teaching Hospital in the Central Region of Ghana for the study. Leedy and Ormrod (2010) refer to this sampling technique as where a unit of a population is chosen for study based on purpose. This is based on judgment that the Cape Coast Teaching Hospital is a major point of referral for major acute diseases and CD within Central Region of Ghana and its environs and runs a dialysis unit for renal clients. Another

justification is concerned with the current alarmingly unrelenting increase in reported prevalence of CKD at the hospital from the year 2016 (CCTH Dialysis Unit Annual Report, 2018).

Using the purposive sampling technique, I sampled 62 patients with CKD undergoing dialysis treatment at the CCTH for the study. The purposive sampling technique was to ensure that only willing and illegible participants (that is, participants who possessed the characteristics of the variables of interest in this study) were selected for the study in other to meet the research objective. The sampling was based on the following inclusion criteria;

1. Dialysis clients who have been under management for more than three months' period
2. Patients with CKD condition confirmed by nephrologist or medical officer
3. Patients older than 17 years
4. Patients who are cognitively alert with health status placing little or no limitation on her or his response to questionnaire.

Data Collection Instruments

The use of questionnaire was effective means for measuring the behaviour, attitudes, preferences, opinions and intentions of relatively large numbers of subjects (Bird & Dominey-Howes, 2008). Mathers, Fox and Hunn (2009) explained that questionnaires, especially close-ended types, were useful as they are easy to administer, friendly to complete and fast to score, thus take relatively less time from responding to them. However, Bird and Dominey-Howes (2008) admitted that there were various setbacks to the use of questionnaires in research study: questionnaires do not encourage probing

which allows respondents to give shallow responses; respondents may not, for privacy and social desirability, give trustworthy responses; respondents may skip complicated questions which can affect the results of the study. Bird and colleague advised that to improve the reliability of the use of questionnaires respondents must be assured of anonymity and confidentiality.

After a thorough review of the literature concerning the concepts and theories of the two constructs (religiosity and PWB) and with the study objectives in mind, two main questionnaire-type research instruments together with demographic questionnaires were adapted and used for the study;

Ryff's (1989) Psychological Well-being Scale (SPWB) was adapted to assess participant's levels of PWB (See; Appendix C). The original SPWB is a 42-item Likert-type scale rated on a scale of 1—6 with 1 denoting strongly disagree to 6 denoting strongly agree. It measures five distinct domains of PWB (that is; environmental mastery, positive relations with others, purpose in life, autonomy, personal growth, and self-acceptance. The Cronbach's alphas (α) of the scale were examined by Ryff and Singer (2006) and reported to be higher ranging from 0.86 to 0.93. The scale has been used in several studies including (Fredrickson et al., 2015; Joushanlou et al., 2006; Ghasempour, et al., 2013) and has been proven to have a high reliability and construct validity. Cronbach alpha from previous studies have been reported to be between 0.67 and 0.83 for all subscales and about 0.89 for the entire scale (Fredrickson et al., 2015, Salleh & Mustaffa, 2016).

As mentioned earlier, the original SPWB designed by Ryff (1989) to assess six distinct domains of PWB. The original long form has 84 items. There are also a 54-item form and a 42-item short forms. For this present study, the

SPWB—42 short form was adapted. All features of the original 42-item instrument including scoring procedures were retained. However, ten (10) items were removed from the scale to improve its reliability for this present study.

Centrality of Religiosity Scale Interreligious Version: The Huber and Huber (2012) Centrality of Religiosity Scale-interreligious version (CRSi—20) was adapted to assess participants' levels of religiosity (See; Appendix D). CRS has been applied in more than 100 studies in 25 countries with a total of more than 100,000 participants including the Global Religion Monitor survey within 21 countries (Huber & Huber, 2012). CRS takes cognisance of the intensity, salience, importance and centrality of religiosity in the individual across five distinct theoretically defined dimensions (Huber & Huber, 2012). CRS was developed based on the Glock and Stark (1968) multidimensional concept of religiosity namely; the intellectual, the ideological, the experiential, the public practice, and private practice religiosity dimensions. CRS comes in two versions; the basic version (suitable for studies pertaining to a particular religion of interest; say, Muslim) and the interreligious version (usually suitable for interreligious studies). CRS basic version is provided in three lengths; 15 items for (CRS-15), 10 for (CRS-10), and 5 items for CRS-5 whiles the CRS interreligious version comes in 20 items for (CRSi-20), 14 for (CRSi-14) and 7 items for (CRSi-7).

In designing a scoring rubrics, Huber and colleague said that for items where objective frequencies were asked (items 1, 3, 4a, and 4b: that is; items considered as religious practices which in most religious traditions were undertaken regularly and were easily accessible in frequency format), the responses are coded as; A(several time a day), B(once a day), C(more than once

a week), D(once a week), E(one or three times a month), F(a few times a year), G(Less often), and H(never). Subjective frequencies (events that may occur less regularly) were asked in five levels; 1(never), 2(rarely), 3(occasionally), 4(often) and 5(very often). The different frequency format of the objective frequency items required recoding of those items to the subjective frequency response format that would allow for easy data analysis and interpretation. For items in which intensity or importance of the religious construct is assessed, responses are coded on a five-level scale in which 1—not at all, 2—not very important, 3—moderately, 4—quite a bit and, 5—very much so.

According to Huber and colleague, the basic CRS-15 and its interreligious version (CRSi-20) allows for the measurement of the core dimensions of religiosity with the highest reliability and accuracy, thus best applied where the differential influence of the dimensions on the phenomena of interest was relevant. In previous studies, the reliabilities (Cronbach alphas) of the individual dimensions ranged from 0.80 to 0.93 and from 0.92 to 0.96 for the composite score (Huber & Huber, 2012; Asamani & Mensah, 2016). To improve the reliability of this instrument for the present study, two items were removed from the scale.

Pilot Testing of the Instrument

The instruments for the study were pretested at the Cape Coast Metropolitan Hospital to ascertain its appropriateness for the present study. A sample of 30 participants was drawn for the pre-testing. After the pilot data, I realize that some respondents could not independently read and understand the questionnaire. So, it became necessary for me to read and interpret the questions to them in their local dialect (that is; in Akan Language) if they were to

participant in the main study or if similar case were to be encountered during the main data collection. The pretesting helped me to restructure the timing for the data collection to prevent unwanted pressure or time constraints on respondents.

Validity and Reliability of Research Instruments

After the main data collection, a post-reliability test was conducted on the instruments. The reliability coefficients of majority of the scales and their various subscales were fairly adequate (that is, above 0.60 criterion recommended by Pallant, 2010). Items that affected the reliability coefficient of the scales were checked and removed.

Adapted PWB Scale

Majority of the items on the PWB Scale had inter-items correlation fairly above 0.6. This according to Pallant (2010) was suitable for analysis. For few items that had very low reliability correlations coefficients (that is; items 1, 2, 3, 7, 8, 10, 13, 17, 19, and 25), they were removed from the scale. The final scale for assessing the PWB of the respondents was made up of 32 items with an improved reliability Cronbach's alpha of 0.91. This is consistent with previous studies that adopted the scale for data collection (Salleh & Mustaffa, 2016).

Adapted Centrality of Religiosity Scale-interreligious version

The reliability of the Centrality of Religiosity Scale and various subscales were quite impressive as observed by moderately high Cronbach alphas (that is; 0.55 for intellectual, 0.70 for ideological, 0.68 for public practice, 0.87 for private practice, and 0.77 for experiential religiosity). In all, two items (that is; items, 4b and 9b) were removed from the original 20-item

scale to improve its reliability for this present study. The final Centrality of Religiosity Scale used for this study consisted of 18 items with an overall Cronbach,s alpha of .91 (See; Appendix E) which is consistent with previous studies (Asamani & Mensah, 2016).

Ethical Considerations

Ethical considerations are essential research requirement as it guarantees the safety of research participants and properties. To ensure this, participants were assured of the right to privacy, voluntary participation, no harm to participants, anonymity and confidentiality through an informed consent form written in accordance with the University of Cape Coast Institutional Review Board (UCCIRB) guideline.

