DEPARTMENT OF PSYCHOLOGY
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AFRICENTRIC COPING, ADJUSTMENT AND QUALITY OF LIFE AMONG BREAST CANCER PATIENTS

BY

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DECLARATION

This is to certify that this thesis is the result of research carried out by RITA APPIAH-DANQUAH toward the award of MPhil Clinical Psychology in the Department of Psychology, University of Ghana, Legon.

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ABSTRACT

The objective of the study was to examine Africentric coping, adjustment and quality of life among breast cancer patients. The study recruited 200 breast cancer patients using the purposive and convenience sampling methods. Participants were administered tests assessing coping, adjustment, quality of life and psychopathological symptoms. The findings revealed that breast cancer patients use cognitive methods in coping with breast cancer. However, the results showed that breast cancer patients expressed feelings of hopelessness and helplessness. The feelings of hopelessness and helplessness were associated with low quality of life and a high prevalence of psychopathological symptoms among the patients. Additionally, the stage of breast cancer were observed to have a significant influence on quality of life, adjustment and coping. A significant positive relationship was found between age of patients and the degree of psychological distress. A significant negative relationship was found between duration of illness and quality of life among breast cancer patients. In summary, this study found that most breast cancer patients used maladaptive strategies in adjusting to the condition. As a result they experienced low quality of life and an increased predisposition to psychological distress. The implications of these findings are discussed.

DEDICATION

This thesis is dedicated to my beloved parents Mr. Kwaku Appiah-Danquah and Miss Nancy Okyere. I also dedicate this work to my lovely sister Dorcas Appiah-Danquah and my uncles Mr. Samuel Asare and Mr. Daniel Owusu Addo.

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TABLE OF CONTENTS

Contents Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

BACKGROUND TO THE STUDY

Cancer is perceived worldwide as a major disease burden and most individuals perceive it to be a frightening and untreatable disease that implies death. Statistics show that tens of millions of people are diagnosed with cancer around the world and it is estimated that this number might reach 15 million by 2020 (Turgay, Khorshid, & Eser, 2008). Patients of cancer often have personal theories about what may have caused their disease. These common sense beliefs based on the personal theories have helped in predicting both the behavioral and the psychological responses to the disease. These have predicted decisions to seek healthcare (Grunfeld, Hunter, Ramirez & Richards, 2003). Additionally, these beliefs have been related to compliance with medical interventions (Paraskevi, & Panagiotak, 2012). Personal beliefs about one's disease have been associated with psychological adjustment in diverse medical populations including patients with AIDS, end stage renal disease and cancer (Theofilou, 2012).

Based on worldwide research, breast cancer is the most common malignancy among women, with an estimated 715,000 new cases for the year 2008 diagnosed in the more developed regions (26.5% of the total) and 577,000 (18.8%) in less developed countries (WHO-IARC, 2008). Breast cancer is the leading cause of neoplastic deaths among women; the estimated number of deaths in 2002 was 410,000 worldwide (WHO-IARC, 2008). In developed countries, survival from breast cancer has slowly increased to the current rate of 85%, following improvements in screening practices and treatments. On the other hand, the survival rate in developing countries remains around 50-60% (WHO-IARC, 2008).

A diagnosis of cancer regardless of stage is a stressful event impacting on all facets of the patient's life and that of her family caregivers. To minimize the impact, adaptive coping mechanisms are required (Mukwato, Mweemba & Makula, 2010). The time of diagnosis, initial stages of treatment course and the months following the end of the treatment are hard times for patients both physically and emotionally. During these periods poor adjustment and decreased quality of life in patients can easily occur. It is known that decreased quality of life as a result of chemotherapy side effects may predict early treatment discontinuation in patients (Richardson, Wang, Hartzema-Pharm & Wagner, 2007). Patients diagnosed in the early stages experience the stress of coming to terms with the diagnosis, the experience of complex and usually long treatments, and the side effects of the different treatment modalities. Those diagnosed in the late stages, have to come to terms with their diagnosis, the fact that they will have to receive palliative as opposed to curative care and the fears and uncertainty about end of life (Mukwato et al., 2010).

Some researchers have suggested that a breast cancer diagnosis is one of the most devastating events that can befall a woman and is frequently associated with anxiety and depression (Friedman, Kalidas & Elledge, 2006). The psychological burdens of long-term postoperative treatment also cause psychological distress in patients with breast cancer (Hack & Degner, 2004). Some of the treatments breast cancer patients undergo include chemotherapy, radiotherapy, and endocrine treatment that are not free of side effects (Schlatter & Cameron, 2010). Patients' lives after surgery, as early as one postoperative year, are manifest with persisting physical and treatment-related problems including; tightness or tenderness in the chest wall or breast, less energy due to fatigue and difficulty in sleeping (Nakatani, Iwamitsu, Yamamoto, Kuranami, Watanabe, Okazaki, Miyaoka, 2013).

Furthermore, 20%-30% of breast cancer patients suffer from psychiatric morbidity, such as anxiety and or depression, during the first postoperative year (Shimozuma, Ganz & Petersen, 1999). It is necessary for an examination of psychological distress after surgery to be included in the therapeutic process. There are however, interpersonal differences in the extent to which breast cancer patients are vulnerable to psychological distress. One psychological trait that influences patient susceptibility to psychological distress is emotional suppression (Nakatani et al., 2013).

Coping is a complex mental process by which a person deals with stress, solves problems, and makes decisions. It is an emotional, cognitive and behavioral response of a patient to an illness. Coping process involves at least two stages: confronting (e.g. Is this something to bother about?) and managing (e.g. What can I do about it?) with different aspects of illness or disability (Sprah & Sostaric, 2004). Since every patient is a unique person, an emotional, cognitive and behavioral response can vary a lot and can occasionally be quite unpredictable in the same patient. Despite the striking differences in the progress of different cancers and the increasing effectiveness of medical treatments, cancer continues to be the most widely feared group of diseases.

Undoubtedly, cancer causes considerable psychological distress in patents, families, and often those health professionals who care for them (Sprah & Sostaric, 2004). Some socially determined problems often augment distress in patients as well. Besides unpleasant symptoms such as pain, nausea, fatigue and distress, financial problems and problems concerning employment, housing, childcare, family worries and existential doubts also occur. Only a well-planned care that fully involves patients and their families can minimize these problems (Sprah & Sostaric, 2004). In fact, breast cancer patients with mal-functional coping mechanisms often have resultant lowered quality of life.

More often than not, quality of life is considered as an existing phenomenon relative to an individual or cultural expectations and goals hence the literature reports no single agreed definition of health related quality of life. Health related quality of life (HRQOL) refers to the domains of health which include; physical, psychological, and social. These domains are seen as distinct areas that are influenced by a person’s experiences, beliefs, expectations, and perceptions (Testa & Simonson, 1996). According to Carr and Higginson (2001), determining quality of life (QOL) is dependent on many factors including; the extent to which hopes and ambitions are matched by experience; individual’s perceptions of their position in life taken in the context of the culture and value systems where they live and in relation to their goals, expectations, standards, and concerns; appraisal of one’s current state against some ideal; and the things people regard as important in their lives. There are an almost infinite number of states of health, all with differing qualities that range between extreme conditions to that of a fully healthy life. Each aspect of health has many components such as symptoms; ability to function including self-care and mobility; or depression or anxiety from an emotional aspect; and disability, in which all of these domains contribute to a multidimensionality of QoL (Testa & Simonson, 1996).

Moreover, additional factors that have been found to be high risk factors for poor quality of life of breast cancer patients are age, duration of illness and types of treatment (Kwan, Ergas & Somkin, 2010). Previous studies suggested that younger women have greater psychological morbidity and poorer QoL after breast cancer than older women (Kwan et al, 2010). Depression is also particularly associated with poorer quality of life in cancer patients (Archer, 2010) as well as higher mortality rates (Satin, Linden & Philips, 2009). Cancer patients identify psychological factors such as depression as unmet needs in their care (Aziz, 2009). Studies have shown that African-Americans have greater risk of depression within the cancer population (Agarwal et al, 2010; Kodl, Matthews, Cummings & Olapade, 2006) and in turn may have poorer quality of life.

For most patients, being diagnosed with cancer and treatment for cancer is associated with many stressors that affect their daily lives hence healthy coping and adaptive strategies are needed to limit the impact of these stressors on the patient's quality of life (Lampic, Thurfjell, Bergh, Carlsson & Sjoden, 2002). Some of the stressors associated with the diagnosis of breast cancer include, great fear of pain, dying, economic and social changes and dependence (Moschen, Kemmler, Schweigkofler, Holzner, Dunser, Richter, Wolfgang Fleischhacker & Sperner- Unterweger, 2001). The impact of these stressors could be on the affected women's emotional, cognitive and social functioning (Thewes, Butow, Girgis & Pendlebury, 2004).

Furthermore, the impact of the breast cancer disease itself and the treatment causes physical disabilities such as loss of hair, loss of a breast, weight problems and other side effects which can make a woman feel alienated from her body. This is so because, Bassett-Smith (2001) argued that breast cancer has been culturally associated with visible 'female' aspects of the body. These physical disabilities produce psychological distress that cause women with breast cancer to often report feelings of fear and of decreased energy, as well as of isolation and aloneness. Consequently, the sufferers relate that other people do not know how to talk to them, and that others cannot truly share their concerns. Breast cancer sometimes causes a woman to isolate herself from her family and friends because of worry that they may be too emotionally involved in her concerns and fears (Serlin et al., 2000). Relating this development to breast cancer indicates patients' use of malfunctioned coping and adaptive strategies which would obviously result in poor quality of life. Besides, whilst Koenig (2000) underscored that religious involvement is a widespread practice that predicts successful coping with physical illness, the researcher also maintained that unaddressed spiritual needs may jeopardize healing.

It is therefore becoming an increasingly important issue in oncology to evaluate the quality of life of cancer patients. Fortunately instruments exist for measuring how living with breast cancer affects the overall patients' health status and their quality of life (Dehkordi, Heydarnejad & Fatehi, 2009). A decrease QoL occurs when hopes do not meet with the experience. Quality of life thus changes with time and can vary greatly. To improve the quality of life for cancer patients, it is not only necessary to narrow the gap between hopes and aspirations and what actually happens, but to as well periodically assess the QoL of breast cancer patients and ensuring the adherence to healthy coping and adjustment strategies.

In Ghana, there have been efforts to reduce morbidity and mortality from breast cancer through primary, secondary and tertiary prevention methods. One such effort was through the establishment of the Cancer Society of Ghana in 2003. The aim was to increase awareness, promote care through public education as well as ensure prevention and control of morbidity or mortality from cancers. During the 2010 Cancer Awareness Workshop organized at the Ghana Institute of Management and Public Administration, a panel of experts from the Cancer Society of Ghana proposed an action plan which aimed at advancing its goal of reducing breast cancer mortality in Ghana. The important components of this plan were public education and awareness (Cancer Society of Ghana, 2013). Other factors taken into consideration during the workshop included: empowerment of women to gain access to health care; promotion of breast screening exercise; and the development of infrastructure and human resources for the treatment of breast cancer. However, no concrete decision was taken with regard to improvement in treatment regimen by involving multidisciplinary care and also the need to assess the quality of life as well as adjustment and coping strategies.

PROBLEM STATEMENT

Worldwide, millions of people are diagnosed with various forms of cancers. In Ghana alone about 16000 cases of cancers are reported each year; killing more people than HIV and AIDS, tuberculosis and malaria (Clegg-Lamptey, 2012). This rise is alarming yet it is not known whether quality of life as well as the various coping and adjustment strategies used by patients are assessed during the treatment or treatment is only focused on the physical cause of the illness. Clegg-Lamptey (2012) further indicated that the possible reason for the rise of cancer was due to factors such as; poor knowledge, late detection and diagnosis, beliefs and lack of funds for treatment. Negative lifestyles could also put individuals with a family history at a higher risk of getting the illness. There is a need for effective cancer management to improve the patient's quality of life (Priscilla, Hamidin & Azhar, 2011) and these involve multidisciplinary effort (Lim, 2001). Physicians must help patients to overcome the situation by offering balanced pharmacotherapy and psychotherapy support (Priscilla, Hamidin & Azar, 2011).

Access to health care contributes to the improvement of health of the community and forms the cornerstone of every successful health policy. Although differences exist among the populace and geographical areas, most residents in Ghana face common problems regarding access to care. In Ghana, access to health is strongly influenced by the service provider and system-related factors. These may include lack of specialists, cost of care, and unavailability of some of the services. Of greater concern is the fact that many individuals in rural areas face substantial barriers in obtaining health care. Nevertheless, a key feature of the history of health care delivery in Ghana has been its thoughtful organization. The service is regionally based and publicly operated and provides equal access to all residents. It encompasses three administrative levels: national, regional, and district.

Although both the regional and district level components operate through the national level, the provision of basic health care services, particularly for infectious diseases is decentralized throughout the country. The national level, operating under the Ministry of Health, is responsible for ensuring equitable and quality health care delivery across the country. With the exception of two regions in the northern part of the country, each of the ten regions in Ghana has one regional hospital. These hospitals are coordinated and administered by the regional level administration. All the regional hospitals are relatively well equipped with modern equipment and staffed by both specialists and general medical practitioners. In addition to their territorial health care delivery responsibility, two of the regional hospitals: Korle-Bu and Komfo-Anokye provide breast cancer care services and serve as a tertiary referral centers and teaching hospitals for medical schools in the country. Despite the well-structured health system, health care services for chronic diseases such as breast cancers are not only unevenly distributed but regrettably available only in the southern parts of the country.

Even though, extensive research have been conducted on the influence of socio-demographic factors such as age, income, education, marital status and history of breast cancer as well as problems of breast cancer on screening intentions there is a dearth on the subject matter in the area of coping and adjustments. Besides, not much has been done to estimate the effect of duration of illness, stage of the breast cancer and/or psychological problems on patients' quality of life, adjustment or coping strategies among the Ghanaian and African populace suffering from breast cancer. Goodwin, Black, Bordeleau and Ganz (2003) emphasized that health related quality of life is intended to help guide clinical decision making regarding the selection of optimal treatment to provide information about the experience of patients receiving treatments and potentially to predict prognosis. Thus, since quality of life is an important indicator in the measurement of treatment outcomes, it therefore becomes overly necessary to evaluating quality of life in cancer research and in clinical settings.

Shimozuma, (2002) remarked that breast cancer treatment can affect the patient's everyday life and can cause serious harm to the patient, which can outweigh the advantages. For these reasons, Hakamies-Blomqvist et al (2001) offered that clinicians have become increasingly aware of the importance of maintaining and improving the patient's quality of life in the treatment of cancer. Currently it is unclear whether health related quality of life measurements influence clinical decisions or whether quality of life measurement to clinical decision making varies according to the stage of the disease or the type of intervention. It has been argued that despite the volume of research, there is shortage of social science research among cancer patients in Ghana, although the role of social scientists in the management regimen of cancer is very crucial (Parkin, Ferlay & Hamdi, 2004). It is against these backdrops that this study was set to investigate the possible adjustment and coping mechanisms the African implores in handling the afflictions of breast cancer and its attendant psychological conditions.

AIMS AND OBJECTIVES OF THE STUDY

The aim of the study is to gain an in-depth understanding of stress associated with cancer and Africentric coping mechanisms used by cancer patients to adjust to the illness, as well as how the illness affects their quality of life. Specifically the study is aimed at addressing the following:

1. Examine the influence of Africentric coping strategies on quality of life among breast cancer patients.
2. Assess the impact of adjustment on quality of life of breast cancer patients.
3. Determine how socio-demographic variables are significantly associated with psychological distress and/or quality of life among breast cancer patients.
4. Explore the extent to which differences exist among patients with different stages of breast cancer in the use of Africentric coping strategies.

RELEVANCE OF THE STUDY

This study intends to highlight the various coping strategies that are used by patients to cope and adjust to the illness of breast cancer. It further examines how the illness affects the quality of life of the patients. The identification of these factors may form the basis for the incorporation of psychological care in the treatment of cancer. This study will provide clinicians with some important and basic empirical insights necessary for catering and addressing the psychological needs of not only breast cancer patients but sufferers of other related complications. This is key to helping the patients adjust properly to the illness and also have improved quality of life whilst living with the condition and its complications.

Additionally, the study outcome will inform policy makers and other regulators not only about better ways of dealing or managing cancer but the individual-specific and cultural factors that influence coping, adjustment and quality of life and treatment of breast cancer regarding the Ghanaian and African cultural and environmental settings. In essence, the study hopes to deemphasize the normative and hackneyed biomedical centered approach and encourage the need for addressing breast cancer and its associated distress from the multidisciplinary bio-psychosocial approach. Furthermore, for players in the education and academic arena, the findings would be a source of reference for future studies in related areas, more exclusively in understanding the psychological distress associated with living with breast cancer disease. For the sufferers of breast cancer and related illnesses, findings would be a source of knowledge to knowing the cultural specific strategies to adopt in coping and adjusting to the illness as well as how to effectively employ those strategies to avert the negative effects of living with breast cancer. Finally, the study findings would add to existing literature on the subject matter of cancer and psychological distress in the country.

CHAPTER TWO

LITERATURE REVIEW

INTRODUCTION

The study sought to examine Africentric coping, adjustment and quality of life among breast cancer patients. It also assessed the effects of duration of illness and psychological distress on quality of life of breast cancer patients. Therefore this chapter, highlights the theoretical framework underlying the study with the view of explaining the theories in line with the variables under consideration. Three main theories that will guide the study are the Africultural coping theory by Utsey, Adams and Bolden (2000), the theory of cognitive adaptation by Taylor, (1983) and the Integrative Theory of Quality of Life by Ventegodt, Merrick and Anderson, 2003. Following the reviews of the theories that guide the study are empirical literature on the various variables in the study. Review of related study is followed by the rational for the present study, the hypotheses to be tested and the operational definition of key terms.

THEORETICAL FRAMEWORK

The Africultural Coping Theory

Three main theories that guided the study are the Africultural coping theory by Utsey, Adams & Bolden, (2000) and the theory of cognitive adaptation by Taylor, (1983). This theory was developed to give a representation of the full repertoire of culturally specific coping behaviors characteristic of the African population since it is not adequately represented by the conventional (i.e., Western or Eurocentric) paradigm. Also since the current ethnocentric conceptualizations of stress and coping do not consider the unique life situations, experiences, and history of African Americans, the instruments used to assess coping behavior fail to capture the culture-specific coping strategies characteristic in this population.

