UNIVERSITY OF CAPE COAST

RELATIONSHIP BETWEEN PSYCHOLOGICAL DISTRESS, COGNITIVE COPING AND SEXUAL SELF-EFFICACY OF CERVICAL CANCER SURVIVORS IN KORLE BU TEACHING HOSPITAL, ACCRA, GHANA

BY

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Thesis submitted to the Department of Education and Psychology of the Faculty of Educational Foundation, College of Education Studies, University of Cape Coast, in partial fulfilment of the requirement for the award of Master of Philosophy degree in Clinical Health Psychology

SEPTEMBER 2020

DECLARATION

Candidate's Declare

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

Candidate's Signature …… Date ……

Name.....

Supervisors' Declaration

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

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

Name.....

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

Name.....

ABSTRACT

The study examined how demographic factors, psychological distress and cognitive coping relate to sexual self-efficacy and assessed how sources of self-efficacy predict sexual self-efficacy among cervical cancer survivors at the Korle-Bu Teaching Hospital. Cross-sectional survey was used. The sample size was 89 respondents and the consecutive sampling technique was employed. Questionnaire was used for data collection and the research instrument includes Kessler Psychological Distress Scale (K10), Coping Adaptation Processing Scale (CAPS), Sources of Self-Efficacy Questionnaire and Multidimensional Sexual Self Concept Questionnaire (MSSCQ). The data was analysed using frequencies and percentages, One-way ANOVA, and multiple linear regressions. The study revealed that, cervical cancer survivors experienced sexual health challenges before and after diagnosis and treatment. More so, sexual self-efficacy was influenced negatively by psychological distress and positively by sources of self-efficacy. However, the differences in survivors' age and time since treatment began had no significant influence on survivors' sexual self-efficacy. Based on the findings, I recommend that Ghana Health Service should adopt a multi-disciplinary care approach in the management of cervical cancer, organise periodic training for health professionals on effective health worker-patient communication and also, there is the need to intensify regular nation-wide education and awareness of cervical cancer and its treatments-related sexual health challenges.

KEY WORDS

Cognitive coping

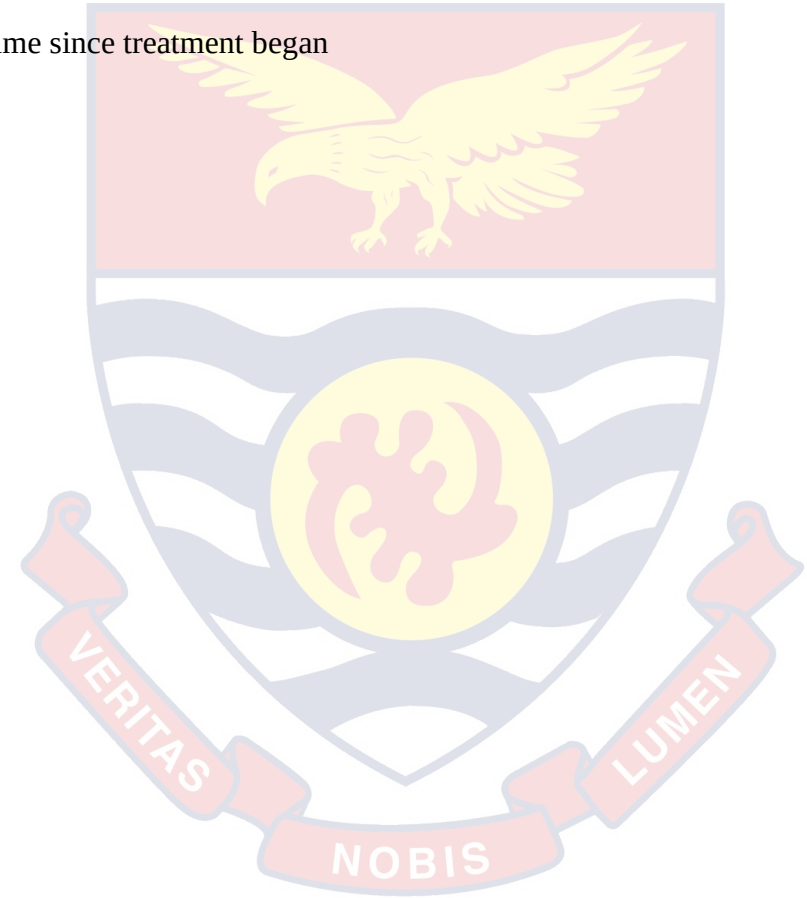
Psychological distress

Sexual health communication

Sexual self-efficacy

Sources of self-efficacy

Time since treatment began



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DEDICATION

This is dedicated with gratitude to my lovely siblings and late parents.