All ethical and legal standards specified by the hospital and UCC ethical committee were observed and met and participants were given informed consent which enabled them to freely quit the study when they desired. I briefed participants about the intention of the study and assured them of their safety. Participants demographic information were well looked at to avoid identification with such information. The assigned codes that were generated were mainly for questionnaire identification but had no bearing on respondent identity after the study (Creswell, 2012).

Another crucial area worth ethical consideration which mostly eluded student researchers is concerned with the issue of plagiarism. This normally originates when a researcher falsifies, distorts data or pirates other peoples' works. In this study, I followed strictly the prescribed standard of scientific behaviours to avoid plagiarism. I therefore gathered information from the right respondents and subjected the information gathered to proper analyses before

writing the research report. Notably, ideas, works and writings were duly acknowledged by way of providing appropriate references in the in-text referencing and the main referencing as adopted by the University of Cape Coast in an APA format (UCC-SGS, 2017).

Data Collection Procedure

Having certified Ethical Review Committees' (ERC) requirements of Cape Coast Teaching Hospital (See; Appendix F) and the Institutional Review Board's requirement of that of the University of Cape Coast (See; Appendix G), a letter of introduction from the University of Cape Coast, Department of Education and Psychology (See; Appendix H) was sent to seek permission from the Heads of Departments and Units concerned. Prior to the data collection, I made several visits to the health facilities to familiarise with the participants and their environment. This enabled me foresee and address problems that could have affected data collection processes.

By the nature of Dialysis Therapy offered at the Cape Coast Teaching Hospital, depending on the severity of the client's renal situation, client was scheduled for a minimum of twice-per-week therapy sessions. What it meant was that for the period of data collection (22nd July—22nd August, 2018), client might have been met for close to eight consecutive times. Willing clients were permitted to participate in the study only when their health status permitted them; otherwise they were exempted for subsequent schedules.

To ensure a maximum coverage of respondents, data collection spanned over a period of one month. A card bearing special identification codes (for example, ER/CKD/18/001) were generated and attached to participant's medical files. A copy of this identification code was then attached onto the

questionnaires which that participant responded to. This was to ensure that the same participant did not double participate in responding to the research questionnaire. Additional services (psychotherapy) were provided to respondents who, by responding to the set of questionnaires, encountered some sort of psychological distress and this was usually with the PWB questionnaire which compelled clients to do retrospective appraisal of their lives. These services were provided by a clinical psychologist who was a member of the research team I formally constituted for the study based on the advice of the ERC of the Cape Coast Teaching Hospital. An Additional 2-week training including briefing was given to the team before data collection. This training emphasised explaining the objectives, research assistant-respondent rapport, appropriate research data handling, and basic Dialysis Ward safety techniques, among others. Data collection commenced after Institutional Review Boards' approval on July 22, 2018. By the end of the one-month data collection period a total of 62 valid completed questionnaires were retrieved representing an impressively 78.6% response rate. Five respondents (6.25%) dropped out of the study whiles 6 patients (7.50%) did not meet the eligibility criteria. Very few did not participate for personal reasons that were unknown to the research team.

Data Analysis Procedure

Data was thoroughly cleaned before data entry, processing and analysis. Questionnaires with too many missing data were manually sorted and excluded from data. I made data entry into SPSS software version 23.0 (SPSS. v23.0). Data was coded and reversed coding was done for negatively phrased questions (items 5,10,14,15,16,18,19,23,26,27,30,31,32,34,36,39, and 41). At the end, 62 set of questionnaires were judged worthy of analysis. Each questionnaire

contained 50 items (that is; 32 items for PWB and 18 items for Religiosity). The analysis of the data was guided by the stated research objectives.

In this study, both inferential and descriptive statistics were used to analyse the data. The data on participants' demographic characteristics, Research Question 1 (which sought to assess the levels of religiosity among persons living with CKD) and Research Question 2 (which sought to assess the levels of PWB among persons with CKD were analysed using descriptive statistics (that is; means, standard deviations, frequencies and percentages). For the Research Question 3 which sought to examine the relationship between religiosity and PWB among persons with CKD, I analysed the data using Pearson Product Moment Correlation. This was because I was interested in finding the relationship between CKD persons' overall religiosity and their overall PWB. I used Hierarchical Multiple Regression to analyse data on Research Question 4 in other to ascertain which dimensions of religiosity (intellectual, ideological, public practice, private practice or experiential) predicted more of a person with CKD's PWB when the effect of age and duration of CKD were controlled for.

I used Partial Correlation to analyse data on Research Hypothesis 1 and independent sample t-test for Research Hypothesis 2 and 3. This was because for Research Hypothesis 1, I was interested in finding whether a statistically significant correlation existed between CKD person's religiosity scores and PWB scores when the effect of age and duration of CKD were statistically controlled. For Research Hypothesis 2, my interest was to check whether there was statistically significant difference between male and female CKD persons' PWB. Finally, Research Hypothesis 3 was intended to test whether there was

statistically significant difference between male and female CKD persons' religiosity; therefore, the Independent Samples t-test was used.

Chapter Summary

This study focused on the perceived influence of religiosity on the PWB of persons with CKD receiving dialysis treatment at the Cape Coast Teaching Hospital in Central, Region-Ghana. The chapter discussed the methods and procedures that were used to attain the objectives set for the study. A review of the research design, population and sample, data collection instruments, data collection and analysis procedures as well as validity and reliability of the instruments have been described. As indicated above, descriptive research design with quantitative approach was most appropriate for the study even though it had its own associated drawbacks: introduction of bias into data collection procedures; inability to follow-up on respondents' responses; failure of the methodology to give in-depth description on respondents' experiences; sample size adequacy as required by quantitative methodology which, indeed, was limited. Amidst the pitfalls of the design, since the study focused on obtaining information on the religiosity-PWB relationships among persons with CKD, the design was deemed appropriate. Ethical standards were fully observed. Data analysis procedures were done considering their underlying statistical assumptions. For inferential statistics, levels of significance were set at 0.05 alpha levels.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

Overview

The purpose of the study was to explore the influence of religiosity on the PWB of persons with CKD receiving dialysis treatment at the Cape Coast Teaching Hospital, Central Region, Ghana. For the purpose of the study, the descriptive cross-sectional survey design with quantitative approach was deemed appropriate. Demographic Questionnaire, Ryff's (1989) PWB Scale (SPWB) and the Huber and Huber (2012) Centrality of Religiosity Scale-interreligious version were adapted and used to collect data for the study. Descriptive statistics such as means and standard deviations frequencies and percentages (for categorical data) were used to analyse the gathered data in exploring the levels of religiosity and levels of PWB as well as the demographic characteristic of the respondents. Appropriate inferential statistics such as independent sample t test, hierarchical multiple regression and Pearson's correlation were used to analyse research hypotheses to show how religiosity, PWB, and demographic variables interacted to affect the lives of individual with CKD.

The final sample size for the study was 62 which was made up of 34 males and 28 females with mean age of 46.4 (St'd Dev.=14.98) and varying duration of CKD between 3 and 100 months (M=34.19; SD=25.93). Overall response rate of 78% was achieved.

Results

Demographic Characteristics of Persons with CKD

This section surveyed persons with CKD's responses on their demographic characteristics. Continuous demographic characteristics (age and duration of CKD) were presented in means and standard deviation whilst categorical demographic characteristics (including gender, religious affiliation, marital status, and educational level) were presented in frequencies and percentages. A summary of the responses on the continuous and categorical demographic characteristics are presented in Tables 1 and 2.

Table 1-*Persons with CKD's Age and Duration of their CKD*

Demographic Variable	Number of Respondents	M	SD
Age	62	46.44	14.98
Duration of CKD	62	34.19	25.93

Source: Field Survey (2018); M—Mean; SD—Standard Deviations

From Table 1, it can be observed that the mean age of respondents was 46.44 years with a standard deviation of 14.98 whilst the mean duration of CKD was 34.19 months with standard deviation of 25.93. This means that majority of CKD patients have, since diagnosis, lived with their condition for approximately 34months or more. It can also be inferred from Table 1 that majority of CKD patients who received dialysis treatment at the Cape Coast Teaching Hospital were adults.