From the theory it is evident that an African-centered approach to the world is reflective of the values, attitudes, and customs originating out of an African philosophical framework and is necessary for understanding the behavior of people of African descent (Asante, 1998; Azibo, 1992; Nobles, 1990). An African-centered philosophy holds that everything in the universe is functionally connected, and individuals are viewed as an extension of the environment. In this regard, the collective consciousness emphasizes cooperation and group orientation; the group serves as a natural support system (Jackson & Sears, 1992; Post & Weddington, 1997). The notion of all things being connected is known as consubstantiation (Nobles, 1986) and is the axis of the African worldview. Consubstantiation connotes a holistic worldview in which all events, as Semmes (1996) states, have purpose and meaning.

Within the framework of the African worldview and under the umbrella of consubstantiation is the process of maintaining concert with the elements of nature. In the African worldview, a humanbeing is a force within a universal order that has the potential to harmonize with nature (Jahn, 1961). Harmony requires the balancing of relationships between complementary opposites in accord with environmental rhythms (Nobles, 1986). Therefore, in the realm of coping behaviors, effective coping requires the ability to harmonize with life’s events, which are spiritual manifestations that occur in a physical/material form. In this philosophical framework (i.e., African centered), coping is viewed as an effort to maintain a sense of harmony and balance within the physical, metaphysical, collective/communal, and the spiritual/psychological realms of existence. When this balance is upset, stress and disease are the result.

In the context of this study, African American coping behavior is viewed as culturally manifest in the conceptual framework of a worldview that is inherently spirit based; a reality characteristic of people of African descent. Similarly, it should be noted that collective or group-centered approaches to establishing and maintaining harmony during stressful encounters with the environment underscore an African ontological framework that posits "I am because we are and since we are, therefore I am" (Mbiti, 1963, p. 106). The notion of harmony is central to the African worldview and provides the framework for understanding the coping behaviors of African Americans. Moreover, the use of rituals in managing stress is a reflection of an emic nuance of African American coping behavior. Rituals are considered to be a direct expression of the African worldview (Ani, 1990). It is through the use of rituals that "trauma is avoided, crises [are] dealt with and overcome and difficult transitions [are] perceived as passages between stages of normal growth and development" (Ani, 1990, p. 213).

Theory of Cognitive Adaptation (Taylor, 1983)

According to the cognitive adaptation theory, when an individual experiences a life threatening event the adjustment process centers around three themes. A search for meaning in the experience, an attempt to regain mastery over the event in particular and over one's life more generally, and an effort to restore self-esteem through self-enhancing evaluations despite personal setback. 'Meaning' according to the theory is an effort to understand the event: why it happened and what impact it has had. The search for meaning attempts to answer the question: What is the significance of the event? Meaning is exemplified but not exclusively determined by the results of an attributional search that answers the question: What caused the event to happen? Meaning is also reflected in the answer to the question: What does my life mean now? The theme of mastery centers around gaining control over the event and one's life. It is exemplified by but not exclusively served by, beliefs about personal control. Efforts at mastery center on the questions: How can I keep this or a similar event from happening again? What can I do to manage it now, etc.?

The third theme is enhancing self-esteem through self enhancement. Thus, victimizing events often reduce self-esteem even when the individual had no responsibility for bringing the event about. Many intra-psychic efforts to recovery accordingly involve finding ways to feel good about oneself again. An important quality that all these three share is illusions. An individual's efforts to successfully resolve these three themes rest fundamentally upon the ability to form and maintain a set of illusions. Their maintenance requires looking at the known facts in a particular light, because a different slant would yield a less positive picture, or the beliefs have yet to yield any factual basis of support.

The Integrative Theory of Quality of Life (Ventegodt, Merrick and Anderson, 2003).

These theorist view quality of life as a means of good life, thus they regard good life as living a life with high quality. They consider the notion of good life to be observed from the subjective to the objective, where this spectrum incorporates a number of existing quality of life theories known as the integrative theory of quality of life. The subjective quality of life is how good an individual feels about the life he or she has. Whether an individual is content with life and happy are the aspects that reflect subjective quality of life. The components of subjective quality of life are; Well-Being, Satisfaction with Life, Happiness, Meaning in Life, Order and disharmony in the biological information system**,** Realizing Life Potential and Fulfillment of Need. The objective quality of life on the other hand reflects how one's life is perceived by the outside world. This view is influenced by the culture in which people live. An individual's ability to adapt to the values of a culture reflects objective quality of life and tells us about the person's life. In the middle of the above two is the existential quality of life. This means how good one's life is at a deeper level. It is assumed that the individual has a deeper nature that deserves to be respected and that the individual can live in harmony with. We might think that a number of needs in our biological nature have to be fulfilled, that these factors such as conditions of growth must be optimized, or that we must all live life in accordance with certain spiritual and religious ideals laid down by the nature of our being. The factors of the objective quality of life include; income, marital status, state of health and the number of daily contacts with other people.

The Integrative Quality of Life theory further posits that an individual can therefore best be compared to a green apple with red patches (a subjective and an objective quality of life, respectively, at the surface of the individuals existence) with a hidden nucleus (humanities inner depth). When the picture is combined with the picture of humanity as an onion with a number of players between the surface and the nucleus, the taxonomy underlying the quality of life analysis is achieved.

The Integrative Theory and the Depths of Life

All these divergent theories of quality of life are aspects of life that can be placed on a horizon moving from the subjective to the objective. According to Ventegodt et al (2003) wellbeing, and objective factors, are the most superficial, as they are concerned with our superficial ability to adapt to our culture, satisfaction with life, and fulfillment of needs, are concerned with somewhat deeper aspects: Is there symmetry between what I want from life and what life gives me?, happiness, and realizing life potential, encompass our deepest existence and nature as individuals. Further, meaning in life, and order and disharmony in the biological information system, deal with humanity's innermost being. We need to also imagine an abstract nucleus that remains inexpressible and immeasurable. The subjective and the objective unite in this nucleus: the deepest subjective quality of life and the objective state of the organism, as we know it from health and sickness.

How the individual feels at the very center of humanity, reflect the quality of life of the individual. Unfortunately, it is probably impossible to express this state in words. This is because the experience does not belong to the world of logic and order but to life's own space and quality. One might choose other words for this deepest pool, which is what great religious, mystical, and philosophical systems do. No matter what one calls this depth, life is the ability to contact it and bring it in accordance with what each of us considers to be the true essence of life. If we believe sufficiently in ourselves, we can bring forth this essence from the depths of our being and let it be part of our own lives.

REVIEW OF RELATED STUDIES

It is becoming increasingly difficult to ignore the affected cancer patients with poor quality of life who need more attention and supportive cancer care. Generally, quality of life is better without cancer. However, cancer is preventable by healthy behaviours such as smoking cessation, healthy eating, and regular physical activity and early detection of cancer can improve the quality of life and increase likelihood of survival (Rowland et al., 2011).

Quality of life and cancer

Research conducted has shown a relationship between quality of life and survival time in cancer patients. Montazeri (2009) found from his study that quality of life data or some aspects of quality of life measures were significant independent predictors of survival duration. Global quality of life, functioning domains and symptom scores such as appetite loss, fatigue and pain were found to be the most important indicators, individually or in combination, for predicting survival times in cancer patients after adjusting for one or more demographic and known clinical prognostic factors. This study provides evidence for a positive relationship between quality of life data or some quality of life measures and the survival duration of cancer patients. It is also evident that pre-treatment (baseline) quality of life data appeared to provide the most reliable information for helping clinicians to establish prognostic criteria for treating their cancer patients.

According to Schou, Ekeberg, Sandvik, Hjermstad and Ruland (2005), women with breast cancer reported significantly more insomnia, appetite loss and diarrhea compared with the general population, at diagnosis and three months follow-up. Compared with a control group, they also scored significantly lower on the aspects of quality of life related to emotional, cognitive and social functioning, at the time of diagnosis. One year after operation, they continued to score lower on cognitive and social functioning. Thus, breast cancer patients need to be guided to choose coping and adjustment strategies that are healthy so that their quality of life even as they live with breast cancer is not impaired.

Colby and Shifren (2013) examined the relationship between level of optimism, positive and negative mental health and quality of life, of breast cancer patients. They sampled a total of 51 breast cancer patients who were measured on Life Orientation Test, the Center for Epidemiological Studies Depression Scale and the Functional Living Index Cancer. Their findings showed that breast cancer patients reported more optimism than pessimism, more positive than negative mental health and majority of the sample reported doing well on each quality of life domain. Also individuals who reported more depressive symptoms reported less quality of life. Breast cancer patients who scored higher on optimism reported better social and mental functioning on quality of life domain than those who scored low on optimism. They found out that age was related to better quality of life.

A similar study by Gokgoz, Sadikoglu, Paksoy, Guneytepe, Ozcakir, Bayramet and Bilgel (2011) examined the quality of life of newly diagnosed breast cancer patients who had been scheduled for breast surgery after their initial treatment in a university hospital. Findings revealed that the mean quality of life score was 64.43 and patients with localized cancer had higher scores. Additionally, patients with advanced stage of breast cancer reported lower physical, social and sexual functioning than those in the early stages. Also patients who were receiving chemotherapy at the time had lower quality of life than those on hormone therapy. Findings showed that breast cancer patients experience problems across domains of quality of life however, this study was limited to only newly diagnosed patients. Similarly, Nagwa et al. (2002) in their research assessing the quality of life of adolescent's cancer patients found that; the domains of positive concern as perceived by patients were symptoms distress and anxiety related treatment, followed by body image and psychological wellbeing. However, these researchers did not examine how patients of cancer cope with the illness since inadequate coping strategies can negatively affect the quality of life of the patients.

Lee, Baek, Kim, Heo, Yun, Park and Kim (2011) conducted a study with the aim of examining the effect of patients' awareness of disease status on the health-related quality of life (HRQOL) among advanced cancer patients undergoing palliative chemotherapy. They conducted a prospective cohort study in which patients were followed-up at 4 to 6 weeks and 2 to 3 months after the initial palliative chemotherapy. Findings from the research revealed that; patients with advanced cancer undergoing palliative chemotherapy experienced deteriorated HRQOL. Out of these, the patients who were aware of their disease status as incurable had significantly higher role, emotional and social functioning and lower fatigue, appetite loss, constipation, financial difficulties, and anxiety compared with patients unaware of disease status. From this research finding it is made clear the importance of patients' awareness of disease status to health related quality of life.

Aziato and Clegg-Lamptey (2015) explored the reactions of women with breast cancer and identified factors influencing treatment decisions. A qualitative exploratory approach was used. Participants were sampled from a tertiary hospital and a breast cancer support group. Twelve (12) breast cancer patients were sampled through the use of purposive sampling technique. Findings revealed that women identified breast lesions accidentally or intentionally and that diagnosis was delayed. Emotional reaction to diagnosis included shock and sadness. Furthermore, factors that influenced treatment were the influence of other people, alternative sources of treatment, faith and support, knowledge, “tuning the mind” and effects on intimacy. Thus health professionals need to develop effective communication and counselling skills for clients.

Shen, Liu, Zhang, Feng, Zhou and Chen (2012) conducted a study to explore the quality of life of breast cancer patients through the use of Functional Assessment of Cancer Therapy-Breast (FACT-B) questionnaires. As such, the researchers sampled a total of 522 adult patients who were admitted at the hospital with breast cancer between 2007 and 2009. Findings revealed that younger age, lower stage of cancer, higher education and income influence the quality of life of cancer patients within the Chinese population. However, the participants that the researchers used or those who enrolled in the research might not be representative for tumor patients in Chinese population. As such, findings from the study might not be applicable to Chinese population elsewhere. Additional, the sample size in comparison to the population was limited as such it may not have enough statistical power to find the other influence factors for quality of life.

Dehkordi, Heydarnejad and Fatehi (2009) conducted a study on the quality of life in cancer patients undergoing chemotherapy. Contrary to the studies reviewed above, Dehkordi et al (2009) came up with slightly different findings at the end of their research. The aim for their research was to describe the quality of life in cancer patients with solid tumors at different chemotherapy cycles. They studied 200 patients with the European Organisation for research and Treatment of Cancer Quality of Life Questionnaire. The results showed no correlation between quality of life and variables such as age, sex, and marital status, duration of disease, economic conditions and occupational function. There was also no correlation between quality of life and the patient`s educational level (i.e. literate or illiterate) but there was a significant difference between the level of quality of life in patients with ≤ 2 chemotherapy (CT) cycles. Thus, the study indicated that it was necessary to encourage cancer patients to complete a CT course since it plays important role in treatment outcome and quality of life in cancer patients undergoing CT.

Ho, So, Leung, Lai and Chan (2013) conducted a research with the purpose of comparing the psychological health and quality of life (QoL) of women with breast cancer, and to determine the relationship between anxiety, depression and quality of life during treatment and one year afterwards. The researchers administered a self-report questionnaire to 269 women undergoing adjuvant therapy for breast cancer, and 148 women with breast cancer who had completed all treatment within the last year.

The results revealed that the ongoing therapy group showed higher levels of anxiety and depression and lower levels of all quality of life dimensions than the post-therapy group. Both anxiety and depression were significantly related to physical and functional well-being, while depression was associated with social or family well-being in both groups. In the case of emotional well-being, anxiety had a strong significant association in both groups and depression a significant relationship only in the ongoing-therapy group. The psychological health of women with breast cancer is affected during and after treatment. Psychological distress in these patients, including anxiety and depression, has independent associations with impaired emotional, functional, physical and social well-being. The results highlight the importance of timely detection of anxiety and depression, and their proper management, during the treatment and survivorship phases of the breast cancer trajectory.

Coping among cancer patients

Vidhubala et al (2006) conducted a study with the aim to assess and evaluate the coping preferences of head and neck cancer patients. From their results it was evident that no significant difference was observed in the preference of emotion-oriented coping in relation to demographic variables namely; age, treatment and education. They also found out that gender showed significant differences in the preference of problem oriented coping. Additionally, there was no difference in preference of problem oriented coping among the patients with different survival period and age. These findings indicate that, being flexible on the type of coping strategy to use is the most preferred way used by patients.

In another study by Haghighi (2013), the objective was to examine why correlation existed between religious coping and depression in cancer patients. Results from the showed no significant difference between men and women on “avoidant relationship with God” and “alternate fearfulness and hopefulness.” However, the mean score of relationship with God in women was higher than men. The rate of depression was lower among patients whose families had a better attitude to religion. The conclusion made was that psychotherapy individual or familial counseling and especially increasing of religious beliefs such as praying and trust in god, as well as increasing the knowledge of patient and his or her family cause better acceptance of the disease and better confrontation of psychological problems.

In a related study to determine the level of depression, anxiety, coping strategies and the effects of the levels of depression and anxiety on the strategies for coping with stress in cancer patients the results were as follows. The type of treatment of 84.44% of the patients was chemotherapy only and the mean duration of the disease was 15 months. Anxiety was determined in 61.5% and depression in 81.3% of patients. It was found that patient benefited most from social support seeking strategy which was usually followed by problem solving strategy and avoidance strategy. A positive statistically significant relationship was found between the avoidance strategy and anxiety and depression levels of the patients. It was concluded that patients recruited active coping strategies mostly. Also patients were observed to avoid stressful events with the increasing levels of anxiety and depression (Karabulutlu, Belici, Cayir, Tekin & Kantaci, 2010).

Urcuyo, Boyers, Carver and Antoni (2005) conducted a study among 230 early stage breast cancer patients to help characterize benefit finding in breast cancer patients. The participants who had undergone surgery about a year ago were asked to complete a set of benefit finding items. The data from the benefit finding items were related to concurrent coping, aspects of psychosocial wellbeing, demographic variables and some personality traits. Findings from this study revealed that benefit finding was positively related to stage of breast cancer as well as the use of anti-hormonal treatment. Again, benefit finding was inversely related to education level. Also, benefit finding was related to ethnicity with African American and Hispanic women reporting more benefit finding compared to non-Hispanic white women. However, the time of treatment was not related to benefit finding. There was a relationship between benefit finding and optimism about life as well as religious coping.

Almost all the studies reviewed looked at the influence of separate variables on cancer patients without blending Africentric coping, adjustment and quality of life among cancer patients. Another research by Sen and Spring (2010) also showed the importance of making patients aware of their illness which could result in a corresponding improvement in their coping with the illness. The research explored the relationship between information and coping from the experiences of young people coping with long term illness. The results revealed that as the young people became more informed about their health conditions, and gained knowledge and understanding about their illnesses, their own bodies and boundaries, their confidence and capacity to cope increased. By gaining confidence, the young people often wanted to share their knowledge. Thus, they were motivated to become information providers themselves. Additionally, from the data, five positions on an information-coping trajectory were identified: information deficiency, feeling ill-informed, needing an injection of information, having information health and becoming an information donor. However, this research was limited to an analysis of 30 narratives. There is therefore the need for quantitative data on larger samples in further studies.

Bitsikaa, Sharpley, and Christie (2010) conducted a research in which they sampled sixteen breast cancer patients and interviewed them about any lifestyle changes they had experienced and their reactions to those changes. The outcome of the study showed that; most patients suffered a reduction in recreation activities, unpleasant physical side effects from treatment and loss of feminine appearance characteristics, all of which were seen as decreases in previously available and valuable sources of social support and self-esteem. In response to these losses, patients reported a common coping strategy of avoidance or escape similar to some depressive symptomatology. Regardless of this important finding the study was limited in several ways. The sample size that was used was small as such it limits the generalizability of the findings to global population of breast cancer patients.

This finding is similar to one by Kanter, Busch, Weeks and Landes (2008) who found that when the patient's environment changes to include a diagnosis of breast cancer, fear of the outcomes of that diagnosis and unpleasant treatment effects (e.g. surgery, chemotherapy) could lead to some reduction in self-esteem, then the patient's coping responses might also include some aspects of withdrawal from those unpleasant changes to their previous environments. That is, depressive behavior can be conceptualized as attempts to cope by withdrawing from uncontrollable aversive changes in one's environment.

Henderson, Fogel and Edwards (2003) conducted a cross-sectional design to study relationships among socio-demographic variables and coping strategies among African American women with breast cancer. Participants were surveyed with a demographic data sheet and the Ways of Coping Questionnaire (WCQ). The sample was made up of 86 African American women with a diagnosis of breast cancer living in the southeastern United States. Findings showed that positive reappraisal and seeking social support are the most commonly used coping strategies among African American women with breast cancer. No significant relationships were found among socio-demographic variables and coping strategies among African American women.

DiIorio, Steenland, Goodman, Butler, Liff and Roberts (2011) conducted a research on differences in treatment based beliefs and coping between African American and white men with prostate cancer. The purpose of their study was to explore racial differences related to treatment based beliefs (trust in physician, physician bias, access to care, and self-efficacy) and coping (religious coping and social support). The study was conducted in a 33-county area located in southwest Georgia. Men living in Southwest Georgia and newly diagnosed with prostate cancer were invited to participate in the study. The research required that participants completed three interviews during a 12 month period post-diagnosis. The 320 participants used in the study ranged in age from 44 to 75 years with a mean age of 63 years, and 42% were African American. After controlling for confounding variables, it was revealed that African American participants were more likely to report physician bias, financial problems with access to care, and use of religious coping strategies. These results support those of other studies noting differences in perception of care, access to care, and coping strategies between African American and white men with prostate cancer.