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LIST OF ACRONYMS

CAPS	Coping Adaptation Processing Scale
GLOBOCAN	Global Burden on Cancer
HPV	Human Papilloma Virus
K10	Kessler Psychological Distress Scale
KBTH	Korle-Bu Teaching Hospital
MSSCQ	Multidimensional Sexual Self Concept Questionnaire
NCI	National Cancer Institute
NCRNM	National Centre for Radiotherapy and Nuclear Medicine
SPSS	Statistical Product and Service Solutions
LDR	Remote Low Dose Radiation
QoL	Quality of Life
RAM	Roy Adaptation Model
SHA	Sexual Health Adaptation
SSA	Sub-Saharan Africa
SHC	Sexual Health Communication
TSTB	Time Since Treatment Began
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

A good sex life is an integral part of an individual's health and well-being and is very important in a loving and intimate relationship (Golbasi & Erenel, 2012; Austin, 2015). Sexuality is one of the indicators of Quality of Life (QoL); it influences thoughts, feelings, actions, social integration and therefore, physical and mental health (Golbasi & Erenel, 2012). However, demographic factors and cervical cancer treatments can lead to significant late adverse effects, such as sexual dysfunction, significantly compromising QoL (Golbasi & Erenel, 2012; Haghshenas et al., 2013). In effect, effective coping (Garnefski, Legerstee, Kraaij, Van den Kommer & Teerds, 2002) and sources of self-efficacy (Bandura, 1997) may bring about positive QoL outcomes and sexual self-efficacy (Walter, 2010).

Background to the Study

Cervical cancer is characterised as a malignancy in the cervix, the part of the body that connects the uterus to the vagina (American Society of Clinical Oncology, 2012). Globally, every two minutes, at least one woman dies from cervical cancer (World Health Organization, WHO, 2013). Cervical cancer is the second most common cancer among women globally and is responsible for 444,500 cases and 230,200 deaths annually (Ferlay et. al., 2015; WHO 2013). It is a major cause of morbidity and mortality in resource-poor settings where access to cervical cancer screening and vaccination is limited (Stewart & Wild, 2018;

Torre et. al., 2015). Over 80% of cervical cancer's burden globally occur in developing continents such as Africa (Benard et al., 2014) and in the Sub-Saharan Africa (SSA), the disease is detected in late stages, predominantly due to lack of information about the disease and lack of screening services (Jemel et al., 2011). Consequently, most women with cervical cancer cases in SSA are diagnosed at the advanced stage which is associated with low survival rates and severe unbearable post-treatment complications to QoL (Eze, Emeka-Irem & Edegbe, 2013).

Cervical cancer is the most frequent cancer among women between the ages of 14 and 45 years (WHO, 2013). The increasing trend of the disease is attributed to the early beginning of sexual activities and certain sexual behaviours related to higher risk of Human Papilloma Virus (HPV) infection affecting many women worldwide (Global Burden on Cancer, GLOBOCAN, 2012). It is now established that infection with HPV is causally associated with most cervical cancer diagnoses, numerous associated distresses and mortality (Eifel, Klopp, Berek & Konstantinopoulos, 2018). Cervical cancer staging has historically been employed to predict disease outcomes and determine treatment options (Ho et al., 2004; Schwartz, Crossley-May, Vigneau, Brown, & Banerjee, 2003). According to American Joint Committee on Cancer (2017), cervical cancer stages range from Stages 0 to IV. According to Duda, Chen, Hill, Darko, Adanu and Seffah, (2005), most women infected in Ghana are mostly diagnosed at the advanced stages.