Table 2-*Other Demographic Variables*

Variable	Frequency	Percentage (%)
Gender		
Male	34	54.8
Female	28	45.2
Religious Affiliation		
Christian	51	82.3
Muslim	8	12.9
Traditionalist	2	3.20
Others	1	1.6
Marital Status		
Single	11	17.7
Married	40	64.5
Divorced	3	4.80
Separated	2	3.20
Widowed	6	9.70
Level of Education		
MSLC	8	12.9
SSSC	7	11.3
Diploma	24	38.7
First Degree	17	27.4
Postgraduate Degree	4	6.50
Other Certificates	2	3.20

Source: Field Survey (2018); N=62

*MSLC—Middle School Leaving Certificate

*SSC—Senior Secondary School Certificate

From Table 2, it can be observed that majority of respondent were males (54.8%) followed closely by quite a number of female respondents (45.2%). It can be concluded from the results that CKD is not a predominantly single sex disease which affects only one sex group (that is, males and females suffered CKD much the same way).

With respect to religious affiliation, majority of respondents 51(82.3%) were Christians. One respondent representing 1.60% did not belong to any of the traditionally known religions in Ghana. It can thus be concluded from the results that almost all participants were affiliated to one of the religions practiced in Ghana.

In terms of marital status, Table 2 shows that majority of respondents 40(64.5%) were married whilst 11, representing 17.7% were single. It can be concluded from the results that majority of the CKD persons were married. Thus, they may be shouldering marital responsibilities and/or benefiting from its privileges as they go about addressing their health needs.

Finally, looking at respondents' educational level, Table 2 shows that Diploma Certificate holders constituted the majority 24(38.7%) followed by First Degree Certificate holders 17(27.4%). It can also be observed that almost all participants had received some sort of education and majority of them have had some tertiary education, (Diploma or higher).

Research Question 1: What are the Levels of Religiosity among Persons with CKD?

The goal of this research question was to explore the levels of religiosity amongst persons with CKD receiving dialysis treatment at the Cape Coast Teaching Hospital in the Central Region-Ghana. Five theoretically defined

dimensions of religiosity (Intellectual, Ideological, Private practice, Public practice, and Experiential) were assessed. These dimensions were assessed using an adapted Huber and Huber (2012) Centrality of Religiosity Scale. To identify the levels, I was guided by three thresholds proposed by Huber and colleague in which the 25th quartile represented, the non-religious group, the 75th quartile (highly religious group), and the inter-quartile range representing the religious group. That is a composite score of 1.0-2.0 was classified as (non-religious or marginal group), 2.1-3.9 (religious or the autonomous group), and 4.0-5.0 (the highly religious or the heteronomous group). Results from the data obtained for the study is as presented in Table 3.

Table 3-*Persons with CKD's Levels of Religiosity*

Dimension of religiosity	M	SD
Intellectual religiosity	4.39	0.697
Ideological religiosity	4.71	0.634
Pubic practice religiosity	4.40	0.656
Private practice religiosity	4.42	0.640
Experiential religiosity	3.46	0.808
Overall level of religiosity	4.27	0.571

Source: Field Survey (2018); N=62; M—Mean; SD—Standard Deviations

From Table 3, ideological religiosity had a highest mean score of 4.71 with a standard deviation of 0.634 followed by private practice with a mean score of 4.42(SD=0.640). It can also be observed from Table 3 that the dimension of religiosity which recorded the least level was the experiential religiosity with a mean score of 3.46(SD=0.808). A mean level of 4.27 (SD=0.571) was observed for the overall levels of religiosity. It can be concluded from the result in Table 3 that the levels of religiosity of persons with

CKD as assessed by the five-dimensional model scale (CRSi—18) ranged from religious to the highly religious categories with majority been in the highly religious threshold.

Research Question 2: What are the Levels of PWB among Persons with CKD?

The goal of this research question was to explore the levels of PWB among persons with CKD receiving dialysis treatment at the Cape Coast Teaching Hospital in the Central Region of Ghana. PWB was assessed on six domains (Autonomy, Environmental mastery, Positive relations with others, Personal growth, Purpose in life, and Self-acceptance) as proposed by Ryff (1989). A 32-items instrument adapted from the 42-item SPWB was used as the assessment instrument. The instrument is on a six-point Likert scale (1—6) with scores for the overall levels of PWB ranging between 32 and 192 and high score indicating high PWB. Like the religiosity assessment instrument, there are three thresholds: the 25th quartile is for the "low" PWB group; 75th quartile (High PWB group); and the inter-quartile range, the "moderate" PWB group respectively. That is, a composite score of 32-71 was classified as low PWB, 72-150 as moderate PWB, and 151-192 as high PWB. In other to estimate the cut-off mean, the scales from 1 to 6 were added (that is, 1+2+3+4+5+6/6=3.5). Looking at the subscales of PWB, it had a total of 32 items. The standard mean was further determined by multiplying 3.5 by 32 items which gives 112. Therefore, the cut-off mean for the overall SPWB was 112. This approach was used for all subdomains of SPWB to obtain their mean cut-off points (that is; Autonomy=14.0, Environmental mastery=17.5, Personal growth=17.5, Positive relations with others=21, Purpose in life= 24.5 and Self-acceptance=24.5).

Results from the data obtained for the study on the levels of PWB is as presented in Table 4.

Table 4- *Persons with CKD Levels of PWB*

PWB Domain	Percentage (%)			M	Mean Cut-off	SD
	Low	Moderate	High			
Autonomy	-	53.2	46.8	16.26	14.0	3.136
Environmental mastery	-	56.5	43.5	22.61	17.5	3.700
Personal growth	-	56.5	43.5	21.56	17.5	3.222
Positive relations	3.2	48.4	48.4	23.02	21.0	4.654
Purpose in life	-	32.3	67.7	27.15	21.0	4.060
Self-acceptance	-	50.0	50.0	28.74	21.0	5.548
Overall PWB	-	46.8	53.2	151.40	112.0	20.058

Source; Field Survey (2018); N=62; M—Mean; SD—Standard Deviations; MCP—mean cut-off point

From Table 4, it can be observed that the overall levels of respondents' PWB had a mean score of 151.40 with a standard deviation of 20.058. It can be concluded from the results on table 4 that majority of CKD persons had moderate to high overall PWB (mean cut-off =112.0). From Table 4, majority of respondents (53.2%) scored moderately high on autonomy subscale of PWB (M=16.26; MCP=14.0). Again, from Table 4, majority of respondents (67.7%) were in the high PWB category on the purpose in life subscale of PWB (Mean=27.15, MCP=21.0). Further, form Table 4, it can be observed that for environmental mastery and personal growth subscales, majority of respondents (56.5%) were in the moderate categories (M=22.61 and 21.56 respectively; MCP=17.5). Finally, from Table 4, it can be seen that with the exception of the positive relations dimension which recorded some level of low PWB (3.2%), all

other dimensions had majority of the respondents' scores in the moderate and high categories.

Research Question 3: What is the Relationship between the Domains of Religiosity, Overall Religiosity, and Overall PWB of persons with CKD?

This research question was purported for exploring the relationship that may exist between the overall religiosity scores and the overall PWB scores of persons with CKD and also to check for the relationship between various domains within religiosity against overall PWB. To achieve this, Pearson Product Moment Correlation coefficient was computed based on their composite scores obtained on the CRSi—18 scale and the composite score of the SPWB. Again, correlation matrix (Pearson's r) were computed for the relationships among the scores on each of the five religiosity dimensions against the scores on overall PWB. Preliminary analyses were performed to ensure that there were no violations of the assumptions of normality, linearity and homoscedasticity. Results from the correlation test are as presented in Table 5.