A more recent study by Bache, Bhui, Dein and Korszun (2012) reported that generally, positive views about cancer care were found, especially at the secondary care level whilst primary care attracted mixed views among patients. They equally identified the need to be resilient and think positively as widely acknowledged coping strategies among the patients. Thus, some coped by avoiding contemplation of their condition or diagnosis. Religious beliefs and practices provided coping mechanisms for some and a means to improve confidence and avoid distressing contemplation about their condition. Family, friends and charitable groups also provided emotional and practical support. On the whole they observed that subjects were generally satisfied with their care and coped well by having positive attitudes.

Coping, adjustment and quality of life among breast cancer patients.

A few studies have been conducted to find out the influence of breast cancer on coping, adjustment and quality of life. One such study was by Silva, Crespo and Canavaro (2012). The researchers conducted a longitudinal study to examine the role of coping strategies and posttraumatic growth on the psychological adjustment to breast cancer trajectory. The women completed questionnaires assessing coping strategies, posttraumatic growth and psychological adjustment (quality of life, anxiety and depression). The results obtained showed that the greatest impact of breast cancer on women's adjustment occurred at T1, when patients were significantly more anxious than in the other phases of the disease. The type of surgery and adjuvant treatment did not account for the course of posttraumatic growth and adjustment. It was evident that coping through seeking social support and using cognitive strategies at T1 were linked to psychological quality of life and depression at T3 through posttraumatic dimension of personal resources and skills at T2.

It is evident from the findings that there is the need for emphasis on the value of promoting adaptive coping strategies and posttraumatic growth in order to improve psychological adjustment in breast cancer patients. However, the sample size was small and that might have limited the ability of the researchers to find significant effects. Thus, a further study with larger samples is needed to provide validation for the results or the model. The first assessment occurred in the context of women's' hospitalization on the day before breast surgery it is difficult to draw conclusions about level of anxiety considering these circumstances.

Saniah and Zainal (2010) conducted a study in Malaya medical center with an aim to determine the coping strategies among breast cancer patients with depression and anxiety during chemotherapy. The researchers invited breast cancer patients with confirmed diagnosis who were undergoing outpatient chemotherapy at the oncology unit, University of Malaya Medical Centre to participate in the study. Findings from the study revealed that the prevalence for depression was 19.1% and prevalence for anxiety was 24.1%. Patients who were having anxiety symptoms scored significantly higher on denial, behavioral disengagement and venting as their coping strategies compared to patients who were not anxious. Patients with depressive symptoms scored significantly higher in behavioral disengagement and self-blame as their coping strategies compared to those who were not depressed. It was also evident that breast cancer patients undergoing chemotherapy experienced high level of depressive and anxiety symptoms. However the patients employed different coping strategies to cope with their illness, chemotherapy treatment, practical and family problems, emotional and physical symptoms.

A study by Khalili, Farajzadegan, Mokarian and Bahrami (2013) was aimed to investigate coping strategies, quality of life and pain of women with breast cancer. As such they carried a cross sectional study in Seyed-Al Shohada and two private offices in Iran. After the descriptive and differential statistics the results showed the following; the most common coping strategies were religion, acceptance, self-distraction, planning, active coping, positive reframing and denial. Emotion-focused coping strategies were positively and significantly related to symptom aspect of quality of life and affective interference of pain and also were inversely correlated to functional health status. There was no significant correlation between problem-focused coping strategies and dimensions of quality of life and also different aspects of pain. The findings of this study indicated that the care of breast cancer should address physical, psychological and social wellbeing. Also, the findings point to the importance of taking individual coping strategies into account when evaluating the impact of breast cancer on psychosocial wellbeing. Description of coping strategies might be useful for identifying patients in need to particular counseling and support.

Another research was conducted to examine the influence of personality traits and the coping styles of women with breast cancer by Saita, Acquati and Kayser, (2015). Seventy two (72) patients receiving treatment for early stage breast cancer completed questionnaires measuring personality traits, interpersonal closeness and adjustments. It was revealed from the research that women who rated high on assertiveness and social anxiety used active coping strategy of fighting spirit. In addition, perceived strength of relationships also predicted the usage of active coping style among the breast cancer patients whilst the number of supportive relationships did not correlate with any of the coping styles.

Ardebil, Bouzari, Shenas, Zeinalzadeh, and Barat (2011) assessed depression and health related quality of life in breast cancer patients. More than half of the patients reported depression and all the aspects of health related quality of life were affected by depression. Depressed patients were found to have poorer overall health related quality of life. Also, a significant relationship was found between depression and treatment type. Thus, more patients in the chemotherapy group suffered from depression than those in the radiotherapy group. From these findings, it is observed that some elements of mental health problems were reported by the breast cancer patients but was limited to depression only.

Safaee, Moghimi-Dehkordi, Zeighami, Tabatabaee and Pourhoseingholi (2008) examined quality of life of breast cancer patients undergoing chemotherapy. Their findings showed that with the exception of appetite loss and diarrhea, all the symptoms of the quality of life had reverse association with quality of life. Results from the regression analysis revealed that only grade one tumor, occupational status, menopausal status, financial difficulties, dyspnea and duration of disease were significant in predicting the patient's quality of life. Thus, patients with a duration of less than four months significantly reported lesser global quality of life. This study thus highlights the strength of the relationship between clinical and socio-demographical factors and breast cancer patients' quality of life. Therefore, psychological and financial support for women experiencing breast cancer diagnosis may improve quality of life.

Psychological distress and breast cancer

A diagnosis of breast cancer and its treatment are stressful events that affect the long-term functioning of patients. Nakatani et al. (2012) conducted a study to examine the relationship between emotional suppression and psychological distress in response to a diagnosis related to breast cancer. Thirty one (31) breast cancer patients and 90 benign breast condition patients after their first visit to the hospital completed the Courtauld Emotional Control Scale (CECS) and the Profile of Mood States and they were interviewed about their concerns after being diagnosed. Both the breast cancer patients and benign breast condition patients were divided into separate emotion suppression groups or emotional expression groups based on their median scores on the Courtauld Emotional Control Scale. Scores of breast cancer patients on the Profile of Mood States were higher than those of the benign breast condition patients. Thus, scores in the emotional suppression groups were higher than in the emotional expression groups. Also, breast cancer patients in the emotional suppression group expressed more negative emotions and fewer positive emotions than benign breast condition patients. It is seen from this results that patients who suppressed their emotions experienced and reported more psychological distress when diagnosed with breast cancer.

Similarly, Nakatani et al. (2013) carried out a study to examine the relationship between psychological distress and patient psychological traits (i.e., trait anxiety, life change events, and emotional suppression) in breast cancer patients after surgery. They sampled a total of 33 breast cancer patients who completed the State-Trait Anxiety Inventory, the Life Experiences Survey, and the Courtauld Emotional Control Scale at their first visit and the Profile of Mood States after surgery. After analyzing their data they found that trait anxiety, life change events, and emotional suppression, measured from the first visit were positively associated with psychological distress and predictors of psychological distress. It is thus evident from this research that trait anxiety, life change events, especially those perceived negatively, and emotional suppression are potential risk factors for psychological distress in patients with breast cancer after surgery

In a study by Northouse, Caffey, Deichelboher, Schmidt, Guziatek-Tronjniak, West, Kershaw and Mood (1999) the quality of life of African American women with breast cancer and a model of factors that may affect their quality of life were assessed. Also the researchers used a stress coping framework that included person (demographics, current concerns, and optimism), social resources (family functioning), and illness-related factors (symptom distress, medical characteristics), as well as appraisal of illness and quality of life, as a guide for their exploratory cross-sectional survey. Findings from the study showed that the women reported a fairly high quality of life, were generally optimistic, and had effective family functioning. In terms of symptoms distress the women reported generally low, while a sizable number of women reported problems with energy loss, sleep disturbances, and pain. The model explained 75% of the variance in quality of life, with appraisal, family functioning, symptom distress, and recurrence status each explaining a significant amount of the variance. Current concerns had an indirect effect on quality of life that was mediated by appraisal. These findings underscore the importance of helping women foster a positive appraisal of their illness, manage current concerns, maintain family functioning, and reduce symptom distress, because each of these factors indirectly or directly affects their quality of life.

Another interesting study was conducted among breast cancer patients by Tamagawa, Giese-Davis, Speca, Doll, Stephen, and Carlson (2012). Their study sought to identify relationships between trait mindfulness, repressive, and suppressive emotional styles. It also aimed at examining the relative importance of these traits and their association with self-reported psychological health among women with breast cancer. Consequently they sampled a total of 227 women with breast cancer to assess their personality traits, stress symptoms, and mood. Findings after computing the statistics indicated that: high levels of mindfulness were associated with fewer stress-related symptoms and less mood disturbance, while high levels of suppression were associated with poorer self-reported health. It is therefore evident from this finding that individuals' dispositional ways to manage negative emotions were associated with the experience of symptoms and aversive moods. Thus, helping patients cultivate mindful insights and reduce deliberate emotional inhibition may be a useful focus for psycho-oncological interventions.

Jordan, Compass, Osowieki, Oppedisano, Gerhardt, Primo and Krag (1999) conducted a study to examine the process of psychological adjustment to breast cancer at diagnosis and at 3 and 6 month follow-ups in a sample of 80 women with Stage I to Stage IV breast cancer. A cursory look at their findings showed that at diagnosis, symptoms of anxiety and depression were predicted by low dispositional optimism, and this relationship was partially mediated by use of emotion-focused disengagement coping. Also, younger age predicted anxiety and depressive symptoms at time of diagnosis, and this relationship was fully mediated by magnitude of intrusive thoughts. In addition, at 3 months, changes in anxiety and depressive symptoms were predicted only by intrusive thoughts. Furthermore, at 6 months, low dispositional optimism recurred as a significant predictor of changes in anxiety and depression and again was partially mediated by the use of emotion-focused disengagement coping.

Mayo, Hunter and Parker (2003) carried out a study to examine beliefs about breast cancer held by African women in Ghana. They conducted interviews based on the revised Powe Fatalism Inventory (rPFI) with 109 women. Correlational analysis and factor analysis were performed. The results showed that there were negative, nonsignificant associations between fatalism and age, and educational level. Findings also showed that Fatalism scores were relatively low, 3.78 on an 11-point scale.

In an investigation of the identification of psychological distress in women with breast cancer, the Australian National Breast Cancer Centre (2004) emphasized personal attributes including the history of psychological conditions, psychosocial factors: high trait anxiety or previous exposure to trauma and distress, avoidant coping mechanisms and being young during diagnosis increase the tendency of developing distress. According to the report, social-environmental factors, such as perceived or absence of social support, poorer education, having younger dependents, and the presence of other premorbid stressful circumstances have been cited for the development of the distress. In addition, relapse and severity of disease, degree and control of the symptoms, different treatments and their varied stages are also implicated for the experience and development of psychological distress.

RATIONALE FOR THE STUDY

From the studies that have been reviewed, majority seemed to have focused on how patients with cancer cope with the illness without looking at how the illness influences the quality of life of the patients (Vidhubala, Ravikaman, Mani & Karthikesh, 2006; Sen & Spring, 2010). It therefore becomes relevant to examine the impact of the illness in terms of coping strategies and adjustment on the quality of life of the patients. Other studies looked at how cancer influenced patients' quality of life but not how the patients coped (Montazeri, 2009; Shen, Liu, Zhang, Feng, Zhou & Chen, 2012). Additionally, most of the studies reviewed on coping and adjustment focused on other conditions with not much attention given to cancer. In Ghana, the few studies available are mainly prevalence studies that are concerned with estimation of number of people suffering from the disease and the medical complications (Clegg-Lamptey, 2012) with no such studies addressing the culture specific coping strategies used by cancer patients to adjust to their conditions and how it influences their quality of life.

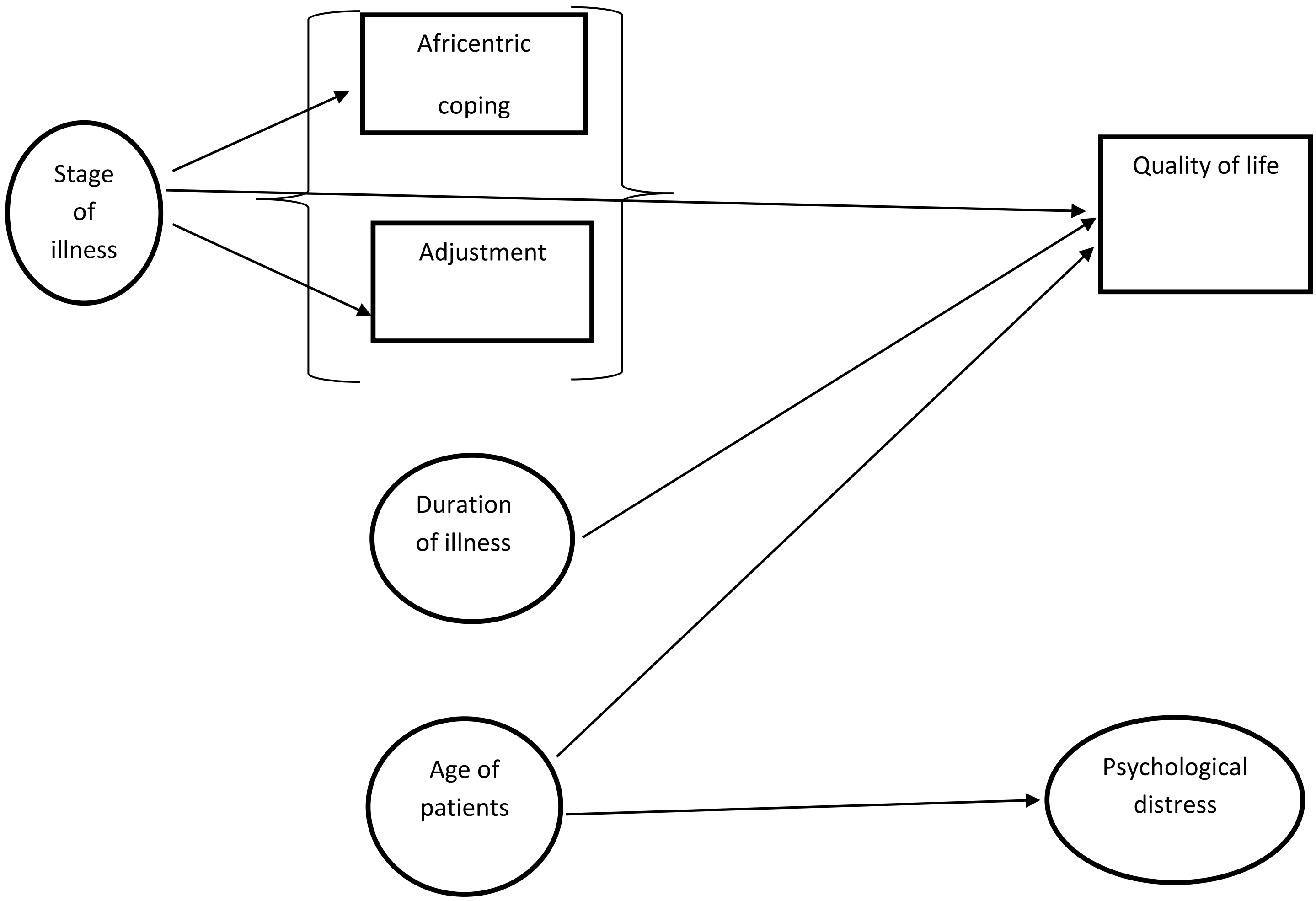
Furthermore, not much research has been conducted to estimate the effects of Africentric coping among breast cancer patients. Besides, there is a dearth of literature on the relationship between black cultural coping and life stressors. Therefore, it is imperative to explore the relationship between culturally based coping and the ability of blacks to respond to distress, especially in the face of experiences of breast cancer (Smith, 2012). These factors therefore create the opportunity for further study to ascertain how coping and adjustment influence the quality of life of breast cancer patients.

STATEMENT OF HYPOTHESES

1. Africentric coping will significantly predict quality of life of breast cancer patients.
2. Adjustment to illness will significantly predict quality of life among breast cancer patients.
3. Patients with different stages of breast cancer will differ significantly in quality of life.
4. (a) Patients with different stages of breast cancer will significantly differ in their use of Africentric coping strategies.

   (b) Participants with different stages of breast cancer will significantly differ in their use of adjustment strategies.
5. There will be a significant positive relationship between patients' age and psychological distress.
6. There will be a significant positive relationship between duration of illness and quality of life of breast cancer patients.

Figure 2. 1: **Hypothesized Model**



In this model stage of illness, Africentric coping and adjustment are assumed to be related to and predicting quality of life. Also stage of illness is assumed to be predicting Africentric coping and adjustment. There is an assumed positive relationship between duration of illness and quality of life as well as between age of patients and psychological distress.

OPERATIONAL DEFINITIONS

Stage T1: describes invasive breast cancer in which cancer cells are breaking through to or invading normal surrounding breast tissue. Tumors at this stage if any are not larger than 2 millimeters.

Stage T2: describes invasive breast cancer in which the cancer cells may have begun to spread in the lymph node. However tumors at this stage are not larger than 5milimeters.

Stage T3: describes invasive cancer in which cancer cells have spread to the lymph nodes near the breast and may have also spread to the chest wall or skin of the breast. Tumors are larger than 5milimeters.

Stage T4: It is an advanced form of breast cancer. It describes invasive breast cancer that has spread beyond the breast and nearby lymph nodes to other organs of the body, such as the lungs, distant lymph nodes, skin, bones, liver, or brain (Jordan et al. 1999).

Africentric coping: This refers to coping strategies used by Africans in handling stressful situations. The dimensions are; cognitive/emotional debriefing, spiritual-centered coping, collective-centered coping and ritual centered coping (Utsey et al. 2000).

Adjustment: It refers to strategies such helpless/hopeless, anxious preoccupation, fighting spirit, cognitive avoidance and fatalism that cancer patients use to adapt to the stress associated with having a cancer diagnosis (Boyes et al., 2011).

Quality of life: This describes the overall wellbeing of cancer patients across dimensions such as physical, psychological, social and environmental (WHO Group, 1998).

Psychological distress: This refers to the psychological problems or psychopathological symptoms that breast cancer patients are predisposed to or face.

Duration of illness: The estimate of how long an individual has lived with breast cancer in terms of months.