Cervical cancer is the leading cause of cancer-related trauma and death among women in Ghana and West Africa. The WHO (2013) predicts that by the

year 2025, 5,000 new cases of cervical cancer and 3,361 deaths will occur annually in Ghana. Although there is no formal cancer registry across Ghana, the International Agency for Research on Cancer has estimated that in 2008, 30,038 Ghanaian women developed cervical cancer and more than 2,006 of them died of it (Williams & Amoateng, 2012). According to Torre et al. (2015), the rates have been on the increase in contrast to the decreasing trends in terms of incidence, related sexual health problems and mortality in the developed countries. Despite the staggering statistics, cervical cancer related sexual health problems prevention is not commonly promoted in Ghana.

The various treatment modalities (surgery, chemotherapy, radiotherapy and brachytherapy) cause significant changes in the patient physically, psychologically and socially (Reis, Beji, & Coskun, 2010; Lynn & Cornblat, 2002; Vistad, Cvancarova, Kristensen & Fossa, 2011). Physical side effects of cancer treatments using the treatment modalities include pain, changes in body image, premature menopause, hair loss, vaginal dryness and shortness and infertility. In addition, psychosocial effects of cancer treatments include distress, anxiety, depression, guilt and loss of sexual desire which were fuelled by stages of the cancer, treatment modalities, survivors' age, time since treatment began and lack of sexual health communication. Fundamentally, proper utilization of cognitive coping (Garnefski et al., 2002) and sources of self-efficacy (Bandura, 1997) may enhance sexual self-efficacy among the affected patients (Walter, 2010).

Coping strategies play an important role in managing the physical and psychosocial effects associated with a cancer diagnosis and treatment (Costanzo, Lutgendorf, Rothrock, & Anderson, 2006). In essence, effective coping may bring about constructive QoL results, and ineffective coping may lead to poor QoL consequences among cervical cancer survivors. By way of coping positively with QoL, some people become more religious and prayerful as a way of surviving with the diagnosis and the treatment of the diseases (Walter, 2010).

Similarly, self-efficacy, the belief in one's competencies and abilities to accomplish desired outcomes affects people's behaviour, motivation, and ultimately, their success or failure (Bandura, 2004; Barry, 2005). Without self-efficacy, people do not spend effort in endeavours because they perceive their efforts will be futile. Bandura (1997) tested and proved the potency of different sources of self-efficacy beliefs in performance and achievement. A growing body of empirical evidence supports Bandura's theory that teachers' self-efficacy beliefs are related to the effort they invest in teaching (Hattie & Timperley, 2007). In addition, the goals they set and their resilience in the face of setbacks yield good performance in students (Barry, 2005). Sources of self-efficacy are only studied in academic settings on students and teachers' performance.

Numerous studies have established the influence of coping and sources of self-efficacy on performance and self-efficacy. Meanwhile, cognitive coping has not been thoroughly explored with regard to sexual self-efficacy let alone sources of self-efficacy which was tailored solely into academic performance. The study therefore, attempts to examine the relationship between psychological distress,

cognitive coping, sources of self-efficacy and sexual self-efficacy among survivors of cervical cancer.

Statement of the Problem

According to Kangmennaang, Thogarapalli, Mkandawire and Luginaah (2015), cervical cancer affects women in their reproductive and productive lives. It is revealed by Lammerink, de Bock, Pras, Reyners and Mourits (2012) that, sexual dysfunctions occur as a result of the disease and its treatment modalities. It is confirmed by Tzung-Yi et al. (2011) that every cervical cancer survivor suffers at least one or two sexual health challenges before and after diagnosis and treatment. Moreover, there are no systematic options for sexual health challenges to be communicated and addressed (Barnas, Skret-Magiero, Skret & Bidzinski, 2012; Dwyer et al., 2002; Nelms et al., 2006). Therefore, women with cervical cancer battle with their sexuality physically and psychologically in many forms (Pfaendler, Wenzel, Mechanic & Penner, 2015; Xiang, 2015).