Table 5- *Correlation Matrix (Pearson's r) for the Relationship among Components of Religiosity, Overall Religiosity, and Overall PWB*

Religiosity		PWB
Intellectual	Person correlation (r)	0.128
	Sig (2-taited)	0.329
	r^2	0.016
Ideological	Pearson's correlation (r)	0.379
	Sig (2-taited)	0.002
	r^2	0.144
Public practices	Pearson's (r)	0.341
	Sis (2-taited)	0.007
	r^2	0.116
Private Practices	Pearson's correlation (r)	0.373
	Sig (2-taited)	0.003
	r^2	0.139
Experiential	Pearson's Correlation (r)	0.423
	Sig (2-taited)	0.001
	r^2	0.179
Overall Religiosity	Pearson's Correlation (r)	0.397
	Sig (2-taited)	0.001
	r^2	0.158

Source; Field Survey (2018); N=62; sig. at $p<0.05$ (2-tailed)

From Table 5, it can be observed that with the exception of intellectual religiosity which did not show statistically significant relationship with overall PWB (r=0.13; p>0.05), all remaining four components of religiosity correlated significantly with PWB. Their correlations with PWB were positive, thus increasing levels of the religiosity components are associated with increasing levels of PWB. From Table 5, Experiential religiosity was found to have the

highest correlation (that is, positive moderate correlation) with Overall PWB (r=0.42; p<0.05). However, from Table 5, ideological religiosity, public practice religiosity, and private practice religiosity had weak but statistically significant relationship with overall PWB (that is, r=.379; p<.002, r=.341; p<.007, and r=.373; p<.003 respectively). Finally, from Table 5, it can be seen that overall religiosity correlated moderately and positively with overall PWB (r=0.40; p<0.01).

Research Question 4: Which Dimension(s) of Religiosity Predict(s) more of the PWB of Persons with CKD?

The intention of this research question was to identify which of the five dimensions of religiosity (that is; intellectual, ideological, public practice, private practice and experiential) would best predict the overall PWB of persons with CKD when the effect of age and duration of CKD were statistically controlled. To be able to achieve this objective, hierarchical linear multiple regression was performed using the stepwise method based on apriori hypothesis which states that age and duration of CKD were important predictors of PWB. Control variables (age and duration of CKD) were first entered in step one. In step two, all three statistically significant religiosity dimensions (Ideological, Public practice, and Experiential) were entered. However, at step two, no apriori hypothesis had been made to determine the order of entry of the components of religiosity. Preliminary analyses were conducted to ensure that there were no violations of the assumptions of normality, linearity, homoscedasticity and multicollinearity. The intellectual dimension was not included in the model because it violated the linearity assumption (r=-0.146; p>0.05). Private practice religiosity was also not included because it violated

that assumption of multicollinearity (That is; correlated highly with experiential dimension of religiosity at $r=0.83$; $p<0.001$). As recommended by Tabachnick and Fidell (2007), highly correlated variables above 0.7 should not be included in the same regression model. The researcher has the discretion to either remove one of the overly correlated variables or to merge them into a composite variable. For the remaining variables, the results of these analyses indicated that no assumptions were violated, there were no problem with multicollinearity, as all tolerance values were above 0.30, and VIFs were between 1.232 and 3.116 which indicated that the data was suitable for examination through hierarchical multiple linear regressions. Result from the data of the hierarchical multiple linear regression analysis have been presented in Table 6, whiles Table 7 shows the overall regression model. Appendix A gives details of the preliminary correlation analyses of the variables considered in the regression analysis.

Table 6-*Hierarchical Regression Model Summary*

Model Summary: Overall Psychological wellbeing									
					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.275[a]	.076	.044	19.60722	.076	2.420	2	59	.048
2	.491[b]	.241	.174	18.23335	.166	4.075	3	56	.011

a. Predictors: (Constant), Duration of CKD, Age

b. Predictors: (Constant), Duration of CKD, Age, Experiential, Pub Prac., Ideological

Source: Field Survey (2018)

From the model summary presented in Table 6, after the variables 'age' and 'duration of CKD' have been entered (see Model 1), the overall model explained 7.6% of the variance (that is .076 × 100) in PWB (R^2=0.76; adjusted R^2=0.44, *p<0.05)*. After religiosity variables (that is; ideological, public practice, and experiential religiosity) have also been included (see; Model 2 of Table 6), the model as a whole explained 24.1% (that is, 0.241 ×100) in respondents' PWB [F (5, 56) =3.565, *p<0.05*)]. Inspection of the R-Square change value in Model 2 of Table 6 show that the three religiosity variables (that is, ideological, public practice, and experiential) together explained an additional 16.6% (that is, 0.166 x100) of the variance in respondents' PWB even when the effect of age and duration of CKD were statistically controlled for, R^2 change=0.166, F change (3, 56)= 4.075, *p<0.05*. we can conclude from Table 6 that the three religiosity dimensions contributed for only 16.6% of the variable in CKD persons overall PWB.

Table 7-*Hierarchical regression analysis of the components of religiosity and PWB: Age and Dialysis duration controlled*

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	137.272	8.171		16.799	.000		
	Age	.207	.186	.155	1.115	.269	.812	1.232
	Duration of CKD	.132	.107	.170	1.226	.225	.812	1.232
2	(Constant)	94.402	18.462		5.113	.000		
	Age	.132	.196	.099	.677	.501	.634	1.577
	Duration of CKD	.104	.105	.135	.996	.324	.741	1.349
	Ideological	.333	2.165	.032	.154	.878	.321	3.116
	Public practice	1.108	1.728	.109	.641	.524	.471	2.122
	Experiential	1.618	.769	.326	2.104	.040	.564	1.773

In the final model of the hierarchical regression analysis, Table 7 shows that only one dimension of religiosity (experiential religiosity) was statistically significant (beta=0.326, $p<0.05$) predictor of respondents' PWB. The ideological and the public practice dimensions had beta values (beta=0.109, $p>0.05$) and (beta=0.32 $p> 0.05$) respectively where were not statistically significant. From the results, it can be concluded that experiential religiosity (That is; the expectation that a religious person, at a point in life may have an encounter with the divine/reality), was the major predictor of the PWB of a person with CKD.

Research Hypothesis 1

$H_{0:}$ Controlling for the effect of age and the duration of CKD, there will be no significant relationship between CKD person's overall religiosity and overall PWB.

$H_{1:}$ Controlling for the effect of age and the duration of CKD, there will be significant relationship between CKD person's overall religiosity and overall PWB.

The aim of this research hypothesis was to test whether there will be a statistically significant correlation between respondents' overall religiosity and their overall PWB when the effect of age and the duration of CKD has been statistically controlled. To test this hypothesis, partial correlation analysis was performed. Duration of CKD was assessed based on the number of months the CKD patient had been on dialysis treatment. Religiosity was based on the composite scores of all five domains of religiosity obtained by the respondents. PWB was also based on respondents' composite scores obtained in all six components of PWB.

Preliminary analyses were performed to ensure that there were no violations of the assumptions of normality, linearity and homoscedasticity. The result from the data for the study has been presented in Table 8.

Table 8- *Partial Correlation between Overall Religiosity and Overall PWB with the Effect of Age and Duration of CKD Controlled*

Control Variables			PWB	Overall Rel.	Age	Duration of CKD
-none-[a]	PWB	Correlation (r)	1.000	.397	.229	.237
		Sig. (2-tailed)	.	.001	.042	.031
		df	0	60	60	60
	Overall Rel.	Correlation (r)	.397	1.000	.314	.233
		Sig. (2-tailed)	.001	.	.013	.031
		df	60	0	60	60
	Age	Correlation (r)	.229	.314	1.000	.434
		Sig. (2-tailed)	.074	.013	.	.000
		df	60	60	0	60
	Duration of CKD	Correlation (r)	.237	.233	.434	1.000
		Sig. (2-tailed)	.042	.031	.000	.
		df	60	60	60	0
Age & Duration of CKD	PWB	Correlation (r)	1.000	.340		
		Sig. (2-tailed)	.	.008		
		df	0	58		
	Overall Rel.	Correlation (r)	.340	1.000		
		Sig. (2-tailed)	.008	.		
		df	58	0		

[a.] *Cells contain zero-order (Pearson) correlations. Significant at p<0.05*

Source: Field Survey, Asaah (2018)

From Table 8, it can be observed that when the effect of age and the duration of CKD were not controlled, there were a moderate positive relationship between respondents' overall religiosity and their overall PWB (r=0.40, n=60, $p<0.05$). However, from Table 8, it can be observed that there was a weak positive partial correlation between overall religiosity scores and overall PWB scores when controlled for age and duration of dialysis treatment, (r= 0.34, n=60, p<0.01), with high levels of overall religiosity associated with high overall PWB. An inspection of the zero-order correlation [r_1-$r_2 \neq 0$; That is; (0.40-0.34=0.06)] suggested that controlling for age and duration of CKD had some effect on the strength of the relationship between the two variables, even though weak. Age and duration of CKD made an additional 6% of the variance in the relationship between respondents' overall religiosity and their overall PWB. It can be concluded from the analysis conducted that the null hypothesis that there is no relationship between CKD person's overall religiosity and overall PWB when controlled for the effect of age and duration of CKD is false and therefore rejected in favour of the alternate hypothesis. Therefore, I conclude from the results that controlling for effects of age and duration of CKD contribute to a statistically significant change in the relationship between religiosity and the PWB of persons with CKD even though weak.