CHAPTER THREE

METHODOLOGY

INTRODUCTION

This chapter describes the population and sample selection. It explains the choice and justification of the study design, the instruments used in gathering data as well as the procedure and ethical considerations employed in recruiting the research participants.

POPULATION

Breast cancer patients receiving treatment at the Korle-Bu Teaching hospital were the population of this study. Breast cancer patients at Korle-Bu Teaching hospital were chosen because the Greater Accra region is the capital of Ghana and comprises of people from all parts of the country and beyond. As a result, the various sections of the population reflect not only the wider country context but essentially many other patients from neighbouring countries seeking healthcare for breast cancer at the facility. The Korle-Bu Teaching Hospital was the center of interest, since it serves as the referral points in the various Municipalities.

Study Area

The study was conducted at the Korle-Bu Teaching Hospital which serves as a referral center besides being a teaching hospital. The hospital is sited in the Ablekuma South Submetro within Accra Metropolitan Area which has a population of about 3 million people. On the average about a 1,000 patients attend the hospital every day and about 120 patients are admitted on a daily basis. Most cancer cases in the country, amongst which are patients with breast cancer, are referred daily to the Department of Surgery at the Korle-Bu Teaching hospital for treatment and management, partly because the hospital has a Radiotherapy Department.

The Breast Cancer Clinic of the Korle-Bu Teaching Hospital was established at the Radiotherapy Department in 2002 by Surgeons and Oncologists to deal with the need for proper information, consultation, and treatment, follow up and further education on breast cancer and its management. Breast cancer patients, who are seen and treated by Surgeons in the four Surgical Department of the hospital and referrals from other West African countries, are also followed up at the Breast Clinic. The Radiotherapy Department has been keeping a database on all patients since 2007. Data collected from the Radiotherapy Unit at the Korle- Bu Teaching Hospital reveals that a little over 80% of the breast cancer incident cases were Ghanaians.

SAMPLE/SAMPLING TECHNIQUE

Two hundred (200) breast cancer patients aged 18years and above were selected using purposive and convenience sampling techniques. The mean age of the patients was 50 years. The average duration of illness of the participants was 2years. Further, the mean age of onset of breast cancer among the patients was 48years. All the participants in the study had at least basic education. The breast cancer patients who were selected were those available at the radiotherapy and chemotherapy units on the days of the data collection. The purposive sampling was adopted because of the need to meet certain inclusion criteria including patients suffering from no known cognitive deficits and mental illnesses. Besides, not all the patients were available and ready to partake in the study on the scheduled days of data collection. The convenience sampling technique on the other hand was adopted to draw only patients willing to participate in the study. This sample size selection was based on the minimum sample size determination offered by

Field (2013) taking into consideration the effect size as well as the statistical power at which the effects would be detected. This applies to performance of multiple regression analysis and the minimum sample sizes are listed below;

For a medium effect size and high level of statistical power (.80) with 10 predictors, a minimum of 150 sample size is required. For a medium effect size and high level of statistical power (.80) with 20 predictors, a minimum of 200 sample size is required. From this sample size determination therefore, the sample size of 200 is sufficient for multiple regression analysis to be performed in order to obtain a medium effect size and a high statistical power (.80). The characteristics of the respondents in the study are summarized in the next chapter.

INCLUSION CRITERIA

This includes:

1. Participants must be 18 years and above.
2. No notable cognitive deficits and severe mental illness.
3. No other illnesses that could impede their ability to respond to the questions.
4. Participants must be willing to participate voluntarily.

EXCLUSION CRITERIA

This includes:

1. Below 18 years.
2. Presence of significant cognitive and severe mental illness.

3. Presence of other illnesses that could impede their ability to respond to the questions.
4. Decline to voluntarily participate in the study.

INSTRUMENTS/MEASURES

The variables in the study were measured by the use of the questionnaires. The Africultural Coping Systems Inventory advanced by Utsey, Adams, and Bolden (2000), WHOQOL-BREF (WHOQOL GROUP, 1998), Brief Symptoms Inventory (Derogatis, 1993) and the Mini Mental Adjustment to Cancer scale (Boyes et al., 2011) were adopted in measuring the study variables.

Africultural Coping Systems Inventory

The Africultural Coping Systems Inventory (ACSI) is a thirty-item, self-report, Likert scale measure of the culture-specific coping strategies used by African Americans in stressful, day-to-day situations. It has been successfully tested for validity and reliability (Utsey et al, 2000.) The ACSI comprise four subscales: Cognitive/Emotional Debriefing (11 items: 5, 8, 12, 14, 15, 17, 18, 19, 20, 26, 29) e.g. “I tried to forget about the situation”; Spiritual-Centered Coping (8 items: 1, 6, 10, 13, 16, 21, 27, 30) e.g. “I prayed that things would work themselves out”; Collective-Centered Coping (8 items: 2, 3, 4, 7, 9, 11, 22, 24) e.g. “I got a group of family or friends together to help with the problem”; and Ritual-Centered Coping (3 items: 23, 25, 28) e.g. “I used a cross or other object for its special powers in dealing with the problem” (Utsey, et al., 2004). In completing the ACSI, participants are asked to recall a stressful event that occurred over the past week, briefly describe the situation, and then, using a 4-point Likert scale measure, (0 = did not use, 1 = used a little, 2 = used a lot, 3 = used a great deal) rate the coping techniques they used during that stressful situation (Utsey, et al., 2004). Cronbach‘s alpha coefficients for the ACSI subscales have been found to range from .71 to .82 (Utsey, et al, 2000).

WHQOL-BREF

The WHOQOL-BREF is a 26- item Likert scale that assesses four domains of quality of life: physical health: items 3, 4, 10, 15, 16, 17, 18 (e.g. "to what extent do you feel physical pain prevents you from doing what you need to do?"; psychological health: items 5, 6, 7, 11, 19, 26 (e.g. " how often do you have negative feelings such as blue mood, despair, anxiety, or depression?"; social relationships items 20, 21, 22 (e.g. how satisfied are you with the support you get form your friends?" and environmental well-being items 8, 9, 12, 13, 14, 23, 24, 25 (e.g. " how healthy is your environment?"). items 1 and 2 assess overall quality of life. The WHOQOL Group (1998) assessed Cronbach alpha for the four domains: physical health, .86; psychological health, 0.76; social relationships, 0.66; and environmental well-being, 0.80. Test retest reliabilities for the four domains were .66 for physical health, .72 for psychological health, .76 for social relationships and .87 for environmental well-being. The WHOQOL-BREF was found to correlate .90 with the longer version of the instrument - WHOQOL-100.

Even though scoring the BREF is identical to scoring the WHOQOL-100, there are some differences that need to be addressed:

- The WHOQOL-BREF does not have facet scores
- Mean substitutions are recommended for Domain 1 *Physical Health* and Domain 4 *Environment* if no more than one item is coded missing
- Only three items need to be reversed before scoring

The WHOQOL-BREF produces a profile with four domain scores and two individually scored items about an individual's overall perception of quality of life and health. The four domain scores are scaled in a positive direction with higher scores indicating a higher quality of life. Three items of the BREF must be reversed before scoring. If not more than one item from the *Physical Health* or *Environment* domains has been coded as missing, it is recommended that a domain score be calculated by substituting a person specific average across the completed items in the same scale. For example, if a respondent does not have a value for item B16 *How satisfied are you with your sleep?*, in the Physical Health domain, but has answered all of the other items in that domain, then the value for item B16 would be the average of the remaining 6 items. If two or more items are coded missing in these two domains, the domain score should not be calculated, likewise if any items are coded missing in the *Psychological* and *Social Relationships* domains, a domain score for that respondent would not be calculated.

After item recoding and handling of missing data, a raw score is computed by a simple algebraic sum of each item in each of the four domains. Once complete, there is the need to check the frequencies of each domain to be sure that the scores are within the correct range.

The next step is to transform each raw scale score. The possible raw score ranges for each domain are as follows: *Physical Health*=28, *Psychological*=24, *Social Relationships*=12, and *Environment*=32.

Mini Mental Adjustment to Cancer Scale

The researcher used the Mini-Mental Adjustment to Cancer questionnaire to measure the patients' level of adjustment to the illness. It is a 29 item questionnaire with five subscales which are; helplessness/hopelessness, anxious preoccupation, fighting spirit, avoidance and fatalism. The Cronbach alpha of the scale ranges from 0.62 to 0.88. Some of the items on the scale include; ‘I feel life is hopeless.’; ‘I am upset about having cancer’; ‘I am determined to beat this disease.’; ‘I make a positive effort not to think about my illness.’ and ‘I have put myself in the hands of God.’ The items comprising each of the dimensions are:

Helplessness/Hopelessness: Items 1, 2, 6, 13, 16, 18, 22, 28

Anxious Preoccupation: Items 8, 10, 12, 14, 15, 23, 27, 29

Fighting Spirit: Items 3, 19, 20, 26

Cognitive Avoidance: Items 4, 9, 21, 24

Fatalism: Items 5, 7, 11, 17, 25

A higher score on each of the subscales indicates higher usage of that particular subscale by the participant.

Brief Symptom Inventory

The Brief Symptom Inventory is a 53-item self-report symptom inventory designed to reflect the psychological symptom patterns of psychiatric and medical patients and non-patients. This inventory reports profiles of nine primary symptom dimensions and three global indices of distress (Derogatis, 1993). The symptom dimensions included; Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation and Psychoticism. The responses are on a 5-point scale, from 0 = "not at all", to 4 = "extremely". The BSI also has a high internal consistency, test retest reliability, and convergent, discriminant, and construct validity ranging between 0.71 and 0.85.

The BSI subscales are scored by adding up the responses on the items under each subscale and then dividing the total by the number of items. That is Dimension scores are calculated by summing the values for the items included in that dimension and dividing by the number of items endorsed in that dimension. The Global Severity Index (the total score on the scale) is obtained by adding up all the items under all the subscales and dividing it by 53 (the total number of items on the scale). The items comprising each of the 9 primary symptom dimensions are as follows:

Somatization: Items 2, 7, 23, 29, 30, 33, 37

Obsession-Compulsion: Items 5, 15, 26, 27, 32, 36

Interpersonal Sensitivity: Items 20, 21, 22, 42

Depression: Items 9, 16, 17, 18, 35, 50

Anxiety: Items 1, 12, 19, 38, 45, 49

Hostility: Items 6, 13, 40, 41, 46

Phobic Anxiety: Items 8, 28, 31, 43, 47

Paranoid Ideation: Items 4, 10, 24, 48, 51

Psychoticism: Items 3, 14, 34, 44, 53.

Items 11, 25, 39, and 52 do not factor into any of the dimensions, but are included because they are clinically important. These items are included when calculating Grand Total Scores (the global severity index). Calculating scores for the three global indices is done as follows:

1. Global Severity Index (GSI). The GSI is calculated using the sums for the nine symptom dimensions plus the four additional items not included in any of the dimension scores, and dividing by the total number of items to which the individual responded. If no items were skipped the GSI will be the mean for all 53 items.

2. Positive Symptom Total (PST). The PST is a count of all the items with non-zero responses and reveals the number of symptoms the respondent reports experiencing.

3. Positive Symptom Distress Index (PSDI). The PSDI is the sum of the values of the items receiving non-zero responses divided by the PST. This index provides information about the average level of distress the respondent experiences.

Measurement of key variables

Duration of illness in this study is estimated to be how long a patient had lived with breast cancer in terms of months since diagnosis. Patients considered to have lower duration of breast cancer are those with an estimate of not more than 35months of the disease whereas patients with longer duration are those with an estimate of at least 36months since diagnosis. Another demographic variable “the chronological age” of the respondents was correlated with the dependent variables. It is important to note that the exact age of the respondents other than the otherwise “categorized or grouped” was used in the study. The other variable “stage of breast cancer” refers to the extent of severity of the disease during the period of data collection. Often categorised into different stages (Silva, Crespo & Canavaro, 2012; Jordan, Compass, Osowieki, Oppedisano, Gerhardt, Primo & Krag, 1999), the stage of breast cancer in this study was conceptualized into stages T1, T2, T3 and T4.

RESEARCH DESIGN

The study employed the cross-sectional survey in organizing the study participants for the research. It further adopted the quantitative research approach in examining responses from close-ended questionnaires. Since the study sought to obtain self-report information about cancer patients' coping strategy, adjustment and quality of life, the choice of the design becomes the most appropriate for the study. This is necessitated following the need to assess the views of a cross section of the population of cancer patients by collecting quantitative data during a specific time period. Since it was not possible to assess the views of all cancer patients in the country within the specified period the design was appropriate for the research.

PROCEDURE

An Ethical Clearance was obtained from the Ethics Committee for Humanities, University of Ghana, Legon. A letter of introduction from the Department of Psychology and Ethical Clearance certificates were taken to the Greater Accra Regional Health Directorate for permission to use the Korle-Bu Teaching hospital for the study. The approval letter from the Regional Health Directorate was then sent to the hospital for introduction as well as permission. After permission was granted at the hospital, a date was scheduled for the commencement of the data collection. The services of two research assistants were employed for the data collection and they were given training on the administration of the questionnaires. The out-patients departments of the cancer units in the hospital were used for the data collection. On the days of the data collection, the researchers were introduced to the patients waiting to see their doctors after which the researcher and the two assistants engaged the patients on individual basis. Upon signing the consent statement forms indicating their voluntary participation, the patients were encouraged to provide their candid information for the study. The respondents who could read and write were administered the questionnaires kept in separate envelopes in a pencil and paper form. Those who on the other hand could not read or write were interviewed by following the items on the questionnaires. To ensure privacy, permission was sought to use one consulting room for interviewing the participants one a time.

CHAPTER FOUR

RESULTS AND ANALYSES

INTRODUCTION

This chapter presents the results and findings of the analyses. The first section deals with the descriptive and demographic variables whilst the other component presents the inferential statistics. In all, six study hypotheses were tested and examined using the regression, ANOVA, MANOVA tests and Pearson correlation analyses. The SPSS 18 software was used in analyzing the data with test of propositions determining the level of statistical significance.

DATA ANALYSES

Hypotheses 1 and 2 were analyzed using the multiple regression analysis because Africentric coping styles (cognitive emotive debriefing, spiritual centered coping, collective centered coping and ritual centered coping) were used to predict quality of life (physical health, psychological health, social relationship and environment). Adjustment styles were equally used to predict on quality of life (physical health, psychological health social relationship and environment) of patients with breast cancer respectively. Hypotheses 3 was analyzed using the One Way Analysis of Variance since it was examining differences that existed across the various stages of breast cancer on quality of life of patients. On the other hand hypothesis 4a and 4b were analyzed using Multivariate Analysis of Variance. This is because there was one independent variable with four levels; stages of breast cancer. The dimensions of Africentric coping and adjustment represented multiple dependent variables that the stages were compared. Hypotheses 5 and 6 were analyzed using simple correlation analysis. This statistical test was carried to find out the relationship that existed between duration of illness and quality of life of breast cancer patients. It was run to equally find the relationship between age of respondents and psychological distress among breast cancer patients respectively. Finally, measurement of all these variables was assumed to be on an interval scale.

Table 4.1: Demographic characteristics of breast cancer patients in the study.

Characteristics	Frequency	Percentage %
Marital status		
Single	34	17.0
Married	104	52.0
Divorced	29	14.5
Widowed	33	16.5
Employment status		
Employed	111	55.5
Unemployed	57	28.5
Retired	32	16.0
Religious status		
Christian	154	77.0
Muslim	46	23.0
Highest level of education		
Basic	66	33.0
Secondary	55	27.5
Tertiary	79	39.5
Educational level of respondent		
Primary	44	22.0
JHS	26	13.0
Secondary	34	17.0
Vocational	39	19.5
Polytechnic	11	5.5
Training college	19	9.5
University	27	13.5
Management plan		
Surgery+chemotherapy+radiotherapy	38	19.0
Surgery+radiotherapy	19	9.5
Surgery+chemotherapy	81	40.5
Surgery	17	8.5
Chemotherapy	45	22.5
Stage of illness		
T1	15	7.5
T2	38	19.0
T3	47	23.5
T4	100	50.0
Other health complications		
Present	80	40.0
Absent	120	60.0

Examining the marital status of the respondents in Table 4.1 above, the total number of single participates were 34(17%), married 104(52%), divorced 29(14.5%) and widowed 33(16.5%). Employed participants were 111(55.5%), whilst unemployed and retired participants were 57(28.5%) and 32(16.0%) respectfully. In terms of religious status Christians constituted 154(77%) whilst Muslims constituted 46(23%). Another demographic variable is highest level of education and its dimensions and respective constituents are; basic 66(33%), secondary 55(27.5%) and tertiary 79(39.5%).

Participants with primary education were 44(22%) whilst participants with JHS education were 26(13%). Participants with secondary education were 34(17%) whilst participants with vocational education were 39(19.5%). On the other hand participants with polytechnic education were 11(5.5%) whilst participants with training college education were 19(9.5%). The total number of patients with university education was 27(13.5%). Furthermore, patients treated by surgery, chemotherapy and radiotherapy made up 38(19%), surgery and radiotherapy 19(9.5%), surgery and chemotherapy 81(40.5%) surgery alone 17(8.5%) and chemotherapy alone 45(22.5%). Patients with stage 1 breast cancer were 15(7.5), stage 2 = 38(19%), stage 3 = 47(23.5%) and stage 4 = 100(50%). Finally, 80(40%) patients had other health conditions whilst 120(60%) did not have other health conditions.