Nevertheless, the information on the influence of selected demographic factors, cognitive coping strategies and sources of self-efficacy of cervical cancer with regard to sexuality is limited globally and in Ghana. Literature from western countries indicate that few studies have explored cervical cancer treatments, infertility and sexual self-concepts (Carter et al., 2010), sexual satisfaction and quality of life in survivors (Chan et al., 2015; Nourissat et al., 2008) and determinants of quality of life (Machuki-Ogoncho, 2015). Gilbert, Ussher and Perz (2013) and Salani (2013) also studied sexuality among gynaecological cancer survivors with qualitative approaches and the results indicated that there is

a strong negative effect on sexuality. The qualitative approach used could prevent survivors from expressing their sexual difficulties openly or verbally. However, selected demographics on sexual self-concepts were narrowly studied (Bruckner et al., 2011; Grover et al., 2012; Hammond, Abrams & Syrjala, 2007; Hendren et al., 2005; Thulaseedharan et al., 2012).

Despite the growing evidence of sexual morbidity after treatment of cervical cancer in the western literature, only few studies have looked at how systematic approach, coping mechanism and sources of self-efficacy could aid the survivors' sexual self-efficacy.

In Ghana, literature indicates that few studies have examined issues pertaining to cervical cancer. These studies focused on perception and risk factors for cervical cancer (Opoku et al., 2016), incidence and mortality rates (Nartey, et al., 2017) and HPV screening practice, knowledge of cervical cancer and its treatment effects (Binka, Doku & Awusabo-Asare, 2017) as well as the socioeconomic cost of cervical cancer screening and treatment of the patients (Quentin et al., 2011). Most studies done on psychological distress and coping mechanism in Ghana were conducted in Kumasi in the Ashanti region of Ghana (Opoku et al., 2016) and Tamale in the Northern region. Although many researches have been done in the KBTH in Ghana, only few studies focused on cervical cancer survivors. It was therefore asserted that the few studies done in Korle Bu Teaching Hospital (KBTH) indicated that, none of the studies focused on the influence of coping strategies, selected demographic factors and sexuality (Nartey, et al., 2017),

After extensive search, it appears that, these few studies done in KBTH lacked the attention on the influence of demographic factors, psychological distress, cognitive coping with sources of self-efficacy against sexual self-efficacy among cervical cancer survivors. Hence it was found expedient to conduct this study in KBTH which serves as the treatment centre for cancer patients in the southern part of Ghana. It is against this gap in the existing literature that, the current study sought to explore the relationship between demographic factors, psychological distress, cognitive coping and sexual self-efficacy of women who have been diagnosed and received or receiving treatment in KBTH.

Purpose of the Study

The main purpose of the study was to investigate how demographic factors, psychological distress and cognitive coping relate to sexual self-efficacy and to determine whether sources of self-efficacy could predict sexual self-efficacy.

Specifically, the sought study to:

1. Determine the sexual health challenges survivors experience before and after diagnosis and treatment of cervical cancer.
2. Investigate people cervical cancer survivors communicate with about their sexual health challenges.
3. Determine the influence of age on sexual self-efficacy of cervical cancer survivors.
4. Determine the effect of the ‘‘time since treatment began’’ on sexual self-efficacy of cervical cancer survivors.

5. Examine the relationship between psychological distress and sexual self-efficacy of cervical cancer survivors.
6. Examine the relationship between cognitive coping and sexual self-efficacy of cervical cancer survivors.
7. Assess the influences of the ‘‘sources of self-efficacy’’ on sexual self-efficacy of cervical cancer survivors.

Research Questions

The questions that guided the study were:

1. What sexual health challenges do survivors experience before and after diagnosis and treatment of cervical cancer?
2. Who do the cervical cancer survivors communicate with about their sexual health challenges?
3. How does the age of the cervical cancer survivors relate to sexual self-efficacy among cervical cancer survivors?
4. What influence does the ‘‘time since treatment began’’ have on sexual self-efficacy among cervical cancer survivors?

Research Hypothesis

The hypotheses for the study were:

1. H_0. There will be no significant relationship between psychological distress and sexual self-efficacy of cervical cancer survivors.

   H_1. There will be significant relationship between psychological distress and sexual self-efficacy of cervical cancer survivors.

2. H_0. There will be no significant relationship between cognitive coping and sexual self-efficacy of cervical cancer survivors.

   H_1. There will be significant relationship between cognitive coping and sexual self-efficacy of cervical cancer survivors.

3. H_0. There will be no significant influence of the ‘‘sources of self-efficacy’’ on the sexual self-efficacy of cervical cancer survivors.