Research Hypothesis 2

H_0: There is no statistically significant difference between male and female CKD person's overall PWB.

H_1 There is statistically significant difference between male and female CKD person's overall PWB.

To test for this hypothesis, independent samples t-test was used to explore the data using PWB scores obtained by male and female respondent groups. Preliminary analyses were performed to ensure no violation of the assumption of normality and homogeneity. Results from the independent samples t-test analysis are presented in Table 9.

Table 9-*Independent Samples t-test of the Difference between Male and Female CKD Person's Overall PWB*

Overall. Rel.	N	Mean	St'd Dev.	*t*-value	df	*p*-value
Male	34	148.971	21.0677	-1.053	60	.296
Female	28	154.357	18.7087			

Sig. at $p<0.05$ (2-tailed)

Source: Field Survey, (2018)

From Table 9, the results of the independent samples t-test showed that there was no statistically significant difference between male and female respondents' mean scores on PWB: male (M=148.97, SD=21.068) and females (M=154.357, SD=18.709); t (60) = -1.053, p=0.30, two-tailed). The magnitude of the difference in means (mean difference=5.387, 95% *CI:* -15.617 to 4.844) was very small (eta squared=0.018). From this analysis, I therefore accept the null hypothesis which proposes that there is no statistically significant difference between male and female CKD persons' overall PWB. It can be concluded from the results that both male and female CKD persons experienced the same levels of PWB.

Discussions of Research Findings

In this section, I have discussed the results of the study based on the research questions and hypotheses and the review of relevant literature. The discussions centred primarily on the specific research questions and hypotheses set for the study under the following themes;

1. Levels of religiosity among persons with CKD
2. Levels of PWB among persons with CKD
3. The relationship between religiosity and PWB among persons with CKD
4. Components of Religiosity as predictors of overall PWB among persons with CKD
5. Age and duration of CKD effects on the relationship between religiosity and PWB
6. The relationship between PWB and gender

Levels of religiosity among persons with CKD

Results from the study showed that the religiosity of persons with CKD was quite high since most CKD persons scores were between religious (that is, autonomous) and the highly religious (that is, heteronomous) thresholds with majority of them being in the highly religious (heteronomous) category. Results from the various sub-components of religiosity were also very high especially, with the ideological component. This result means that persons with CKD were likely to attend public religious gatherings (for example, regular church attendance or devotion, religious camp meeting or conventions). They were also likely to engage in private religious practices such as private prayer and meditations. Again, it can be seen from the findings that persons with CKD

undoubtedly have strong beliefs in the existence and manifestation of the Sacred or the divine identity with whom they loved to communicate with regularly especially during times of crisis such as the onset of CKD. These findings were in line with a study by Asamani and Mensah (2016) and confirm the generally held view that Africans, and by extension, Ghanaians are very religious. The results were also in line with another study by Silva et al. (2016) who found that CKD patients scored higher than average on overall religiosity. However, in their study, non-organisational religiosity (private practice religiosity) was seen to be much higher as compared to public practice religiosity. Silva and colleagues' assertion that higher levels of private religiosity observed in their study could be due to physically imposed mobility limitations that makes it difficult for these persons to participate in community religious events might be true. This is because the same result was found in this present study. This study result also confirms Silva and colleagues' findings that higher levels of experiential religiosity are found among persons with CKD.

Levels of PWB among persons with CKD

Results from the study showed that the PWB of persons with CKD was quite high since CKD persons' mean scores was above the average score on the scale (151.40 out of maximum of 192). Most CKD persons were between moderate and high PWB thresholds. Results from the various sub-components also revealed high levels of PWB across all six components with mean scores above the average score on each component. This implies that CKD persons, when given the right environment, sought to have a sense of personal control over their lives and engaged in active decision making that affected them (autonomy). They also demonstrated a sense of control and mastery over their

environmental situations and adapted positively to changes that were inherent in their ecological system (environmental mastery). Though they had challenging physical health (CKD), they acknowledged and accepted multiple aspects of themselves including both good and bad qualities; and felt positive about their past lives (self-acceptance). CKD persons had warm, satisfying, trusting relationships with others; were concerned about the welfare of others; and understood the reciprocity of human relationships (positive relations). The finding also suggested that CKD persons had a sense of directedness toward their life goals; felt that there were meanings to their present and past lives and held beliefs, aims and objectives that gave life purpose. The findings also suggested that persons with CKD felt the need for continued personal development, growth and expansion in the face of new learning experiences in life (Ryff, 1989). This study contradicts a study by Jansen et al., (2010) whose study on PWB amongst stage 4 CKD patients found low levels of overall PWB and lower than average on the autonomy subscale of PWB among such individuals.

The relationship between religiosity and PWB among persons with CKD

Pearson Product Moment Correlation analysis between overall PWB and components of religiosity revealed that with the exception of intellectual religiosity (one's level of knowledge about his or her religion), all four components had a weak to moderate positive correlations with overall PWB. Again, results from Pearson Product Moment Correlation analysis also revealed a moderate positive correlation between overall levels of religiosity and overall levels of PWB. This means that increasing levels of religiosity among persons with CKD was associated with increasing levels of their overall PWB. These

research findings corroborate with a study by Moreno-Weinert (2012) who reported that PWB was higher when religiosity was high, regardless of sex or ethnicity of his participants. The study is also in keeping with other previous studies (Green and Elliot, 2009; Frazier et al., 2005; Reed & Neville, 2014). However, it contradicts Weber's (2015) study which found that both Pearson's correlation and bivariate correlation between overall religiosity and six components of PWB revealed no significant associations.

Components of Religiosity as predictors of overall PWB among persons with CKD

Hierarchical multiple linear regression revealed that only one component of religiosity (experiential religiosity) significantly predicted the overall levels of PWB among persons with CKD. This means that persons with CKD who reported that they often had feelings that they have had personal encounter with their superhuman entities of worship had better PWB. These findings are similar to research by Van Cappellen, Toth-Gauthier and Fredrickson (2014) who identified that self-transcendent positive emotions derived from religiosity (experiential religiosity) predicted PWB. Glass (2014) found intrinsic religiosity, in other words private practice religiosity, to positively influence PWB. Even though, in this study I did not examine the effect of private practice religiosity on PWB (reason being that it correlated too strongly with experiential religiosity), it may be possible that this component may also influence PWB as was found by Glass. It must however be noted that, in this study, sociodemographic variables (age and duration of CKD) affected the relationship between religiosity and PWB. Like Stewart, Koeske, & Pringle (2008) found, extrinsic/private practice religiosity fostered modification of

maladaptive lifestyle behaviours such as alcoholism which directly affect physical health and subsequently PWB.

Age and duration of CKD effects on the relationship between religiosity and PWB

Partial correlation analysis revealed that the age of a person with CKD and the duration of their chronic kidney problem were key demographic variables that affected the relationship between religiosity and PWB. Other demographic variables such as gender, level of education and marital status did not affect this relationship as they had little or no association with PWB. This research findings contradicts previous studies by Sokoya, Muthukrishna and Collings (2005) who found that, for women, religiosity ("belief in God", that is; ideological religiosity) was a major attribute for defining PWB irrespective of their age.