Table 4.2: Descriptive Statistics of study variables

VARIABLES	Mean	SD	A	Skewness	Kurtosis
QoL	85.73	19.60	.89	-.10	.56
Physical	21.81	5.16	.76	-.50	-.14
Psychological	19.96	4.92	.85	-.32	-.55
Social	9.90	3.77	.50	.46	.49
Environmental	27.45	8.09	.73	1.86	1.37
MIMIMAC					
Helpless-Hopeless	15.36	7.84	.64	.78	.76
Anxious Preoccupation	18.00	6.05	.79	.37	-.61
Fighting Spirit	10.74	3.03	.59	.75	.11
Cognitive Avoidance	12.04	3.50	.73	.85	.12
Fatalism	13.03	3.67	.74	.29	.78
BSI	.81	.67	.96	1.12	1.15
Somatization	1.43	1.06	.72	.78	1.51
Obsession compulsion	.68	.93	.85	.44	1.32
Interpersonal sensitivity	.90	.84	.50	1.08	.57
Depression	.93	.85	.85	1.18	.96
Anxiety	.81	.81	.85	1.17	.87
Hostility	.46	.64	.77	1.24	.44
Phobic anxiety	.61	.69	.82	1.58	1.92
Paranoid ideation	.60	.76	.85	1.72	1.73
Psychoticism	.55	.65	.76	1.68	1.03
AFCI					
Cognitive/emotional debriefing	20.87	5.89	.71	-.213	-.17
Spiritual-centered coping	16.29	5.35	.79	-.36	-.60
Collective centered coping	9.58	5.08	.76	.36	-.41
Ritual centered coping	1.90	2.55	.85	1.32	.72

HYPOTHESES TESTING

Hypothesis 1: *Africentric coping will significantly predict quality of life of breast cancer patients.*

Table 4.3: Multiple regression of Africentric coping on quality of life of breast cancer patients

Predictors	B	SEB	B	T	*P*
Coping	.40	.30	.30	1.32	.19
Cognitive/emotive	1.26	.25	.38	4.99	.00
Spiritual centered	-.32	.30	-.09	-1.06	.29
Collective centered	.38	.33	.01	1.15	.25
Ritual centered	.39	.65	.05	.61	.54

Predictors: cognitive/emotive, spiritual centered, collective centered and ritual centered.
Dependent Variable: QOL.
$R^2 = .17$

Africentric coping accounted for 17% variance in quality of life of breast cancer patients [$R^2 = .17$, $F_{(4,195)} = 9.79$, $\rho < .01$]. Further analysis was done to find out which component of the Africentric coping styles significantly predicted quality of life of breast cancer patients. From Table 4.3 above, it is seen that the most significant predictor of quality of life is cognitive/emotive debriefing which significantly and positively predicted quality of life of breast cancer patients at the .01 alpha level, [$\beta = .38$, $t = 4.99$, $\rho < .01$]. The other Africentric coping styles did not significantly predict quality of life of breast cancer patients as shown in the table above; Spiritual centered coping negatively did not predict quality of life at .05 alpha level [$\beta = -.09$, $t = 1.06$, $\rho > .05$.] ; collective centered coping did not significantly predict quality of life of the patients at .05 alpha level, [$\beta = .01$, $t = 1.15$, $\rho > .05$]; and Ritual centered coping did not account for a significant difference in quality of life at the .05

alpha level [β = .05, t = .61, $\rho > .05$]. Therefore, hypothesis one which stated that Africentric coping styles are likely to significantly predict quality of life of breast cancer patients was partly supported.

Hypothesis 2: Adjustment to illness will significantly predict quality of life among breast cancer patients.

Table 4.4: Multiple regression of adjustment styles and quality of life of breast cancer patients.

PREDICTORS	**B**	**SEB**	**Β**	**T**	***p***
Adjustment	-.67	.22	-.55	-3.05	.00
Helpless hopeless	-.94	.20	-.38	-4.71	.00
Anxious preoccupation	-.76	.26	-.24	-2.99	.03
Fighting spirit	-.55	.67	-.09	-.83	.41
Cognitive avoidance	.94	.57	.17	1.66	.10
Fatalism	.28	.40	.05	.70	.44

Predictors: helpless hopeless, anxious preoccupation, fighting spirit, cognitive avoidance and fatalism
Dependent variable: QOL
$R^2 = .35$

Adjustment as a whole significantly predicted 35% of the variance in quality of life of breast cancer patients, [$R^2 = .35$, $F_{(5,194)} = 20.79$, $\rho <. 05$]. Further analysis was carried out to find out which of the components of adjustment significantly predicted quality of life of breast cancer patients. The multiple regression analysis showed that the most significant predictor of quality of life was helplessness or hopelessness which negatively predicted quality of life at the .01 alpha level, [β = -.38, t = -.47, $p < .01$]. The second significant predictor of quality of life was anxious preoccupation which negatively predicted quality of life at the .05 alpha level, [β = -.24, t = -2.99, $p < .05$]. The other adjustment styles did not significantly predict quality of life of breast cancer patients that is, fighting spirit did not account for a significant negative difference in quality of life of the patients, [$\beta = -.09$, $t = -.83$, $\rho > .05$]; cognitive avoidance accounted for a non-significant difference in quality of life of the patients, [$\beta = .17$, $t = 1.66$, $\rho > .05$] and fatalism did not significantly predict the quality of life of the breast cancer patients, [$\beta = .05$, $t = .70$, $\rho > .05$].

Hypothesis 3: ***patients with different stages of breast cancer will differ significantly in quality of life.***

Table 4.5: One way analysis of variance of stages of breast cancer in quality of life

VARIABLES	T1-A	T2-B	T3-C	T4-D	F	*p*	Post hoc
QOL	85.13 (SD=16.15)	96.66 (SD=16.45)	87.43 (SD=20.36)	80.86 (SD=19.25)	6.64	.00	B>D
PHYSICAL	21.87 (SD=3.10)	24.68 (SD=3.18)	21.60 (SD=5.92)	20.80 (SD=5.20)	5.59	.00	B>C,D
PSYCH'AL	20.00 (SD=4.63)	22.58 (SD=3.92)	20.28 (SD=4.86)	18.80 (SD=4.99)	5.90	.00	B>D
SOCIAL	9.73 (SD=2.40)	10.66 (SD=1.94)	10.66 (SD=6.29)	9.27 (SD=2.66)	2.12	.09	-
ENV'TAL	27.00 (SD=6.94)	31.61 (SD=10.76)	28.15 (SD=8.04)	25.60 (SD=6.41)	5.57	.00	B>D

df: (3.196)
QOL: quality of life; PSYCH'AL: psychological; ENV'TAL: environmental

After computing the one way analysis of variance to compare the means among the patients' stages of breast cancer on their quality of life, the results showed that a significant difference existed among the stages of breast cancer on patients' overall quality of life , [$F_{(3,196)} = 6.64$, $p < .01$]. At an alpha of $p < .01$, the Bonferroni analysis showed that stage T2 [M = 96.66, SD = 16.45] breast cancer patients had higher overall quality of life than stage T4 [M = 80.86, SD = 19.25] breast cancer patients. Stage T1 [M = 85.13, SD = 16.15] and stage T3 [M = 87.43, SD = 20.36], patients did not differ significantly on quality of life. Examination of the various components of quality of life showed that a significant difference existed among the various stages of breast cancer in physical quality of life [$F_{(3,196)} = 5.60$, $\rho < .01$]. Bonferroni computation showed that at $p < .05$, stage T2 patients [M= 24.68, SD = 3.18] had higher physical quality of life as compared to stage T3 [M = 21.60, SD = 5.92] and stage T4 [M = 20.80, SD = 5.20].

Stage T1 patients did not differ significantly on physical quality of life [M = 21.87, SD = 3.10]. There was a significant difference between the stages of breast cancer in psychological quality of life [$F_{(3,196)} = 5.90$, $\rho < .01$]. Stage T2 [M = 22.58, SD = 3.92] differed significantly in psychological quality of life as compared to stage T4 patients [M = 18.80, SD = 4.99] at a significant level of $p < .01$. However, both stage T1 [M = 20.00, SD = 4.63] and T3 [M = 20.28, SD = 4.86] did not record any significant difference on psychological quality of life. The various stages differed significantly on environmental quality of life [F (3,196) = 5.57, $p < .01$]. Bonferroni analysis showed that the significant difference existed between stage T2 [M = 31.61, SD = 10.76] and stage T4 [M = 25.60, SD = 6.41] at p < .01; with stage 2 patients having higher environmental quality of life than stage T4 patients. Stage T1 [M = 27.00, SD = 6.94] and T3 [M = 28.15, SD = 8.04] did not report any significance in environmental quality of life. However, there was no significant difference in social quality of life across the stages of breast cancer [$F_{(3,196)} = 2.12$, $p > .05$]. Their means and standard deviations are as follows; stage 1 [M = 9.73, SD = 2.40] stage 2 [M = 10.66, SD = 1.94], stage 3 [M = 10.66, SD = 6.29], and stage 4 [M = 9.27, SD = 2.66]. Thus, hypothesis three which stated that there will be significant difference in quality of life among patients with various stages of breast cancer was supported.

HYPOTHESIS 4a: *Patients with different stages of breast cancer will significantly differ in their use of Africentric coping strategies.*

Table 4.6: Summary of MANOVA test of stages of breast cancer on Africentric coping

VARIABLES	T1-A	T2-B	T3-C	T4-D	*df*	F	*p*	Post hoc
							.	-
Coping	41.00	51.89	46.45	49.56	3,196	2.53	06	
	(SD = 11.23)	(SD= 13.34)	(SD = 16.89)	(SD = 14.07)				
Cognitive	19.00	23.50	19.43	20.82		4.17	.01	B>C
	(SD=5.94)	(SD=4.43)	(SD=6.04)	(SD=6.02)				
Spiritual	13.40	17.05	15.72	16.69		2.11	.10	-
	(SD=4.50)	(SD=4.10)	(SD=6.47)	(SD=4.91)				
Collective	8.13	9.37	9.60	9.87		.53	.66	-
	(SD=4.27)	(SD=5.05)	(SD=5.41)	(SD=5.07)				
Ritual	.47	1.97	1.70	2.18		2.13	.10	-
	(SD=.74)	(SD=2.71)	(SD=2.33)	(SD=2.70)				

Multivariate Analysis of Variance was used to explore the differences in Africentric coping styles among patients with various stages of breast cancer. The test showed that stage of illness had a statistically significant effect on cognitive emotive coping [$F_{(3,196)} = 4.17$, $\rho < .05$]. Post hoc comparison using the Bonferroni indicated that patients with stage T2 breast cancer used more cognitive emotive debriefing coping style [M = 23.50, SD = 4.43] compared to patients with stage T3 breast cancer [M = 19.43, SD = 6.04], *p* <. 05.]. No significant differences existed among patients with stage T1 breast cancer [M = 19.00, SD = 5.94] and stage T4 breast cancer [M = 20.82, SD = 6.02] on cognitive emotive debriefing coping. No significant difference existed among the patients with various stages of breast cancer on spiritual centered coping [$F_{(3, 196)} = 2.11$, $p > .05$]; the means of the various stages are; stage T1 breast cancer [M = 13.40, SD = 4.50], stage T2 breast cancer [M = 17.05, SD = 4.10], stage T3 breast cancer [M = 15.72, SD = 6.47] and stage T4 breast cancer [M = 16.69, SD = 4.91].

Furthermore, there was no significant difference in collective centered coping among the various stages of breast cancer [$F_{(3,196)} = .53$, $p > .05$]. The means of the four groups are as follows; stage T1 [M = 8.13, SD = 4.27], stage T2, [M = 9.37 SD = 5.05], stage T3 [M = 9.60 SD = 5.41] and stage T4 [M = 9.87, SD = 5.07]. Finally, there were no significant differences in ritual centered coping among the stages of breast cancer [$F_{(3,196)} = 2.11$, $p > .05$]. The means of the four groups are as follows; stage T1 breast cancer patients [M = .47, SD = .74], stage T2 [M = 1.97, SD = 2.71], stage T3 [M = 1.70, SD = 2.33], Stage T4 breast cancer patients [M = 2.18, SD = 2.70].

Hypothesis 4b: *Patients with different stages of breast cancer will significantly differ in their use of Africentric coping strategies.*

Table 4.7: Summary of MANOVA test of stages of breast cancer on adjustment

VARIABLES	**T1-A**	**T2-B**	**T3-C**	**T4-D**	***df***	**F**	***p***	**Post hoc**
Adjustment	64.40	62.76	67.87	71.81	3,196	3.56	.02	B<D
	(SD = 14.01)	(SD = 10.89)	(SD = 15.61)	(SD = 17.30)				
Helpless H	14.00	12.16	15.60	16.66		3.30	.02	B<D
	(SD=5.61)	(SD=4.00)	(SD=9.12)	(SD=8.29)				
Anxious P	17.60	15.42	18.00	19.03		3.41	.02	B<D
	(SD=6.84)	(SD=4.77)	(SD=5.46)	(SD=6.40)				
Fighting S	10.40	10.39	10.40	11.08		.33	.48	-
	(SD=1.30)	(SD=2.31)	(SD=5.46)	(SD=3.72)				
Cognitive A	11.33	12.39	12.02	12.02		2.92	.80	-
	(SD=3.31)	(SD=3.04)	(SD=2.54)	(SD=4.06)				
Fatalism	11.93	12.61	12.15	13.76		2.92	.04	C<D
	(SD=2.31)	(SD=2.75)	(SD=2.60)	(SD=4.39)				

Hypothesis 4b was tested using the Multivariate Analysis of Variance since there was one independent variable with four levels whose effect was measured on the dependent variable adjustment which also had four dimensions. At the .05 level of significance results showed that a significant difference existed between the stage of breast cancer and adjustment [$F_{(3,196)} = 3.56$, $p < .05$]. Post hoc analysis using the Bonferroni revealed that stage T4 breast cancer patients [M = 71.81, SD = 17.30] had higher adjustment compared to stage T2 breast cancer patients [M = 62.76, SD = 10.89] at $p < .05$. However, there was no significant difference in the usage of adjustment among patients with stage T1 [M = 64.40, SD = 14.01] and T3 breast cancer [M = 67.87, SD = 15.61].

In addition, a significant difference was found between stage of illness and helplessness or hopeless adjustment style of the patients [$F_{(3,196)} = .3.30$, $\rho < .05$]. Therefore, further Bonferroni analysis was carried which revealed that significant difference existed between patients with stage T2 [M = 12.16, SD = 4.00] and stage T4 [M = 16.66, SD = 8.29], $p < .05$ breast cancer in the use of helplessness or hopelessness adjustment. Thus, patients with stage T4 breast cancer used more helplessness or hopelessness than patients with stage T2 breast cancer. There was no significant difference in the use of helplessness or hopelessness among patients with stage T1 [M = 14.00, SD = 5.61] or stage T3 breast cancer [M = 15.60, SD = 9.12]. A significant difference existed among the stages of breast cancer in the use of anxious preoccupation adjustment style [F (3,196) = 3.41, $\rho < .05$]. Bonferroni analysis showed that patients with stage T4 breast cancer [M = 19.03, SD = 6.40] significantly used more anxious preoccupation adjustment as compared to patients with stage T2 breast cancer [M = 15.92, SD = 4.77], $p < .05$. Patients with stage T1 [M = 17.60, SD = 6.84] and stage T4 [M = 18.00, SD = 5.46] breast cancer did not significantly use anxious preoccupation adjustment style.

Further, a significant difference existed among the stages of breast cancer in the use of fatalism as an adjustment strategy [$F_{(3,196)} = .2.92$, $\rho < .05$]. Post hoc analysis using the Bonferroni revealed that patients with stage 4 breast cancer (M = 13.76, SD = 4.39) significantly used more fatalism as adjustment strategy as compared to stage 3 (M = 12.15, SD = 2.60) breast cancer patients. Patients with stage T1 (M = 11.93, SD = 2.31) and stage T2 (M = 12.61, SD = 2.75) breast cancer did not significantly use fatalism as adjustment strategy. No significant difference existed between the groups in the use of fighting spirit [$F_{(3,196)} = .84$, $\rho > .05$]. The means are: stage T1 (M = 10.40, SD = 1.30), stage T2 (M = 12.39, SD = 3.04), stage T3 (M = 12.02, SD = 2.54), stage T4 (M = 11.08, SD = 3.72). There was no significant difference in the use of cognitive avoidance [$F_{(3,196)} = .33$, $\rho > .05$]. The means of the stages are as follows: stage T1 (M = 11.33, SD = 3.31), stage T2 (M = 12.39, SD = 3.04), stage T3 (M = 12.02, SD = 2.54), stage T4 (M = 12.02, SD = 4.06). Thus, hypothesis 4b which stated that patients with different stages of breast cancer will significantly differ in their use of adjustment strategies was supported.

Hypothesis 5: *There will be a significant positive relationship between age and psychological distress.*

Table 4.8: Pearson correlation matrix of age and psychological distress

	Variables	1	2	3	4	5	6	7	8	9	10	11
1	AGE											
2	GSI	.27**										
3	SOM	.27**	.814**									
4	OBS	.36**	.857**	.75**								
5	INTER	.12	.721**	.64**	.51**							
6	DEP	.25**	.84**	.55**	.70**	.45**						
7	ANX	.25**	.91**	.68**	.72**	.59**	.80**					
8	HOS	.17*	.87**	.62**	.66*	.59**	.79**	.79**				
9	PHO	.16*	.83**	.57**	.63**	.52**	.79**	.79**	.80**			
10	PARA	.05	.81**	.44**	.61**	.66**	.76**	.76**	.76**	.71**		
11	PSYCH	.24**	.86	.60**	.58**	.58**	.75**	.75**	.73**	.76**	.75**	

***= Significant at .01 alpha level, *= significant at .05 alpha level. GSI= Global Severity Index, SOM=Somatization, OBS= Obsession compulsion, INTER= Interpersonal sensitivity, DEP= Depression, ANX= Anxiety, HOS= Hostility, PHO=Phobic anxiety, PARA= Paranoid ideation and PSYCH=Psychoticism.*

From the correlation matrix in Table 4.8 above, it was observed that age had a significant positive relationship with overall psychological distress or Global Severity Index r (198) = .27, ρ < .01. Further analysis revealed that significant relationship existed between age and some specific psychological distress, that is, Somatization; r (198) = .27, ρ < .01, Obsession compulsion r (198) = .27, ρ < .01, depression r (198) = .25 ρ < .01, ; anxiety r (198) = .25, ρ < .01, ; hostility r (198) = .17, ρ < .05.; phobia r (198) = .16 ρ > .05 and psychoticism r (198) = .24, ρ < .05. However, no significant relationship was found between age and specific psychological distress such as; paranoid ideation r (198) = .05, ρ > .05 and interpersonal sensitivity r (198) = .12 ρ > .05. Therefore hypothesis 5 that there will be significant positive relationship between age and psychological distress was supported.

Hypothesis 6: *There will be a significant positive relationship between duration of illness and quality of life of breast cancer patients.*

Table 4.9: Pearson Correlation matrix of duration of illness and quality of life among breast cancer patients

	Variable	**1**	**2**	**3**	**4**	**5**	**6**
1	Duration						
2	QOL	-.47**					
3	Physical	-.40**	.83**				
4	Psychological	-.45**	.92**	.74**			
5	Social	-.34**	.64**	.45**	.53**		
6	Environmental	-.34**	.86**	.56**	.72**	.38**	

***= Significant at .01 alpha level, *= significant at .05 alpha level.*

It is observed from the correlation matrix above that a significant negative relationship existed between duration of illness and quality of life, r (198) = -.45, $p < .01$. There was significant negative relationship between duration of illness and all the specific quality of life measures; physical quality of life, r (198) = -.40 ρ <. 01; psychological quality of life, r (198) = -.45, $\rho < .01$; social quality of life, r (198) = -.34, $\rho < .01$ and environmental quality of life, r (198) = -.34, $\rho < .01$. Thus, hypothesis 6 that there will be a significant positive relationship between duration of illness and quality of life of breast cancer patients was not supported.