   H_1. There will be significant influences of the ‘‘sources of self-efficacy’’ on the sexual self-efficacy of cervical cancer survivors.

Significance of the Study

The findings of the study would provide useful information to policy makers, KBTH and Non-Governmental Organizations (NGOs) on cervical cancer, treatments’ distresses and sexual sequelae and the need to enforce policies and laws to adopt a multi-disciplinary care (bio-psychosocial model) approach regarding cervical cancer management and care. It could also form a basis for a structured in-service training for the health care professionals to enhance health worker-patient communication.

The study would inform practice where Clinical Health Psychologists will contribute to the development of interventions, including coping strategies and interventions to maximise women’s sexual self-concepts following gynaecological cancer treatments since sex life is an integral part of QoL. Additionally, health professionals would develop a greater understanding of the challenges cancer poses to a woman’s sexuality and how it should be addressed professionally.

The study is a theory-guided research study and so the findings could inform future research studies related to sexual self-concept and coping strategies with cervical cancer, its treatments and related consequences.

Delimitation

The study is delimited to cervical cancer survivors in Ghana, specifically those accessing cervical cancer treatments in KBTH in Accra. KBTH was chosen as some major studies done on psychological distress and coping strategies in Ghana were conducted in Kumasi in the Ashanti region of Ghana (Opoku et al., 2016). Although many researches have been done in the KBTH in Accra, only few studies focused on psychological distress and cognitive coping (Nartey, et al., 2017). Hence it was found expedient to conduct this study in KBTH which serves the southern part of Ghana in the treatment of cancers.

Also, the study is delimited to the three major variables (psychological distress, cognitive coping and sexual self-efficacy) as well as the selected demographic factors (age, sexual health communication and time since treatment began). The survivors were above 18 years and time since treatment began was from 3 months to 3 years.

Limitation

One limiting factor was the inability of the researcher to employ varied instruments for data collection. Only questionnaire was used. Interview and other forms of data collection instruments could not be used due to the difficulties in discussing sexual related issues verbally with women in Africa. Schover et al. (2014) found that majority of the women usually want to discuss sexual matters

with health professionals. But the results further revealed that, people keep their questions because of the fear for rejection, being labelled as sexually promiscuous or due to the conception of African norms and values with regards to sexual discussion.

Another major challenge was the time of data collection which was usually their clinic days which was coupled with the treatments or clinical review pain and stress. This situational factor is seen as a possible extraneous variable that could influence the outcome of the study. That is, some survivors were not willing to spend much time on responding to the questionnaire as they were eager to go home and relax.

Meanwhile, one other challenge was getting permission to conduct the study at the KBTH which was a very tedious and lengthy procedure, hence delaying the start of data collection and also limiting the number of participants in the study.

The use of only questionnaire limited the ability of the respondents to express their views and feelings about the phenomena. However, modalities were used to mitigate methodological errors and problems by adhering to research procedures and ethics. In addition, since the study was delimited to KBTH, the findings of the study cannot be generalised beyond the study area.

Personal experience: The initial stage of the data collection was tough due to the difficulty in recruiting the participants. Most of the survivors initially contacted were not willing to speak up or respond to the questionnaire. At the latter stage, it was noticed that most cervical cancer survivors preferred

internalizing the treatment outcomes such as sexual health challenges than sharing it.

Definition of Terms

Cervical Cancer is an abnormal growth or tumour of the cervix predisposed to HPV and other factors.

Cervical cancer treatment is defined as the ‘‘treatments modalities’’ that includes; surgery, radiotherapy and chemotherapy.

Demographic factors in this study are the age of the survivor, time since treatment began and sexual health communication.

Cervical cancer survivor in the current study is any woman who has been diagnosed with cervical cancer and has received treatment or is currently receiving treatment.

Psychological distress is indexed by symptoms of anxiety and depression caused by cervical cancer treatments.

Cognitive coping is the ability to use thoughts to manage stressors and solve problem.

Sexual self-efficacy is one’s beliefs in his/her ability to handle a sexual context well.

Sources of self-efficacy are the precipitation factors of sexual self-efficacy which include mastery of performances, vicarious learning, social persuasion and physiological and emotional states.