The relationship between PWB and gender

Result from independent sample t-test revealed no statistically significant difference in PWB in relation to gender. This means that male and female CKD patients did not differ in terms of their PWB. This study is in line with Roothman and Kirsten (2003) study that found no significant gender differences on sense of coherence, satisfaction with life, affect balance, emotional intelligence, self-efficacy, and the social components of self-concept and of fortitude (components of PWB). The study is also in keeping with Hamdan-Mansour., Aboshaiqah, Thultheen and Salim (2015) who found no significant difference in males and females with chronic illness in relation to life satisfaction, a facet of PWB.

Chapter Summary

The chapter has presented the results and discussion of the study. The findings of the study has revealed higher levels of religiosity and PWB among persons with CKD. It has also revealed the key association and effects that religiosity has on the PWB among such individuals. Majority of the dimensions of religiosity was positively associated with PWB except for the intellectual component. Age and duration of CKD were key determinant of the relationship or effect of religiosity on PWB.

Hierarchical regression analysis revealed experiential religiosity as the only component among the three components of religiosity included in the regression model (public practice, ideological and experiential) to have significant effect on PWB.

The findings of this study also revealed no significant difference among male and female persons with CKD religiosity and PWB. Other demographic variables such as level of education and marital status did not have any association with PWB and had little to no effect on the relationship between religiosity and PWB.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview

The chapter presents a summary of the key findings, the conclusions drawn as well as recommendations made from the study. The chapter also presents the contributions of the study to knowledge and suggestions for further research.

Overview of the Study

The study sought to obtain evidence of the influence of religiosity on PWB among persons living with chronic kidney disease receiving dialysis management at the CCTH, Cape Coast, Ghana. In pursuance of the purpose, the four research objectives and two hypotheses guided the study:

1. Assessing the level of religiosity among persons with chronic kidney diseases.
2. Assessing the levels of PWB among persons with chronic kidney disease.
3. Exploring the relationship between religiosity and PWB among persons with chronic kidney disease.
4. Identifying the dimension(s) of religiosity that predicts more of the PWB of persons with chronic kidney disease.

Research Hypotheses 1 and 2

5. H_0: Controlling for the effect of age and duration of CKD, there will be no statistically significant relationship between religiosity and PWB among persons with CKD.

6. $H_{0:}$ There is no statistically significant difference between male and female CKD persons PWB.

The descriptive research design with quantitative approach was used. Huber and Huber (2012) Centrality of Religiosity Scale and the Ryff (1989) 42-item PWB Scale were adapted and used to collect data from a sample of 62 CKD patient receiving dialysis treatment at the Cape Coast Teaching Hospital, Central Region, Ghana. Participant were selected by purposive sampling technique if they met an eligibility criterion set for the study. The statistical tools that were used in the analysis included frequencies, percentages, means and standard deviations. Further analysis was also conducted by running a step-by-step hierarchical multiple regression and independent samples t-test.

Summary of Key Findings

The key findings in accordance with the questions and hypotheses of the study are presented as follows:

In the first question which sought to assess the levels of religiosity among persons with CKD receiving dialysis treatment at the Cape Coast Teaching Hospital, Ghana, it emerged that persons with CKD had higher levels across all five components of religiosity. Their overall levels of religiosity fell along the "religious" and the "highly religious" categories with majority of them in the highly religious category. This clear presence and salience of religiosity construct were likely to affect their day-to-date life and decision concerning their health.

The second research question of the study assessed the levels of PWB among person with CKD. The key findings that emerged were: (1) moderate to

high levels of PWB across all six subcomponents and; (2) high overall PWB as majority of the CKD persons scored above the average score on the PWB scale.

The third research question of the study explored the relationship between religiosity and PWB among persons with chronic kidney disease and also explored a bivariate association among the various subcomponents on the religiosity scale and the PWB scale. The key findings that emerged were: (1) overall religiosity had moderate positive correlation with overall PWB with increasing level of overall religiosity corresponding to increasing levels of overall PWB; (2) with the exception of intellectual religiosity, all remaining four components of religiosity correlated moderately and positively with overall PWB and; (3) apart from autonomy and positive relations with others, all remaining four components of PWB were positively and moderately associated with overall religiosity.

The last research question of the study was to identify which dimension(s) of religiosity best predicted the PWB of persons with CKD when controlled for the influence of key demographic variables (age and duration of CKD). Key findings were that only one component (experiential religiosity) out of the three components included in the model (public practice, ideological, and experiential religiosity) significantly predicted the PWB of these individuals.

The first research hypothesis was intended to test the null hypothesis that claimed that there was no statistically significant relationship between religiosity and PWB when the effects of age and duration of CKD were controlled. An important findings from the study confirmed a positive association between religiosity and PWB when the effects of age and duration of CKD were statistically controlled.

The final research hypothesis was to test for the null hypothesis that claimed no statistically significant difference between male and female CKD persons' PWB. In this study, findings revealed no statistically significant difference between male and female CKD persons' PWB; therefore, this hypothesis was accepted.

Conclusions

From the findings of the study, the following conclusions were drawn:

First and foremost, it can be concluded from the findings that, persons with chronic kidney disease are highly religious. This confirms the generally held assumption that Africans, and by extension, Ghanaian are highly religious. The clear presence and salience of religiosity construct may promote or undermine day-to-day decisions concerning their lives and health.

Secondly, it can be concluded from the findings that since persons with CKD showed high PWB irrespective of the presence of their physical health challenges (CKD), these persons with CKD may be using their religiosity or other factors as a buffer against their physical health challenges that could have plunged them into a state of distress and low PWB.

Also, since the findings revealed that only one component of religiosity (experiential) predicted PWB, emphasis on this area of a person's religiosity may be relevant when interventionists' focus was to promote PWB using religiosity factors. It must however be noted that the age of the person and the duration of the CKD must be taken into consideration if religious-based interventions were to be more meaningful.

Finally, it can be concluded from the study findings that gender had no effect on the PWB of persons with CKD as contrasted with findings from other previous studies that used samples from the general population.

Recommendations

The findings from this study have the underlisted recommendations for policy and programme interventions in dialysis management among persons living with CKD in Cape Coast Metropolis and its environs in the following key areas:

1. The study recommends that the Ministry of Health as well as the Ghana Health Service should encourage religious-based interventions in Ghanaian hospitals and other health services in Ghana through pastoral-care.
2. Dialysis Departments should design and implement programmes that have experiential religiosity components embedded. This might include but not limited to transcendental meditations, prayers, mindfulness-based meditations, among others
3. Considering the fact that religiosity is an integral part of persons with CKD personality, dialysis service providers should acknowledge and address issues pertaining to their clients' religiosity within the treatment regimen. This may include discussing with clients about their religiosity during treatment plan, having empathic understanding about their clients' religiosity and key religious values even if they are in opposition to the beliefs of the service provider.

Suggestions for Further Research

With reference to the present scope of the study, it is suggested that future research works should extend beyond the Cape Coast Metropolis of Central Region of Ghana to involve other metropolis with dialysis facilities across the country. In addition to this, it is further suggested that a study is carried out by future researchers to find out the interacting effect of religiosity and spirituality on the PWB of persons with chronic kidney diseases. The future researcher may consider using a larger sample size to be able to make sound generalisation s of their study. Finally, I suggest that future researchers should consider private religious practice in their models to be able to test its effect on PWB.

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APPENDICES

APPENDIX A

Table 7-Bivariate Correlations (Pearson's r) of the Relationship among Overall PWB, Age, Duration of CKD, Ideological Religiosity, Public Practice Religiosity, and Experiential Religiosity

		Overall PwB	Age	Dur. of CKD	Ideo. R	Pub Prac.	Exper. R
r	Overall PwB	1.000	.229	.237	.379	.341	.423
	Age	.229	1.000	.434	.399	.162	.126
	Dur. of CKD	.237	.434	1.000	.175	.263	.079
	Ideo.	.379	.399	.175	1.000	.684	.643
	Pub. Prac.	.341	.162	.263	.684	1.000	.489
	Exper. R.	.423	.126	.079	.643	.489	1.000
Sig.	Overall PwB	.	.037	.032	.001	.003	.000
	Age	.037	.	.000	.001	.104	.164
	Dur. of CKD	.032	.000	.	.087	.020	.271
	Ideo.	.001	.001	.087	.	.000	.000
	Pub. Prac.	.003	.104	.020	.000	.	.000
	Exper. R.	.000	.164	.271	.000	.000	.