Additional Findings

Table 4.10: Multiple regression of demographic variables on Africentric Coping

PREDICTORS	**B**	**SEB**	**Β**	***T***	***p***
Age	0.17	0.82	0.15	0.20	0.84
Marital status	2.05	1.27	0.13	1.61	0.11
Employment status	-2.51	1.62	-0.13	-1.55	0.12
Religious status	-8.40	2.33	-0.24	-3.60	0.00
Highest Education	-4.84	2.55	-0.28	-1.90	0.06
Educational level	0.38	1.07	0.05	0.35	0.72
Management plan	-2.72	0.75	-0.25	-3.63	0.00
Age of onset	-0.26	0.84	-0.22	-0.31	0.76
Duration	-0.14	0.09	-0.19	-1.53	0.13
Stage	3.04	1.06	0.20	2.87	0.01
Other health complications	0.29	2.26	0.01	0.13	0.90

$R^2 = 0.23$

The demographic variables significantly accounted for 23% variance in Africentric coping of breast cancer patients [$R^2 = .23$, $F_{(11,188)} = 5.20$, $P < .01$]. It can be observed from the table above that, the significant predictors of Africentric coping are; religious status which significantly and negatively predicted Africentric coping [$\beta = -0.24$, $t = -3.6$, $p < .01$]; management plan which also negatively predicted Africentric coping significantly [$\beta = -.25$, $t = -3.63$, $p < .01$] and stage of illness on the other hand significantly predicted Africentric coping [$\beta = .20$, $t = 2.87$, $p < .01$].

Table 4.11: Multiple regression of demographic variables on adjustment

PREDICTORS	**B**	**SEB**	**Β**	***T***	***p***
Age	1.77	0.95	1.48	1.87	0.06
Marital status	1.17	1.42	0.07	0.82	0.41
Employment status	-2.08	1.81	-0.10	-1.15	0.25
Religious status	6.17	2.61	0.16	2.36	0.02
Highest education	-2.93	2.85	-0.16	-1.03	0.31
Educational level	0.10	1.19	0.13	0.84	0.40
Management plan	-0.09	0.84	-0.01	-0.11	0.92
Age of onset	-1.55	0.94	-1.24	-1.65	0.10
Duration	0.03	0.10	0.04	0.33	0.74
Stage	2.44	1.18	0.15	2.07	0.04
Other health complications	4.23	2.53	0.13	1.68	0.10

$R^2 = 0.19$

The demographic variables significantly explained 19% of the variance in adjustment; [$R^2 = .19$, F (11, 188) = 4.10, $p < .01$]. The table above revealed religious status significantly and positively predicted adjustment; [$\beta = .16$, $t = 2.36$, $p < .05$]. Stage which significantly predicted adjustment; [$\beta =.15$, $t = 2.07$, $p < .05$] is the other factor that significantly predicted quality of life.

Table 4.12: Multiple regression of demographic variables on quality of life.

PREDICTORS	**B**	**SEB**	**Β**	***T***	***p***
Age	-2.67	1.01	-1.81	-2.65	0.01
Marital status	0.65	1.51	0.03	0.43	0.67
Employment status	-3.75	1.92	-0.14	-1.95	0.05
Religious status	11.31	2.77	-0.24	-4.08	0.00
Highest education	3.43	3.02	0.15	1.14	0.26
Educational level	-1.27	1.27	-0.13	-1.00	0.32
Management plan	-2.48	0.89	-0.17	-2.79	0.01
Age of onset	2.49	0.99	1.62	2.50	0.01
Duration	-0.10	0.11	-0.11	-0.93	0.35
Stage	-1.32	1.26	-0.07	-1.05	0.30
Other health complications	-0.07	2.68	-0.00	-0.03	0.98

$R^2 = 0.40$

All the demographic variables significantly explained 40% variance in quality of life of the patients; [R^2 = .40, F $_{(11,\ 188)}$ = 11.26, $p < .01$]. The table above shows that Age of onset significantly predicted quality of life of breast cancer patients; [β= 1.62, t = 2.50 $p < .05$]. Additionally, management plan negatively and significantly explained quality of life of the breast cancer patients; [β = -.17, t = - 2.79, $p < .05$]. Also, religious status significantly and negatively accounted for quality of life of the breast cancer patients; [β = -0.24, t = -4.08, $p < .01$]. Finally, age accounted significantly and negatively for quality of life of breast cancer patients; [β = -1.81, t = -2.65, $p < .05$].

Table 4.13: Pearson correlation matrix for relationship between coping and psychological distress

variables	GSI	SOM	OBS	INTER	DEP	ANX	HOS	PHO	PARA	PSYC
Coping	-.19**	-.29**	-.24**	-.15*	-.08	-.15*	-.10	-.07	-.07	-.18*
Cognitive	-.26**	-.27**	-.24**	-.22**	-.18*	-.26**	-.19**	-.17**	-.14*	-.24**
Spiritual	-.08**	-.17**	-.13	-.12	-.05	-.58	-.01	-.07	-.02	-.10
Collective	-.12	-.24**	-.19**	-.06	-.04	-.07	-.06	.04	-.03	-.12
Ritual	-.08	-.20**	-.18**	.01	-.07	.05	.00	.08	.04	-.03

***= Significant at .01 alpha level, *= significant at .05 alpha level. GSI= Global Severity Index, SOM=Somatization, OBS= Obsession compulsion, INTER= Interpersonal sensitivity, DEP= Depression, ANX= Anxiety, HOS= Hostility, PHO=Phobic anxiety, PARA= Paranoid ideation and PSYCH=Psychoticism.*

An examination of Table 4.12 reveals a significant negative correlation exist between coping and global severity index of psychological distress. A significant negative relationship exist between coping and components of psychological distress or psychopathological symptoms which are somatization, obsession compulsion, interpersonal sensitivity, anxiety and psychoticism. However, no significant relationship was found between coping and depression, hostility, phobia, and paranoid ideation. A significant negative correlation was found between cognitive coping and global severity index of psychological distress as well as all of its components. On the other hand, a significant negative relationship was found between spiritual coping and global severity index and somatization. Furthermore, significant negative relationship was observed between collective coping and somatization as well as obsession compulsion. Finally, significant negative relationship was found between ritual coping and somatization as well as obsession compulsion.

Table 4.14: Pearson correlation matrix for relationship between adjustment and psychological distress

Variables	BSI	SOM	OBS	INTER	DEP	ANX	HOS	PHO	PARA	PSYC
Adjustment	.57**	.350**	.39**	.31**	.65**	.59**	.60**	.53**	.45**	.108
Helpless/hopeless	.65**	.44**	.57**	.31**	.76**	.64**	.60**	.55**	.47**	.56**
Anxious preoccupation	.58**	.36**	.37**	.37**	.60**	.60**	.62**	.55**	.54**	.56**
Fighting spirit	.08	.09	.00	.02	.10	.11	.13	.07	.01	.04
Cognitive avoidance	-.13	-.07	-.19**	-.11	-.10	-.09	-.06	-.16*	-.13	-.27**
Fatalism	.09	-.02	-.04	.13	.12	.14*	.18*	.15*	.10	.05

***= Significant at .01 alpha level, *= significant at .05 alpha level. GSI= Global Severity Index, SOM=Somatization, OBS= Obsession compulsion, INTER= Interpersonal sensitivity, DEP= Depression, ANX= Anxiety, HOS= Hostility, PHO=Phobic anxiety, PARA= Paranoid ideation and PSYCH=Psychoticism.*

It can be observed from the table above that a significant positive relationship exist between adjustment and global severity index as well as all the components of psychological distress with the exception of psychoticism. In addition, a significant negative relationship exist between helplessness or hopelessness style of adjustment and global severity index as well as all the components of psychological distress. Similarly, anxious preoccupation was significantly and positively related to psychological distress and all its dimensions. Cognitive avoidance adjustment style showed a significant negative relationship between obsession compulsion and phobia and psychoticism whiles fatalism adjustment style was positively related to anxiety, hostility and phobia. However, fighting spirit was not significantly related to psychological distress or its components.

Table 4.15: Pearson correlation matrix for relationship between quality of life and psychological distress

Variables	GSI	SOM	OBS	INTER	DEP	ANX	HOS	PHO	PARA	PSYC
QoL	-.80**	-.72**	-.73**	-.52**	-.65**	-.73	-.68**	-.60**	-.57**	-.70**
Physical	-.67**	-.62**	-.64**	-.39**	-.56**	-.61**	-.57**	-.51**	-.41**	-.58**
Psychological	-.79**	-.67**	-.71**	-.52**	-.70**	-.74**	-.65**	-.61**	-.59**	-.71**
Social	-.48**	-.43**	-.42**	-.30**	-.38**	-.42**	-.41**	-.36**	-.38**	-.41**
Environmental	-.67**	-.63**	-.61**	-.47**	-.49**	-.62**	-.51**	-.50**	-.49**	-.59**

***= Significant at .01 alpha level, *= significant at .05 alpha level. GSI= Global Severity Index, SOM=Somatization, OBS= Obsession compulsion, INTER= Interpersonal sensitivity, DEP= Depression, ANX= Anxiety, HOS= Hostility, PHO=Phobic anxiety, PARA= Paranoid ideation and PSYCH=Psychoticism.*

From Table 4.15 above, it is seen that a significant negative relationship exist between quality of life as well as all its dimensions on global severity index of psychological distress as well as all the components of psychological distress.

Table 4.16: Multiple regression of the interaction between adjustment and coping on quality of life

PREDICTORS	B	SEB	B	T	*p*
Coping	.40	.30	.30	1.32	.19
Adjustment	-.67	.22	-.55	-3.05	.00
Coping*adjustment	.00	.00	.12	.39	.70

Results from Table 4.16 above shows that whilst coping does not significantly predict quality of life, adjustment significantly predicts quality of life negatively

[$\beta = -.55$, $t = -3.05$, $p < .01$]. However, adjustment and coping jointly do not significantly predict quality of life.

Summary of Findings

I. Cognitive emotive debriefing Africentric coping style significantly predicted quality of life.

II. Helplessness or hopelessness and anxious preoccupation adjustment styles significantly predicted quality of life.

III. Stages of breast cancer significantly predicted quality of life (overall quality of life, physical, psychological and environmental), Africentric coping (cognitive emotive debriefing) and adjustment (helplessness or hopelessness, anxious preoccupation and fatalism).

IV. A significant positive relationship existed between age and psychological distress.

V. A significant negative relationship existed between duration of illness and quality of life.

Additional Findings

I. Religious status, management plan and stage of illness significantly predicted Africentric coping of breast cancer patients.

II. Religious status and stage of illness significantly predicted quality of life of breast cancer patients

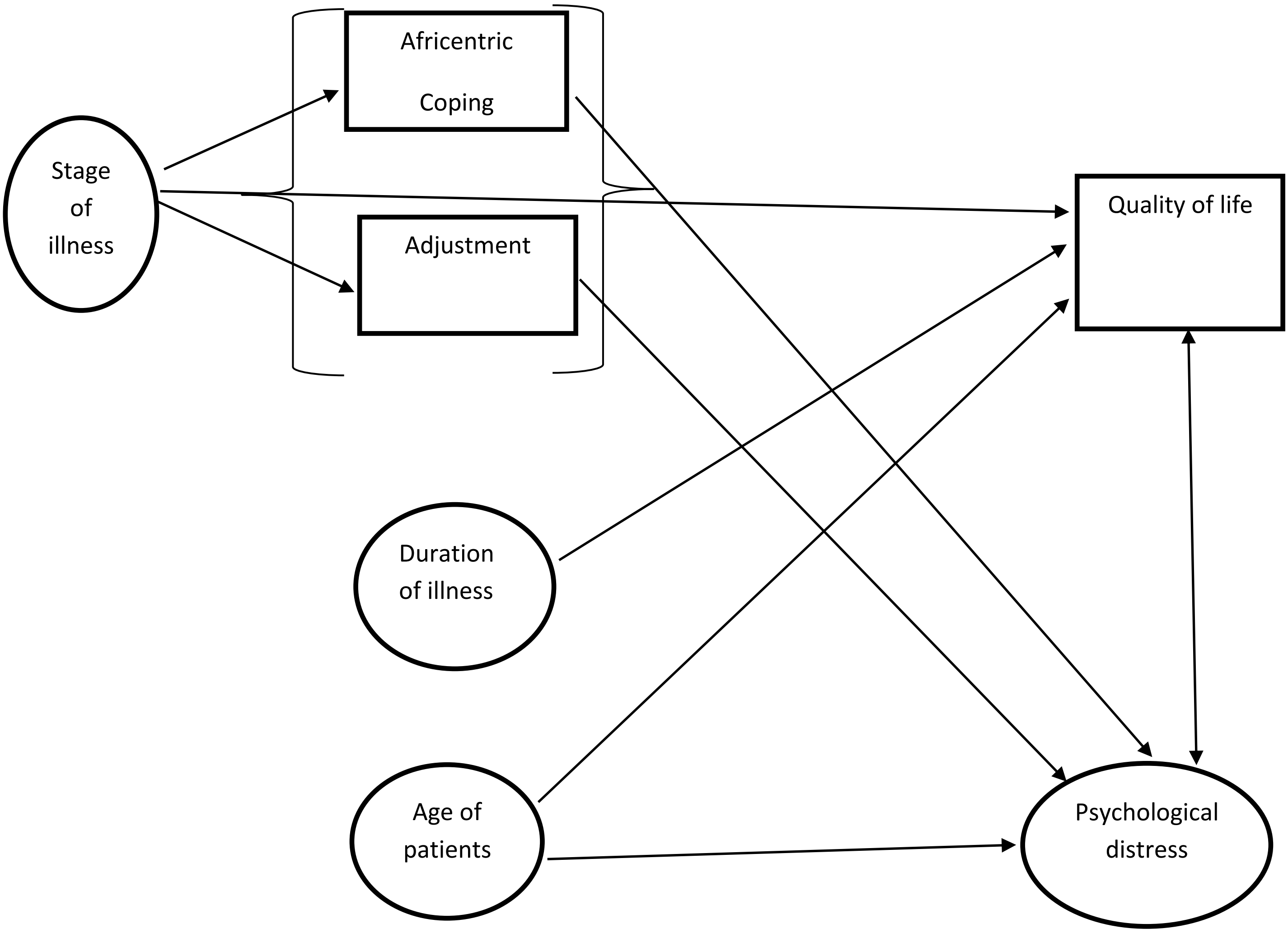
III. Age of onset, management plan, religious status and age of patients significantly predicted adjustment of breast cancer patients.

IV. There is a significant negative correlation between coping and psychological distress

V. There is a significant positive correlation between negative adjustment styles and psychological distress

VI. Coping and adjustment jointly do not significantly predict quality of life of breast cancer patients.

Figure 4.1: <u>Observed Model</u>



The model above shows that stage of illness significantly predicts Africentric coping and adjustment levels of patients. Stage of illness, Africentric coping and adjustment all predict quality of life. A significant negative relationship exist between duration of illness and quality of life of breast cancer patients. On the other hand a significant positive relationship exist between age of patients and psychological distress. Also a significant relationship between Africentric coping and psychological distress and adjustment and psychological distress. There is a bidirectional relationship between quality of life and psychological distress.

CHAPTER FIVE

DISCUSSION, RECOMMENDATIONS AND CONCLUSION

INTRODUCTION

This chapter presents the findings from the study with regard to whether the stated hypotheses have been confirmed or not. The findings from the study are discussed with reference to previous studies and theories reviewed in the subject area. The explanations of the findings are offered to put the outcomes into perspective in relation to culture and personality differences that may be accounting for the different results. The implications of the findings and recommendations for future studies, practitioners, clients and the health sector are outlined. The limitations and conclusions are also spelt out in the light of the study findings and their implications.

DISCUSSION

Breast cancer as a condition is associated with a lot of stress and so patients would have to engage in healthy adjustment and coping styles so that it would have positive effects on their quality of life. Accordingly, this study sought to gain an in-depth understanding of cancer and its associated stress and Africentric coping mechanisms used by the patients in adjusting to the illness, as well as how the illness affects their quality of life.

Africentric coping styles and quality of life among breast cancer patients.

In order to examine whether Africentric styles significantly predict patients quality of life, multiple regression analysis was run. A look at the ANOVA statistics showed that Africentric coping significantly predicted quality of life of the breast cancer patients. Further exploration of the findings revealed that cognitive emotive debriefing coping style component of the Africentic coping significantly predicted quality of life. Thus, breast cancer patients used cognitive emotive debriefing as a way of coping with their condition. However, the other components of Africentric coping which were spiritual centered coping, collective centered coping and ritual centered coping did not significantly predict quality of life of breast cancer patients. Also, the usage of cognitive resource as coping strategy was negatively associated with psychological distress or psychopathological symptoms. Thus, reliance on cognitive resource of coping limits the predisposition to psychopathological symptoms. Findings from this study are consistent with previous research such as Bitsika et al. (2010) who found breast cancer patients' coping styles as important in predicting their quality of life. Similarly, Sen and Spring (2010) also observed that knowledge about the condition helped in improving coping strategies and also gaining better quality of life. Khalili, et al. (2013) also discovered that healthy coping strategies are significantly related to quality of life. Breast cancer has adverse effects on patients' wellbeing, therefore description of coping strategies might be useful in identifying patients in need of particular counselling and support.

The observation of results found adjustment to significantly predict quality of life. Thus, patients' adjustment to breast cancer and its conditions had a positive and progressive effect on their quality of life. Critical examination of the analysis however revealed that hopelessness or helplessness and anxious preoccupation dimensions of adjustment had significant adverse effects on quality of life. These adjustment styles are negative styles that the patients were using to adjust to their condition. As such it produced negative consequence on their health and quality of life. It appears, most patients had gotten frustrated with the condition and so had become helpless and felt hopeless more or less giving up on themselves and the condition and so this reflected in majority of them having low quality of life. Besides, most of the patients were anxious about the condition and were mainly preoccupied with anxious thoughts hence reflecting in their low quality of life. The other dimensions of adjustment including fighting spirit, cognitive avoidance and fatalism however did not have any significant effect on quality of life of breast cancer patients. The reason could be that majority of the breast cancer patients have not yet come to terms with the conditions and they were still battling with the stress associated with the disease. Indeed, others might have been preoccupied with the thoughts about the illness being a deadly disease and so given up on the possibility of being cured and returning to normal life.