Organisation of the Study

The study was organised into five chapters. Chapter one introduces the study by giving the background information on the study, problem statement, research objectives, questions and hypothesis, significance of the study, delimitation, limitation and definition of terms as well as organization of the study.

The second chapter is a review of related literature. This is a compilation of detailed related research work that has been done in this and other related fields. Chapter three describes the methodology including research design, study area, population, sample and sampling procedure, method of data collection and method of data analysis. The fourth chapter is the presentation and analysis of data and the fifth chapter presents the conclusions and recommendations on the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The portion of this study is about the works or researches that are linked to the problem under investigation. It is therefore treated based on four (4) components: (a) Conceptual Review (b) Theoretical Review (c) Empirical Review and (d) Conceptual Framework

Conceptual Review

This section deals with the concepts of cervical cancer and its treatment modalities, psychological distress, cognitive coping and sexual self-efficacy.

Cervical cancer

Cancer is a disease in which cells in an area grow abnormally. There are five main types of cancer that affect women's reproductive system namely; cancer of the cervix, ovary, uterus, vagina and vulva. Of these, the most common one is cervical cancer (Collins et al., 2017).

Cervical cancer is a cancer that begins in the cervix, the part of the uterus that opens into the vagina. The lining of the cervix of women's vagina is always the starting point of the cancer affecting specifically, the cell lining of the cervix and the lower part of the womb. Typically, the alteration areas of the abnormal cells causing cervical cancer are believed to be linked with HPV (American Cancer Society, 2015). The predisposing factors that cause cervical cancer are

multiple sexual partners, poor vaginal hygiene, and exposure to HPV during sexual intercourse (Collins et al., 2017). Moreover, multiple partners and sexual activities are the major predisposing factors of women at the ages between 25 and 49, and they are considered the active age group susceptible to infection by the HPV resulting in infected cervix (Ferlay et al., 2015; WHO, 2013). However, according to WHO (2015) and Haghshenas et al. (2013), vaccinating women and young girls before they become sexually active (currently recommended at 11 and 12 years of age) leads to the greatest prevention of pre-cancer and cancer.

According to Collins et al. (2017), clinical manifestation of cervical cancer depends on the organ, the site affected and the stage of the disease. Also, cervical cancer stages are from Stage 0-IV. Stage 0 is a stage where the cells that are abnormal at times become cancerous in the innermost layer of the cervix. At Stage I, the cancer cells are limited within the cervix. At Stage II, the cancer cells spread beyond the cervix to the upper part of the vagina excluding the pelvic wall and the lower third of the vagina. In Stage III, cancer cells spread to the lower third of the vagina and may invade the pelvic wall and the kidney as well. Furthermore, at Stage IV, cancer cells spread to the bladder, rectum and beyond the pelvic region to other parts of the body.

Depending on the stages of the disease, various staging of cervical cancer and its treatments modalities affect the women physically as in vaginal bleeding, painful sexual act, emotional stress, societal coping, pelvic pain, back pain, unusual vaginal discharge, pain during sexual intercourse and psychologically with negative perceptions which affect QoL negatively (Collins et al., 2017;

Oppong & Meyer-Weitz, 2017). The treatment modalities of cervical cancer are associated with side effects.

Treatment modalities

Standard treatment for cervical cancer ranges from simple hysterectomy, radical hysterectomy and radiation therapy or a combination of surgery, radiation and chemotherapy (Pelkofski et al., 2016). Treatment types or modalities depend mainly on the type of cervical cancer, the stage of the disease, patient's general health and physical condition. These are taken into consideration once determining the suitable treatment plan (National Cancer Institute, NCI, 2010; WHO, 2013).

Surgery

Surgery is the removal of the infected uterus, cervix or surrounding tissues through the vagina. It is the most common treatment for early cervical cancer. The types of surgery include: cervical conisation, vaginal or abdominal hysterectomy, laparoscopic hysterectomy, robotic hysterectomy and radical trachelectomy (NCI, 2010). Common side effects after surgery are pain and discomfort. Other early side effects (days to weeks after surgery) include: nausea, discomfort related to tubes, catheters and medical devices, soreness of the abdomen around the incision, cramps and gas pains and watery vaginal discharge or bleeding. The later side effects (weeks to months to years after surgery) may include fatigue, difficulty urinating, constipation and shortening of the vagina (Lanowska et al., 2011). It can be concluded that surgery causes physical pain and psychological distresses in many cases.