*Correlation is significant at $p<0.05$ (1-tailed); N=62

APPENDIX B

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD

INFORMED CONSENT FORM

Title of Study: Influence of Religiosity on PWB of Persons with Chronic Kidney Disease

This project is toward a partial fulfilment for the award of Master of Philosophy degree in Clinical Health Psychology.

Principal Supervisor: Dr Kofi Krafona (PhD Clinical Psychology)

Address: University of Cape Coast, College of Education Studies, Faculty of Educational Foundations, Department of Education and Psychology, Room 07

Phone line: +233541078770

Co-supervisor: Dr Mark Owusu Amponsah (PhD Educational Psychology)

Address: University of Cape Coast, College of Education Studies, Faculty of Educational Foundations, Department of Education and Psychology, Room 08

Phone line: +233205055973

General Information about the Research

We are conducting this research study to investigate the influence of religiosity on PWB among persons who have chronic kidney disease. This will help us understand and find techniques to optimize health among persons with such conditions.

If you agree to participate, we will take information from you during your time at the Cape Coast Teaching Hospital for management or during you monthly review. We will use a questionnaire to collect information on you age, marital

status, your sex, level of education, and duration of the chronic kidney diseases. In addition, two questionnaires will also be used to collect information to assess you level of religiosity and PWB. You participation in this study will be complete after you have been give this last two questionnaire to answer. This will take about 35 minutes duration.

Procedure

If you agree to participate in this study, you will be asked to do the following;

1. Complete a questionnaire to collect information on your age, marital status, sex, religion, level of education, and duration of your chronic kidney diseases
2. Complete questionnaires that assess you level of religiosity and PWB.

Possible Risk and Discomforts

Psychological and Religious measurements

PWB questionnaire and religiosity questionnaires may be uncomfortable and may pose psychological and social risks as it compares you to reflect on past unpleasant memories. However, the research team has on board experts (clinical psychologist) who have expertise in detecting and addressing these problems should they ensue. Such interventions may include psychological therapies such as cognitive therapy, relaxation techniques (for example, progressive muscle relaxation), among others This will be offered at no cost to you as participant.

Possible Benefits

You will directly benefit by obtaining basic information about your health and well-being. If we detect that you had psychological problem which you were unaware of, you would be referred for thorough assessment and treatment. The

research has the potential to unveiling the influence that religiosity exerts on your PWB as you are dealing with the chronic kidney disease. These findings will help services providers (health professionals), caregivers and other organisations to broaden their scope of care to cover religious variable that affect the treatment.

Confidentially

We will protect information about you to the best of our ability. As a participant, you are assured of anonymity. Contact numbers will be taken for follow up purposes only. Demographic information will be well protected to prevent identification with such information; where necessary, pseudonyms will be used. No part of your identifying information shall be included in the reports.

Compensations

We had the desire to compensate our voluntary participants with token. However, expenditure for this study is borne solely by the researcher with limited research funding. This makes this desire highly to almost impossible. Participant will not be given compensations.

Additional Cost

It will not cost you anything to be in the study either than you time.

Voluntary Participations and Right to Leave the Research

Participation in this study is completely voluntary, and it is not connected to the health services you are receiving for your chronic kidney diseases. You may decline to continue, or decline any individual questions or measurement at any points in the data collections process. There will be no penalty for withdrawal

from study and will not affect the medical care you are receiving at the Clinic, Unit, Department or any facility within the hospital.

Termination of Participation by Researcher

Participants who will develop severe medical or psychological symptoms that will require a quick response care will be terminated from the study to allow for comfortable medical and psychological attention.

Contact for Additional Information

If you have any questions or concerns about the research, please contact

Edward Asaah: edward.asaah@stu.ucc.edu.gh or nanamyol305@gmail.com

Phone: +233241492740

Your Right as a Participant

This research has been reviewed and approved by the Institutional Review Board of the University of Cape Coast (UCC-IRB) and the Ethical Review Committee of Cape Coast Teaching Hospital (ERC-CCTH). If you have any questions about you right as a research participant you can contract the Administrator at the UCC IRB office between the hours of 8:00 a.m. and 4:30p.m. through the phone line (+2330332133172) or email address: irb@ucc.edu.gh.

Voluntary Agreement

The above document describing the benefits, risks and procedures for the research study titled “influence of religiosity on PWB of persons with chronic kidney disease has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

…….. ……..

Name and signature or mark of volunteer Date

If volunteer cannot read the form themselves, a witness must sign here

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

…….. ……..

Name and signature or mark of witness Date

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this study have been explained to the above individual.

…….. ……..

Name and signature of person who obtained consent Date

APPENDIX C

Religiosity and Psychological Wellbeing Assessment Questionnaire

Basic Instructions

In this study, I seek to explore the influence of religiosity on psychological wellbeing especially among persons with chronic physical conditions. Your voluntary participation will be highly appreciated. You are pleased informed that this project is mainly for academic purposes, and you are free to quit anytime you wanted. Information provided will be held strictly confidential. This questionnaire is carefully designed to ensure anonymity. You are hereby encouraged to read the questions carefully and follow the instructions diligently.

1. **Demographic Information**

   Please respond to the following statement as it applies to you.

Please indicate your **Age** in years in the shaded Box here	

Sex: M[ ] F[ ]

Religion: Christian[ ] Muslim[ ] Traditionalist[ ] Buddhist[ ] Judaism[ ] Others specify……

Marital status: Single[ ] Married[ ] Divorced[ ] Separated[ ] Widowed[ ]

Level of Education: MSLC[ ] SSCE[ ] Diploma[ ] First Degree[ ] Postgraduate Degree[ ] others, please specify……

Please indicate in the shaded **Box** below the duration for which you started Dialysis Therapy. If less than 1year please put dash (—) in the column marked years and indicate the number of months in the month column.

Years	Month

Section 2: Centrality of Religiosity Scale- interreligious version (CRSi-18)

Instruction

Please answer the following questions by circling the letter or number in front of the responses that corresponds to how the questions best apply to you. Please note that there is no right or wrong answer but most importantly, the answers must reflect how the questions apply to you.

1. How often do you think about religious issues?

A. Several times a day

B. Once a day

C. More than once a week

D. Once a week

E. One to three times a month

F. Few times a year

G. Less often

H. Never

2. To what extent do you believe that God/Deity/Deities or something divine exists?

1. Not at all
2. Not very much
3. Moderately
4. Quite a bit
5. Very much so

3. How often do you take part in religious services?

A. Several times a day
B. Once a day
C. More than once a week
D. Once a week
E. One to three times a month
F. Few times a year
G. Less often
H. Never

4a. How often do you pray?

A. Several times a day
B. Once a day
C. More than once a week
D. Once a week
E. One to three times a month
F. Few times a year
G. Less often
H. Never

5a. How often do you experience situations in which you have the feeling that God/Deity/Deities or something divine allows an intervention in your life?

1. Never
2. Rarely
3. Occasionally
4. Often
5. Very often.

5b. How often do you experience situations in which you have the feeling that you are in one with all?

1. Never
2. Rarely
3. Occasionally
4. Often
5. Very often.

6. How interested are you in learning more about religious topics?

1. Not at all
2. Not very much
3. Moderately
4. Quite a bit
5. Very much so

7. To what extend do you believe in an afterlife—for example, immortality of the soul, resurrection of the dead or reincarnation?

1. Not at all
2. Not very much

3. Moderately
4. Quite a bit
5. Very much so

8. How important is to take part in religious services?

1. Not at all
2. Not very much
3. Moderately
4. Quite a bit
5. Very much so

9a. How important is personal prayer for you?

1. Not at all
2. Not very much
3. Moderately
4. Quite a bit
5. Very much so

10a. How often do you experience situations in which you have the feeling that God/Deity/Deities or something divine wants something to be communicated or revealed to you?