It is therefore, not surprising that these maladaptive strategies were positively related to psychopathological symptoms. This finding confirms the cognitive adaptation theory which emphasises that when an individual is faced with a stressful event the meaning the individual gives to that event could either help the person to gain mastery or control over the situation and help the person to even restore his or her self- esteem that might have reduced due to the experience or totally result in lack of control and declined self-esteem. It appears that the patients have attached negative meanings to their condition which is making them feel helpless, hopeless and anxious thus, reflecting in their poor quality of life whilst predisposing them to psychological distress as well. The findings are in agreement with earlier research outcomes that showed that healthy adjustment styles are linked to higher quality of life. For instance, Silver et al. (2012) identified the need for promoting good adaptive strategies in order to improve wellbeing or quality of life of breast cancer patients. Jordan et al. (1999) found healthy adjustment styles predicted good quality of life with unhealthy behaviours predicting low quality of life among women with breast cancer.

Stage of breast cancer and quality of life of patients.

In this study the stages of breast cancer were categorized into four; namely: T1, T2, T3 and T4. The components of quality of life were also four; namely: physical, psychological, social and environmental. Analysis of these categories showed that the stage of breast cancer significantly predicted the quality of life of breast cancer patients. Thus, even for overall quality of life the patients differed based on the stage of the condition they were in. To ascertain which stages of breast cancer significantly predicted quality of life, the Bonferroni post hoc analysis showed that breast cancer patients with stage T2 cancer had better overall quality of life compared to breast cancer patients at stage T4. Further examination of the various components of quality of life showed that patients at stage T2 breast cancer had higher physical quality of life compared to patients with stage T3 and T4.

Again, breast cancer patients at stage T2 had higher psychological and environmental quality of life compared to patients at stage T4. However, patients did not differ across the stages of breast cancer on social quality of life. It must be noted that, Stage T4 breast cancer patients are those with advanced form of breast cancer that has spread beyond the breast and nearby lymph nodes to other organs of the body, such as the lungs, distant lymph nodes, skin, bones, liver, or the brain. Possible explanation of this finding could be that because stage T4 patients are those with the advanced stage of breast cancer, they might have given up on themselves thinking that they would soon die so do not engage in healthy lifestyles that could boost their quality of life. This assertion is significantly reported by Mukwato et al. (2010) who adduced that, for cancer patients diagnosed in the late stages they need to come to terms with their diagnosis and the fears and uncertainty about end of life.

Additionally, patients may not have differed on social quality of life because there is so much stigma attached to breast cancer in the country and quite a number of myths about what it is and its causes. Thus, most patients with the diagnoses would want to keep the condition to themselves and also avoid social gatherings so that it is not noticed by others. This finding confirms the Integrative Theory of Quality of Life which examines quality of life as an individual's measure of how good life is or how content he or she is with life and how individuals are perceive by the outside world to be adapting with life that is influenced by the culture they find themselves in (Ventegodt et al. 2003). The findings confirmed the work of Silva et al. (2012) who underscored that patients usually with stage T4 breast cancer have poorer quality of life compared to those at stage T3 or T2.

The outcome again affirmed the study of Lee et al. (2011) who also produced similar findings in an investigation of the effects of patient's awareness of disease status on health related quality of life. Lee et al. (2011) observed that patients with advanced cancer undergoing palliative chemotherapy experienced deteriorated quality of life. In addition, the findings provide support for Gokgoz et al. (2011) in their examination of the quality of life of newly diagnosed breast cancer patients which held that advanced stage breast cancer patients reported lower, physical, social and sexual functions. It is therefore important that in the care of breast cancer patients, attention is given to patients' psychological, physical and environmental quality of life since the stages of cancer are significantly associated with these states.

Stage of breast cancer and Africentric coping.

Being diagnosed with breast cancer is a very stressful event that impacts on all facets of a patient's life hence the need to employ coping mechanisms to help deal with this psychological distress. However, if the coping mechanisms employed are not healthy, the results adversely impact on the patient's life. In essence, the study in the fourth objective sought to explore the extent to which there were differences in stages of breast cancer in the use of Africentric coping strategies. This was geared towards understanding the differences that existed among the stages of cancer and the coping strategies employed by the sufferers in alleviating the associated stress. The results from the Analysis of Variance test discovered that the coping styles most of the patients used was the cognitive emotive debriefing. Post hoc analysis further showed that patients with stage T2 breast cancer used cognitive emotive debriefing more often than those at stage T3. On the other hand, patients with stage T1 and T4 breast cancer reported no significant use of this style of coping.

This revelation is in contrast with previous findings of Khalili et al. (2013) who discovered that emotion focused coping positively and significantly related to the symptoms aspect of quality of life of breast cancer patients. Also, the finding further disagrees with the earlier observation of Urcuyo et al. (2005) who did not only show that *benefit finding* (having a positive outlook of life whilst living with breast cancer) was positively related to stage of breast cancer as well as the use of anti-hormonal treatment but also benefit finding has significant relationship with optimism about life as well as religious coping. Besides, the finding further contrasts the study of Silva et al. (2012) who affirmed that coping through seeking social support and using cognitive strategies as well as personal resources and skills were associated with psychological quality of life.

Moreover, contrary to expectations, just as patients across the various stages did not significantly differ in their usage of spiritual centered coping and ritual centered coping, they did not equally differ in their usage of collective centered coping. This finding becomes interesting in the Ghanaian but African context in general with a collective culture where one would have expected at least a significant difference in collective centered coping between the various stages. One reason for this could be the fact that the Ghanaian culture is evolving from a collective to a somewhat individualistic culture thus, many especially the city dwellers are becoming focused on themselves and their nuclear families. Again, because of the stigma attached to the condition in the country and the fear of death since the condition is considered one of the deadly diseases, most patients would like to keep the diagnosis to themselves to avoid being stigmatized.

Stage of breast cancer and adjustment.

For the purpose of assessing the effect of breast cancer on adjustment, the study in the fourth hypothesis stipulated that participants with different stages of breast cancer will significantly differ in their use of adjustment strategies. Findings showed a significant difference among patients with various stages of breast cancer in their use of helplessness or hopelessness and anxious preoccupation dimensions of adjustment. To determine which stages exactly differed significantly in the use of these adjustment styles, the post hoc analysis revealed that for both helplessness or hopelessness and anxious preoccupation styles the difference existed among patients with stage T2 and stage T4. Patients with stage T4 breast cancer were found to have indulged more in helplessness or hopelessness and anxious preoccupation than those at stage T2.

In fact, stage T4 patients might have lost hope and given up on themselves knowing that their condition was advanced and they could lose their lives if care was not taken. Thus, their lives were mostly full of anxiety not knowing the prognosis. This finding is consistent with Mukwato et al. (2010) who adduced that patients diagnosed in the late stages of the condition have the stress of believing that they will receive palliative as opposed to curative care. The researchers added that most of these advanced cancer patients had fears of insecurity about the end of their lives. Contrary to findings from this study, Saita et al. (2015) in their recent study found that *fighting spirit* was the most active coping strategy used by women with high assertiveness and social anxiety.

Socio-demographic features and psychological distress and/or quality of life among breast cancer patients.

Age and psychological distress among breast cancer patients.

Living with breast cancer has negative impact on the psychological health of the patient. It has therefore become extremely important to focus on improving the psychological health of patients living with breast cancer. The quest of the study in the third objective was to determine how socio-demographic variables are significantly associated with psychological distress and/or quality of life among breast cancer patients. The results from the Pearson correlation analysis produced a significant positive relationship between age and general psychological distress. This means that older breast cancer patients exhibited more psychological distress than younger patients. In addition, older patients reported higher somatization, obsessive compulsion, depression, anxiety, hostility and psychoticism compared to younger breast cancer patients.

This outcome confirms previous results of other researchers who found variables such as anxiety and depression to be reported most often by breast cancer patients. For instance, Hack and Degner (2004) reported that the psychological burdens of long-term postoperative treatment cause psychological distress in patients with breast cancer. Additionally, Shimozuma et al. (1999) reported that about 20% - 30% of breast cancer patients suffer from psychiatric morbidity such as anxiety and/or depression during the first postoperative year. The findings, nonetheless contrast the outcome of the Australian National Breast Cancer Centre (2004) that emphasized personal attributes including being young during diagnosis, the history of psychological conditions, psychosocial factors: high trait anxiety or previous exposure to trauma and distress, and avoidant coping mechanisms increase the tendency of developing distress. The findings further disagree with Jordan et al. (1999) who did not only observe that, symptoms of anxiety/depression were predicted by low dispositional optimism when a patient is initially diagnosed, and partially mediated by emotion-focused disengagement coping but younger age was also essentially predictive of anxiety/depression symptoms at time of diagnosis, with full mediation by magnitude of intrusive thoughts.

Duration of illness and quality of life of breast cancer patients

The time of initial diagnosis, initial stages of treatment course and months following the end of treatment are hard times for patients both physically and emotionally since it is characterised by decreased quality of life. In a simple correlation analysis, the results interestingly showed a significant negative relationship between duration of illness and all dimensions of the quality of life. This means that the longer a patient had been diagnosed with breast cancer the lower the quality of life of the patient. On the other hand, the shorter a patient had been diagnosed with the disease the higher the quality of life. In essence, one would think that patients diagnosed with breast cancer over the years would have gotten used to living with the condition and found ways of coping in such a way that improves their quality of life.

The study speculates that those with longer duration of the condition had become frustrated with having to live with the condition for long if not for their whole life thereby having deleterious effects on their quality of life. These findings are contrary to previous results by Ho et al. (2013) who compared psychological health and quality of life of women with breast cancer as well as the relationship between anxiety, depression and quality of life during treatment and afterwards. Their results showed that ongoing therapy group or those who had not been diagnosed with the condition for long showed higher levels of anxiety and depression and lower levels of all quality of life dimensions than the post-therapy group or those who had a longer duration of the condition. Finally, the findings again contradict the earlier account of Safaee et al. (2008) who reported among other factors that grade of tumor and duration of illness have significant influence on quality of life, with patients of lower duration of illness significantly reporting lesser global quality of life.

LIMITATIONS OF THE STUDY

Apart from the gains, the study was characterized by some challenges and limitations that need not be overlooked. The current study concentrated on only breast cancer patients. The inclusion of a control group or a comparison group of another chronic condition would have been an added advantage to the study. Also, the study employed the quantitative research approach. Adapting the mixed method would have provided additional understanding of the reasons why breast cancer patients engage in one form of adjustment strategy or the other.

The researcher had to rely mostly on measures that had been developed and standardized in the west since there were no measures relevant to this study that had been standardized within the African setting. The limited clinic day(s) for breast cancer patients at both the radiotherapy and the surgical departments of the hospital per week/month markedly delayed the data gathering. Although, a number of the patients reported for treatment on the clinic days for treatment, their focus was on how early they had their turns for treatment. This situational variable was seen as a possible extraneous variable that could influence the outcome of the study.

RECOMMENDATIONS / PRACTICAL IMPLICATIONS

As a recommendation for future studies, researchers should employ the mixed method in order to get the views of patients about their condition. It would enable researchers gather information about reasons why patients use one strategy or the other to cope with the illness. Future studies should also examine the role of illness perception on the mental health outcomes of patients. Furthermore, other studies should explore other equally important psychological variables: (e.g. personal attributes, history of the conditions); psychosocial factors: (e.g. prior exposure to trauma, anxiety) and some social-environmental attributes: (e.g. perceived family and social support).

Results from the study have practical implications for mental health professionals. In dealing with breast cancer patients, psychological distress or mental health issues in relation to the age of the patients need to be considered since it was significantly observed that age had a positive relationship with almost all the dimensions of psychological distress. Thus, patients must be prepared and given enough counselling and psycho-education about their conditions in order to lower or prevent them from having psychological distress. Besides, there is the need to help patients cultivate mindful insights and encourage to engage in reduced deliberate emotional inhibition which may be a useful focus for psycho-oncological interventions.

From the findings, spiritual centered coping did not have any significant effect on stage of illness hence over dependence on religion and spirituality may not be helpful in improving quality of life of patients or reducing advancement of their breast cancer.

Therefore, instead of spending much time and resources seeking religious and spiritual care, health professionals should be contacted for breast cancer related issues. Whilst the study does not advocate for total avoidance of religious and spiritual assistance, over indulgence and emphasis at the neglect and expense of proper holistic healthcare from professionals at designated health facilities is discouraged. In addition, as findings proved that cognitive emotive debriefing style of coping had significant effects on the quality of life, it must be noted that patients' understanding and making meaning of the condition is significant in improving their quality of life. In dealing with especially the older breast cancer patients, professionals ought to pay attention to psychological distress or mental health issues since age significantly produced a positive relationship with almost all dimensions of psychological distress.

For the health sector, it is strongly recommended for the need to adopt holistic approach in the management of the breast cancer conditions. Thus, the bio-psychosocial health care delivery approach involving diverse professionals with varied expertise including medical doctors, nurses, psychiatrists, clinical psychologists and dieticians is encouraged. The effort of these professionals will help in addressing breast cancer and its associated psychological distress. Indeed, the breast cancer condition affects not only the physical health but significantly impedes mental and psycho-social health of the patients hence the need to examine its solution from such relevant and diverse fields. This becomes overly necessary with recent findings demonstrating that comorbid mental health issues negatively affect the course of breast cancer management.

The study further recommends that health policy formulation should include access to mental healthcare in the management (treatment) regimen for the breast cancer patients. This would enable the patients receive total care and lessen the already burdened few existing medical facilities. For instance, some patients may frequent health facilities with conditions that may be psychological yet may be receiving medical treatments with no success. This may lead to waste of resources at the expense of patients who actually need the services. Finally, policy makers and regulators should consider the inclusion of mental health services in the National Health Insurance Scheme for persons living with not only breast cancer but many other conditions yet suffering psychological distress and other mental disorders.

CONCLUSION

Living with breast cancer has been shown to be accompanied by comorbid mental health problems such as somatization, depression, anxiety and psychological distress, and the likes. Although, stress associated with cancer diagnosis involves the use of coping and adjustments, there is a dearth of empirical findings on coping, adjustment strategies and quality of life of breast cancer patients. This study therefore examined Africentric coping strategies, adjustment strategies and quality of life of breast cancer patients. It explored the mental health problems and psychological distress associated with breast cancer as well.

Findings revealed that Africentric coping predicted quality of life of patients as well as adjustment to illness. Patients with early diagnosis (stage T2) of breast cancer used more cognitive emotive coping strategies than their advanced (stage 3) counterparts. However, the advanced, stage T4 breast cancer patients were observed to indulge more in helplessness or hopelessness and anxious preoccupation adjustment styles than their early stage T2 counterparts. Stage T4 breast cancer patients had declined quality of life on all the dimensions of quality of life as well as its dimensions. Furthermore, duration of illness was observed to produce a significant negative relationship with quality of life, with sufferers of longer duration of breast cancer reporting low quality of life on all dimensions: physical, psychological, social and environmental. In addition, findings showed that age has a significant positive connection with psychological distress and its associated dimensions such as somatization, obsession compulsion, depression, anxiety, hostility, phobia and psychoticism.

In summary, the findings may serve as the basis of future research since there are only few studies in the Ghanaian and African context with regard to especially culture specific coping strategies, adjustment styles and quality of life among breast cancer patients. Indeed, majority of the patients especially those with advanced diagnosis were observed to use maladaptive and malfunctioned coping strategies which adversely affected their quality of life. It also came to light that patients who lived long with breast cancer exhibited poorer quality of life. Overall, the study further indicated that breast cancer patients experienced symptoms of mental health problems including somatization, obsessive compulsion, depression, anxiety, hostility and psychoticism. Nonetheless, these diagnoses cannot be concluded to be clinically significant hence the study calls for thorough in-depth and clinical assessment into these psychological conditions.

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APPENDICES

Appendix A: QUESTTIONNAIRES

Section A: DEMOGRAPHIC INFORMATION

1. Female ☐ Male ☐
2. Age:
3. Marital Status:
    a. Single ☐ b. Married ☐ c. Divorce ☐ d.Widow ☐
4. Employment status : employed ☐ unemployed ☐ retired ☐ others ☐
5. Religion: Christian ☐ Muslim ☐
6. Highest level of education: Basic ☐ secondary ☐ tertiary ☐
7. Educational level: primary ☐ JHS ☐ Secondary ☐ vocational ☐ polytechnic training college ☐ university ☐

MANAGEMENT PLAN

Treatment given: Surgery + chemotherapy+ radiotherapy ☐ surgery + radiotherapy ☐ surgery + chemotherapy ☐ surgery ☐ chemotherapy ☐ others ☐

Age of onset:

Duration of illness:

Stage of illness:

Other health conditions:

Section B

Africultural Coping Inventory (AFCI)

Instructions: Please consider the strategies you use in coping with stressful situations. Recall a stressful situation(s) that occurred. Rate each coping strategy by indicating whether you used it to cope with the stressful situation.

0 = Did not use 1 = Used a little 2 = Used a lot 3 = Used a great deal.

______ 1. I prayed that things would work themselves out.

______ 2. I got a group of family or friends together to help with the problem.

______ 3. I shared my feelings with a friend or family member.

______ 4. I remembered what a parent (or other relative) once said about dealing with these kinds of situations.

______ 5. I tried to forget about the situation.

______ 6. I went to church (or other religious meeting) to get help or support from the group.

______ 7. I thought of all the struggles Black people have had to endure and it gave me strength to deal with the situation.

______ 8. To keep from dealing with the situation, I found other things to keep me busy.

______ 9. I sought advice about how to handle the situation from an older person in my family or community.

______ 10. I read a scripture from the bible (or similar book) for comfort and/or guidance.

______ 11. I asked for suggestions on how to deal with the situation during a meeting of my organization or club.

______ 12. I tried to convince myself that it was not that bad.

______ 13. I asked someone to pray for me.

______ 14. I spent more time than usual doing group activities.

_____ 15. I hoped that things would get better with time.

______ 16. I read a passage from a daily meditation book.

______ 17. I spent more time than usual doing more things with friends and family.

0 = Did not use, 1 = Used a little, 2 = Used a lot, 3 = Used a great deal.

______ 18. I tried to remove myself from the situation.

______ 19. I sought out people I thought would make me laugh.

______ 20. I got dressed up in my best clothing.

______ 21. I asked for blessings from a spiritual or religious person.

______ 22. I helped others with their problems.

______ 23. I lit a candle for strength or guidance in dealing with the problem.

______ 24. I sought emotional support from family and friends.

______ 25. I burned incense for strength or guidance in dealing with the problem.

______ 26. I attended a social event (dance, party, movie) to reduce stress caused by the situation.

______ 27. I sang a song to myself to help reduce the stress.

______ 28. I used a cross or other object for its special powers in dealing with the problem.

______ 29. I found myself watching more comedy shows on television.

______ 30. I left matter in God’s hands.

Section C

WHO Quality of Life (WHOQoL)

Please read each question, assess your feelings, and circle the number on the for each question that gives the best answer for you

		Very poor	Poor	Neither poor nor good	Good	Very good
1	How would you rate your quality of life?					