Radiation therapy

Radiation therapy (radiotherapy) uses high-energy radiation to kill cancer cells or stop them from growing. Radiation therapy can be an effective treatment for early stage cervical cancers. Radiation is also used to treat larger or higher stage cancers where it actually works better than surgery. There are two major types of radiotherapy. External radiation therapy is one of them which use a machine that directs the radiation toward a precise region of the body and internal radiation therapy (brachytherapy) involves placing a small capsule of radioactive material inside the vagina or near the cervix. The side effects of radiotherapy depend on the dose used and the part of the body that is treated. Common early side effects on cervical cancer survivors (occur during treatment) are reddened skin in the treated area, fatigue, anaemia, diarrhoea, nausea, discomfort when urinating and most of these side effects are temporal and not everybody that experience all of these side effects. Also, later side effects include, narrowing of the vagina, loss of lubrication, urinating frequently, diarrhoea, early or sudden menopause and skin thickening and irritation. Gamel, Hengeveld and Davis (2000) reported that women who received radiotherapy experienced added distress caused by feelings of anxiety and perceptions about loss of femininity. It can be said that the treatment side effects, for example, narrowing of the vagina, loss of lubrication can lead to sexual health problems.

Chemotherapy

Chemotherapy is the use of drugs to kill cancer cells. In cervical cancer treatment, chemotherapy is usually given intravenously (injected into a vein). The

drugs travel through the bloodstream to reach all parts of the body. This is why chemotherapy can be effective in treating cervical cancer that has spread beyond the cervix. However, the same drugs that kill cancer cells may also damage healthy cells (Rogers & Kristjanson, 2002). Side effects of chemotherapy typically still occur but are manageable. Each patient responds to chemotherapy differently. Most side effects are temporary which include nausea, loss of appetite, mouth sores, increased chance of infection, bleeding or bruising easily, vomiting, mild hair loss, fatigue and constipation. Since chemotherapy agents potentially affect all tissues in the body, it is reasonable to believe that they would also have adverse impact on reproductive system and create sexual health problems for women (Mouga, 2002).

Psychological distress

A distress is defined as a multifactorial unpleasant emotional experience of a psychological (cognitive, behavioural, emotional), social, and/or spiritual nature that may interfere with the ability to cope effectively with cancer, its physical symptoms and its treatment (National Comprehensive Cancer Network, 2012). According to Potter (2007), distress is an affective, cognitive and behavioural response to a crisis-precipitating event perceived as threatening and manifested by anxiety and depressive symptoms.

Psychological distress is indexed by symptoms of anxiety and depression. Psychological distress is largely conceptualised as a state of emotional suffering characterised by symptoms of depression (e.g., lost interest; sadness; hopelessness) and anxiety (e.g., restlessness; feeling tensed) (Mirowsky & Ross,

2002). Numerous studies have closed evidence associations between symptoms of anxiety and symptoms of depression found to reflect a general negative affectivity dimension shared between anxiety and depression (Watson & Clark, 1992).

Cognitive coping

According to Folkman and Moskowitz (2004), coping is constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing. Cognitive coping is the ability to use thoughts to manage stressors and solve problems. A deficiency in cognitive coping skills increases vulnerability to depression and anxiety (Haaga et al., 2004). Folkman and Moskowitz (2004) suggest that, cognitive coping involves the identification of negative thoughts and behaviours that increase the stress burden and the situations where stress occurs.

According to Garnefski et al. (2004), people who use cognitive coping strategies such as positive reappraisal may be less vulnerable. As cognitive processes play a significant role in the development, maintenance and exacerbation of depression and anxiety symptoms, it seems important to identify cognitive coping profiles associated with vulnerability to depression and anxiety. Overall, cognitive coping is differently associated with psychological adjustment. Despite the advantages of using this technique (cluster analysis) in coping research, little is known about the cognitive coping related to depression and anxiety vulnerability (Folkman & Moskowitz, 2004).