1. Never
2. Rarely
3. Occasionally
4. Often
5. Very often.

10b. How often do you experience situations in which you have the feeling that you are touched by a divine power?

1. Never
2. Rarely
3. Occasionally
4. Often
5. Very often.

11. How often do you keep yourself informed about religious questions through radio, television, internet, newspapers, or books?

1. Never
2. Rarely
3. Occasionally
4. Often
5. Very often.

12. In your opinion, how probable is it that a higher power really exists?

1. Not at all
2. Not very much
3. Moderately
4. Quite a bit
5. Very much so

13. How important is it for you to be connected to a religious community?

1. Not at all
2. Not very much
3. Moderately
4. Quite a bit
5. Very much so

14a. How often do you pray spontaneously when inspired by daily situations?

1. Never
2. Rarely
3. Occasionally
4. Often
5. Very often.

14b. How often do you try to connect to the divine spontaneously when inspired by daily situations?

1. Never
2. Rarely
3. Occasionally
4. Often
5. Very often.

15. How often do you experience situations in which you have the feeling that God/Deity/Deities or something divine is present?

1. Never
2. Rarely
3. Occasionally
4. Often
5. Very often.

End of Section 2!!

Section 3: Ryff (1989) Psychological Wellbeing Scale (SPWB), 42-Item version

Please indicate your degree of agreement (using a score ranging from 1-6) to the following statements.		Strongly disagree					Strongly agree
1	Most people see me as loving and affectionate.	1	2	3	4	5	6
2	When I look at the story of my life, I am pleased with how things have turned out.	1	2	3	4	5	6
3	My decisions are not usually influenced by what everyone else is doing.	1	2	3	4	5	6
4	I think it is important to have a new experience that challenges how you think about yourself and the world.	1	2	3	4	5	6
5.	I have a sense of direction and purpose in life.	1	2	3	4	5	6
6	In general, I feel confident and positive about myself.	1	2	3	4	5	6
7	I do not fit very well with the people and the community around me.	1	2	3	4	5	6
8	When I think about it, I haven't really improved much as a person over the years.	1	2	3	4	5	6
9	Often feel lonely because I have few close friends with whom to share my concerns.	1	2	3	4	5	6
10	I feel like many of the people I know have gotten more out of life than I have.	1	2	3	4	5	6
11	I am quite good at managing the many responsibilities of my daily life.	1	2	3	4	5	6

12	I have the sense that I have developed a lot as a person over time.	1	2	3	4	5	6
13	I have enjoy personal and mutual conversations with family members or friends	1	2	3	4	5	6
14	I don't have a good sense of what it is I'm trying to accomplish in my life.	1	2	3	4	5	6
15	I like most aspects of my personality.	1	2	3	4	5	6
16.	I have confidence in my opinions even if they are contrary to the general consensus.	1	2	3	4	5	6
17	I do not enjoy being in new situations that require me to change my old familiar ways of doing things.	1	2	3	4	5	6
18	People would describe me as a giving person, willing to share my time with others.	1	2	3	4	5	6
19	I enjoy making plans for the future and working to make them a reality.	1	2	3	4	5	6
20	In many ways, I feel disappointed about my achievements in life.	1	2	3	4	5	6
21	It is difficult for me to voice own opinions on controversial matters.	1	2	3	4	5	6
22.	I have difficulty arranging my life in a way that is satisfying to me.	1	2	3	4	5	6
23.	For me, life had been a continuous process of learning, changing and growth.	1	2	3	4	5	6

24.	I have not experienced many warm and trusting relationships with others.	1	2	3	4	5	6
25.	Some people wander aimlessly through life, but I am not one of them.	1	2	3	4	5	6
26.	My attitude about myself is probably not as positive as most people feel about themselves.	1	2	3	4	5	6
27.	I judge myself by what I think is important, not by the values of what others think is important.	1	2	3	4	5	6
28.	I have been able to build a home and a lifestyle for myself that is much to my liking.	1	2	3	4	5	6
29.	I gave up trying to make big improvements or changes in my life a long time ago.	1	2	3	4	5	6
30.	I know that I can trust my friends, and they know they can trust me.	1	2	3	4	5	6
31.	I sometimes feel as if I've done all there is to do in life.	1	2	3	4	5	6
32.	When I compare myself to friends and acquaintances, it makes me feel good about who I am.	1	2	3	4	5	6

End!!

Thank you for your participation!!!!

APPENDIX D

INTRODUCTORY LETTER

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

Telephone: 233-3321-32440/4 & 32480/3
Direct: 033 20 91697
Fax: 03321-30184
Telex: 2552, UCC, GH.
Telegram & Cables: University, Cape Coast
Email: edufound@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref:

19th March, 2018

TO WHOM IT MAY CONCERN

LETTER OF INTRODUCTION
MR. EDWARD ASAAH

We confirm that the above-mentioned name is an M.Phil. Clinical Health Psychology Student at the Department of Education and Psychology, UCC.

Currently, he is at the theses stage, writing on the topic "***Influence of religiosity on psychological wellbeing of persons with chronic physical health conditions***".

The Department would be very grateful if you could assist him with any information he may need.

Thank you.

Yours faithfully,

Georgina Nyantakyiwaa Thompson
(Principal Administrative Assistant)
For: Head

APPENDIX E

INTRODUCTORY LETTER

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

Telephone: 233-3321-32440/4 & 32480/3
Direct: 033 23 91697
Fax: 03321-30184
Telex: 2552, UCC, GH.
Telegrams & Cables: University, Cape Coast
E-mail: edufound@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref:

26th February, 2018

CAPE COAST METROPOLITAN HOSPITAL RECEIVED 26/02/18 P.O.BOX 174, CAPE COAST

TO WHOM IT MAY CONCERN

Dear Sir/ Madam,

LETTER OF INTRODUCTION: MR. EDWARD ASAAH

We introduce to you the above mentioned name an M.Phil Clinical Health Psychology Student at the Department of Education and Psychology, UCC.

He is undertaking a theses work entitled "Influence of Religiosity on Psychological Wellbeing of Persons with Chronic Physical Health Conditions".

It is purely for academic purposes. All information retrieved would be treated confidentially.

Kindly accord him with the necessary assistance he may need.

Thank you for your support.

(Georgina Nyantakyiwaa Thompson).
Principal Administrative Assistant
For: Head

APPENDIX F

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/18-1
Your Ref: .....
Date: 28.03.2018

Chairman, CES-ERB
Prof. J. A. Omotosho
jomotosho@ucc.edu.gh
0243784739

Vice-Chairman, CES-ERB
Prof. K. Edjah
kedjah@ucc.edu.gh
0244742357

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

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

The bearer, Edward Asaah ....,..., Reg. No. EN/CHP/16/0006 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 religiousity on the psychological well-being of persons with chronic physical health conditions

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 G

ETHICAL CLEARANCE FROM CAPE COAST TEACHING HOSPITAL

CAPE COAST TEACHING HOSPITAL
ETHICAL REVIEW COMMITTEE

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
Cape Coast
Tel: 03321-34010-14
Fax: 03321-34016
Website: www.ccthghana.org
email: info@ccthghana.com

7th May 2018

Mr. Edward Asaah
Faculty of Educational Foundations
College of Education Studies
University of Cape Coast
Cape Coast

Dear Mr. Asaah,

ETHICAL CLEARANCE – REF: CCTHERC/EC/2018/26

The Cape Coast Teaching Hospital Ethical Review Committee (CCTHERC) have reviewed your application of your research protocol titled, **"Influence of religiosity on Psychological wellbeing of persons with chronic physical health conditions"** 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,

DR. ERIC NGYEDU
MEDICAL DIRECTOR
FOR: CHAIRMAN, ERC

CC: HOD, MEDICINE

Research Title	**REF: CCTHERC/EC/2018/26** **Influence of religiosity on Psychological wellbeing of persons with chronic physical health conditions**
Investigator	**Edward Asaah**
Recommendations	Although approval is granted, the ERC recommend the following: a. To consider recruiting a clinician or nurse to be part of the research team as patients on dialysis are very sensitive.