		Very dissatisfied	Dissatisfied	Neither satisfied or dissatisfied	satisfied	Very satisfied
2	How satisfied are you with your health?					

		Not at all	A little	A moderate amount	Very much	An extreme amount
3	To what extent do you feel that physical pain prevents you from doing what you need to do?					
4	How much do you need any medical treatment to function in your daily life?					
5	How much do you enjoy life?					
6	To what extent do you feel your life to be meaningful					

		Not at all	A little	A moderate amount	Very much	Extremely
7	How well are you able to concentrate?					
8	How safe do you feel in your daily life?					
9	How healthy is your physical environment					

10	Do you have enough energy for everyday life?					
11	Are you able to accept your bodily appearance?					
12	Have you enough money to meet your needs?					
13	How available to you is the information that you need in your day-day life?					
14	To what extent do you have the opportunity for leisure activities?					

The following questions ask about how completely you experience or were able to do certain things in the last two weeks

		Very poor	Poor	Neither poor nor good	Good	Very good
15	How well are you able to get around?					

The following questions ask you to say how good or satisfied you have felt about

		Very dissatisfied	dissatisfied	Neither satisfied nor dissatisfied	satisfied	Very satisfied
16	How satisfied are you with your sleep?					
17	How satisfied are you with your ability to perform your daily living activities?					
18	How satisfied are you with your capacity for work?					
19	How satisfied are you with yourself?					
20	How satisfied are you with your personality					
21	How satisfied are you with your sex life?					
22	How satisfied are you with the support you get from your friends?					
23	How satisfied are you with the conditions of your living place?					
24	How satisfied are you with your access to health services?					
25	How satisfied are you with your transport?					

The following question refers to how often you have felt or experienced certain things in the last two weeks.

		never	seldom	Quite often	Very often	Always
26	How often do you have negative feelings such as blue mood, despair, anxiety, depression?					

Section D

Minimental Adjustment to Cancer Scale (MINIMAC)

	Item	1	2	3	4
1	I feel that life is hopeless				
2	I can’t handle it.				
3	It is a devastating feeling				
4	I make a positive effort not to think about my illness				
5	Since my cancer diagnosis, I now realise how precious life is				
6	I can’t cope.				
7	I’ve put myself in the hands of God				
8	I am upset about having cancer				
9	I distract myself when thoughts about my illness come into my head				
10	I worry about the cancer returning or getting worse				
11	I’ve had a good life. What’s left is a bonus				
12	I am a little frightened				
13	I feel there is nothing I can to do help myself				
14	I have difficulty in believing that this is happening to me				
15	I feel very angry about what has happened to me				
16	I am not very hopeful about the future.				
17	At the moment I take one day at a time				
18	I feel like giving up				
19	I am very optimistic				
20	I see my illness as a challenge				
21	Not thinking about it helps me cope				
22	I feel completely at a loss about what to do.				

	Item	1	2	3	4
23	I feel very angry about what has happened to me				
24	I deliberately push all thoughts of cancer out of my mind				
25	I count my blessings				
26	I try to fight the illness				
27	I am apprehensive				
28	I think it is the end of the world				
29	It is a devastating feeling				

Section E

Brief Symptoms Inventory (BSI)

	How much were you distressed by:	Not at all 0	A little bit 1	Moderately 2	Quite a bit 3	Extremely 4
1	Nervousness or shakiness inside					
2	Faintness or dizziness					
3	The idea that someone else can control you thoughts					
4	Feeling others are to blame for most of your troubles					
5	Troubles remembering things					
6	Feeling easily annoyed or irritated					
7	Pains in heart or chest					
8	Feeling afraid in open spaces or on the streets					
9	Thoughts of ending your life					
10	Feeling that most people cannot be trusted					
11	Poor appetite					
12	Suddenly scared for no reason					
13	Temper outbursts that you could not control					
14	Feeling lonely even when you are with people					
15	Feeling blocked in getting things done					
16	Feeling lonely					
17	Feeling sad					
18	Feeling no interest in things					
19	Feeling fearful					
20	Your feelings being easily hurt					
21	Feeling that people are unfriendly or dislike you					
22	Feeling inferior to others					
23	Nausea or upset stomach					
24	Feeling that you are watched or talked about by others					
25	Trouble falling asleep					
26	Having to check and double-check what you do					
27	Difficulty making decisions					
28	Feeling afraid to travel on buses, subways or trains					
29	Trouble getting your breath					
30	Hot or cold spells					
31	Having to avoid certain things, places, or activities because they frighten you					
32	Your mind going blank					
33	Numbness or tingling in parts of your body					
34	The idea that you should be punished for your sins					
35	Feeling hopeless about the future					
36	Trouble concentrating					
37	Feeling weak in parts of your body					
38	Feeling tense or keyed up					

	How much were you distressed by	Not at all 0	A little bit 1	Moderately 2	Quite a bit 3	Extremely 4
39	Thoughts of death or dying					
40	Having urges to beat, injure or harm someone					
41	Having urges to break or smash things					
42	Feeling very self-conscious with others					
43	Feeling uneasy in crowds, such as shopping or at a movie					
44	Never feeling close to another person					
45	Spells of terror or panic					
46	Getting into frequent arguments					
47	Feeling nervous when you are left alone					
48	Others not giving you proper credit for your achievements					
49	Feeling so restless you couldn’t sit still					
50	Feelings of worthlessness					
51	Feeling that people will take advantage of you if you let them					
52	Feelings of guilt					
53	The idea that something is wrong with your mind					

Appendix B: CONSENT FORM

UNIVERSITY OF GHANA

Section A- BACKGROUND INFORMATION

Title of Study:	Africentric coping, adjustment and quality of life among cancer patients
Principal Investigator:	Rita Appiah-Danquah
Certified Protocol Number	

Section B– CONSENT TO PARTICIPATE IN RESEARCH

General Information about Research

Participation in the research is entirely voluntary. Participants can withdraw at any time without any negative consequence. Participants will be administered questionnaires assessing coping mechanisms, psychological distress and quality of life in individuals diagnosed with breast cancer. The researcher will ensure that the data collected will be handled confidentially.

The goal of the study is to identify the psychological problems associated with breast cancer. In addition, it will explore the various cultural coping and adjustment mechanisms and how these affect the quality of life of breast cancer patients. You are invited to participate in this study by filling the questionnaire that will be presented to you. It will take less than 45minutes to fill the whole questionnaire.

Benefits/Risk of the study

There are no known risks associated with this research. However, participants may experience fatigue; there will be periodic breaks given. Even though you may not benefit directly from participating in this study, you will make a major contribution to the information known about the culture specific coping strategies and adjustment mechanisms used by breast cancer patients and their quality of life.

Confidentiality

The data will be kept confidential and no other person will know the identity of the participants who took part in the study. No person will have access to the research records at any particular time except the researcher. The data collected will only be used for the purposes of the research. Also the collected data may be used as part of publications and papers related to *Africentric Coping, Adjustment and Quality of Life among Breast Cancer Patients.*

Your signature on this form means that you understand the information presented, and that you want to participate in the study. You understand that participation is voluntary and you may withdraw from the study at any time.

Compensation

No form of compensation is involved in the participation of this study

Withdrawal from Study

Your signature on this form means that you understand the information presented, and that you want to participate in the study. You understand that participation is voluntary and you may withdraw from the study at any time. Refusal to participate or withdrawing from the study at any point in time will not adversely affect you in any way. Thus, decision to withdraw would not have any impact on your health care at Korle-Bu Teaching Hospital. Any information relevant with regards to your willingness to continue participation or withdraw will be given to you or your legal representation in a timely manner.

Contact for Additional Information

In case you need answers to questions concerning the research you can contact:

Rita Appiah-Danquah on 0206351701 or Dr. Kingsley Nyarko on 0548006675

In case of any research-related injury you can contact:

Prof. C.C. Mate-Kole

Department of Psychology,

University of Ghana.

P.O. Box LG 84. Legon

Or

Dr. Kingsley Nyarko

Department of Psychology,

University of Ghana.

P.O.Box, LG 84 Legon

Section C- VOLUNTEER AGREEMENT

"I have read or have had someone read all of the above, asked questions, received answers regarding participation in this study, and am willing to give consent for me, my child/ward to participate in this study. I will not have waived any of my rights by signing this consent form. Upon signing this consent form, I will receive a copy for my personal records."

____

Name of Volunteer

________________________________	_______________
Signature or mark of volunteer	Date

If volunteers 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 of witness

________________________________	_______________
Signature of witness	Date

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

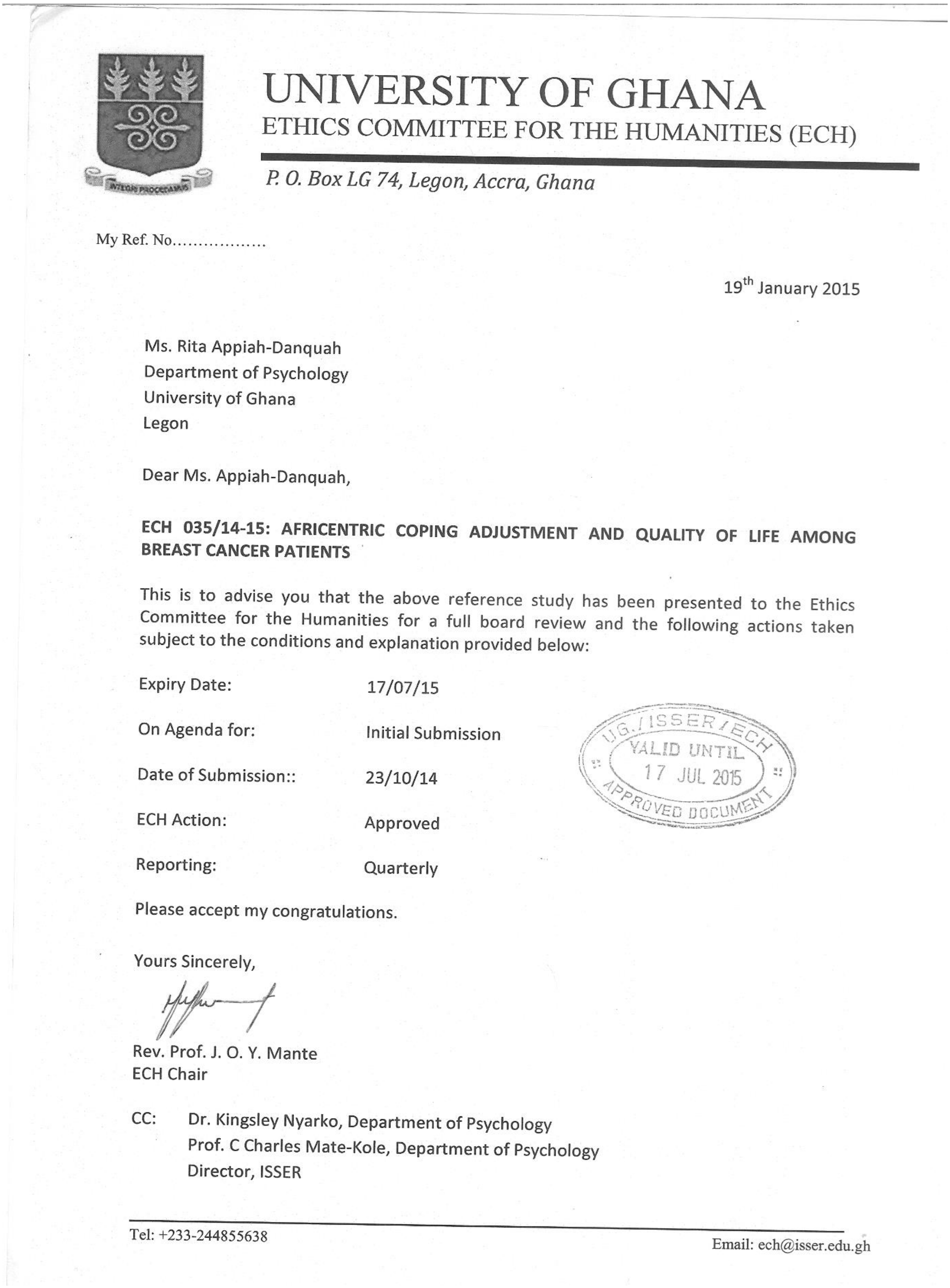
____

Name of Person who Obtained Consent

_________________________________ _________________

Signature of Person Who Obtained Consent Date

Appendix C: Ethical Clearance



UNIVERSITY OF GHANA
ETHICS COMMITTEE FOR THE HUMANITIES (ECH)
P. O. Box LG 74, Legon, Accra, Ghana

My Ref. No……………..

19th January 2015

Ms. Rita Appiah-Danquah
Department of Psychology
University of Ghana
Legon

Dear Ms. Appiah-Danquah,

ECH 035/14-15: AFRICENTRIC COPING ADJUSTMENT AND QUALITY OF LIFE AMONG BREAST CANCER PATIENTS

This is to advise you that the above reference study has been presented to the Ethics Committee for the Humanities for a full board review and the following actions taken subject to the conditions and explanation provided below:

Expiry Date:	17/07/15
On Agenda for:	Initial Submission
Date of Submission::	23/10/14
ECH Action:	Approved
Reporting:	Quarterly

U.G./ISSER/ECH
VALID UNTIL
17 JUL 2015
APPROVED DOCUMENT

Please accept my congratulations.

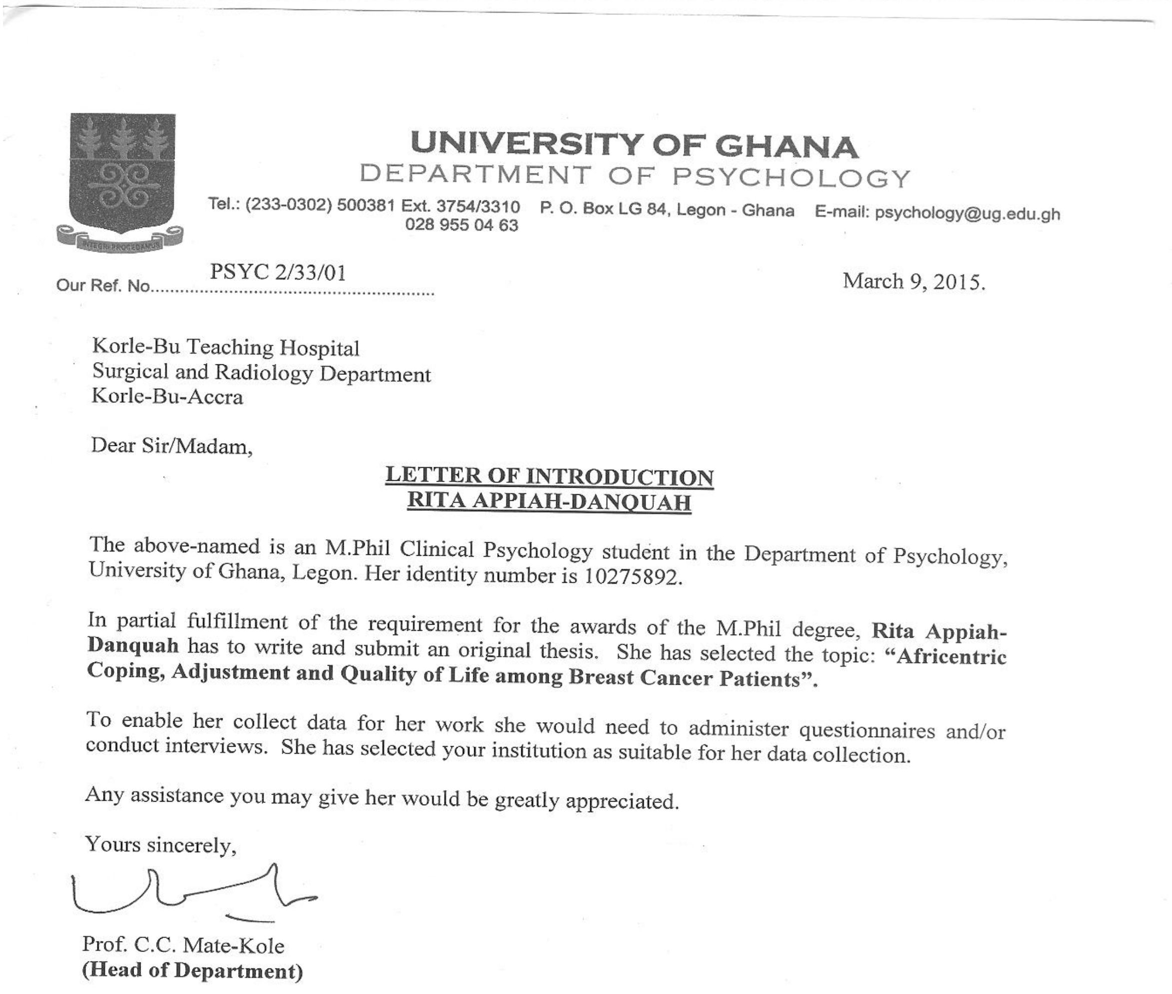
Yours Sincerely,

Rev. Prof. J. O. Y. Mante
ECH Chair

CC: Dr. Kingsley Nyarko, Department of Psychology
Prof. C Charles Mate-Kole, Department of Psychology
Director, ISSER

Tel: +233-244855638
Email: ech@isser.edu.gh

Appendix D: Department Introductory letter



UNIVERSITY OF GHANA
DEPARTMENT OF PSYCHOLOGY
Tel.: (233-0302) 500381 Ext. 3754/3310
028 955 04 63
P. O. Box LG 84, Legon - Ghana
E-mail: psychology@ug.edu.gh

Our Ref. No. PSYC 2/33/01

March 9, 2015.

Korle-Bu Teaching Hospital
Surgical and Radiology Department
Korle-Bu-Accra

Dear Sir/Madam,

LETTER OF INTRODUCTION
RITA APPIAH-DANQUAH

The above-named is an M.Phil Clinical Psychology student in the Department of Psychology, University of Ghana, Legon. Her identity number is 10275892.

In partial fulfillment of the requirement for the awards of the M.Phil degree, **Rita Appiah-Danquah** has to write and submit an original thesis. She has selected the topic: **"Africentric Coping, Adjustment and Quality of Life among Breast Cancer Patients".**

To enable her collect data for her work she would need to administer questionnaires and/or conduct interviews. She has selected your institution as suitable for her data collection.

Any assistance you may give her would be greatly appreciated.

Yours sincerely,

Prof. C.C. Mate-Kole
(Head of Department)