Sexual self-efficacy

Sexual self-efficacy is one's beliefs in his/her ability to handle a sexual context well (Rostosky, Dekhtyar, Cupp & Anderman, 2008). Sexual self-efficacy or arousal is an important contextual factor that can impact sexual decision-making (Park et al., 2009). Bandura (1997) proposes that self-efficacy can affect the outcome/performance of sexual health behaviour from some primary sources of self-efficacy. Sexual self-efficacy is multi-dimensional and includes each person's beliefs about his/her ability to be significant in sexual behaviours, her desirability for sex partner and the evaluation of the ability and self-efficacy in sexual behaviour (Sadoc, Kaplan & Sadock 2009). Sexual self-efficacy is vital for having a proper and desirable sexual activity (Bailes, Fichten, Libman, Brender & Amsel 2013; Brezsnyak & Whisman, 2004).

Sources of self-efficacy

According to Bandura (1997), self-efficacy results from some primary sources that include mastery of performances, vicarious learning, social persuasion and physiological and emotional states from which people partly judge their abilities, strength and/or vulnerability to dysfunction. Throughout life, human beings go through different stages and with them the scenes in which they take place gets modified. Farchi, Cohen and Mosek (2014) argue that, Bandura proposed the self-efficacy theory with the idea that people exert internal control over their thoughts, feelings, motivations and behaviours, providing references on which they will lay the foundations to perceive, regulate and evaluate their behaviours.

These physiological and emotional changes can make sexual activity uncomfortable. The precise extent of sexual problems among cervical cancer patients following the various treatment options remains limited, perhaps because neither patients nor health providers readily discuss the problems (Katz, 2005; Park et al., 2009). A deficiency in coping skills increases vulnerability to depression and anxiety leading to sexual dysfunction (Haaga et al., 2004).

Sexual dysfunction is broadly defined as the inability to fully enjoy sexual intercourse. Brotto, Bitser, Laan, Leiblum and Luria (2010) defined sexual dysfunction as a problem occurring during any phase of the sexual responses cycle that prevents the individual or couple from experiencing satisfaction from the sexual activity. Specifically, sexual dysfunctions are disorders that interfere with a full sexual response cycle. These disorders make it difficult for a person to enjoy or to have sexual intercourse. While sexual dysfunction rarely threatens physical health, it can take a heavy psychological toll, bringing on depression, anxiety, and debilitating feelings of inadequacy (Laurent & Simons, 2009).

Theoretical Review

In this section, theories that are deemed relevant for this study are reviewed and explained. The theories include the Sexual Health Adaptation (SHA) theory (Roy & Andrews, 1999) and Self-Efficacy theory (Bandura, 1997).

Sexual health adaptation (SHA) theory (Roy & Andrews, 1999)

Sexual Health Adaptation (SHA) theory was formulated to provide a useful theoretical framework to guide sexual health adaptation research. The major assumptions that provided the foundation for the SHA theory are (a) sexual

health is a vital component of being human and whole (b) sexual health adaptation results from human and environmental incorporation and (c) individuals have a fundamental right to have sexual health addressed by health professionals (Roy & Andrews, 1999). The theoretical concepts of the SHA theory which includes environmental stimuli, coping processes and the sexual self-concept/adaptation mode have been explained below:

Environmental stimuli

The SHA theory identifies three categories of environmental stimuli as focal, contextual, and residual stimuli (Roy & Andrews, 1999; Roy, 2009). A detailed description of each category and its application to the current study is as follows:

Focal stimuli

Focal stimuli represent the stressor or problem that creates the need for sexual health adaptation (Roy & Andrews, 1999; Roy, 2009). The focal stimuli in the current study are cervical cancer treatment modalities (surgery, chemotherapy and radiation therapy) and the related psychological distresses. It is well established that psychological distress and sexual health problems result from most of the available treatment options (Mouga, 2002; Roy, 2009).

Contextual stimuli

Contextual Stimuli in the current study are ‘‘age’’, ‘‘time since treatment began’’ and ‘‘sexual health communication’’. Classically, these factors are significant for the reason that they are tied to the connotation and meaning

survivors ascribe to cervical cancer treatments and its related quality of life (Osann et al., 2014).

Residual stimuli

Residual stimuli are unknown hypothetical factors that are assumed to influence or affect sexual health adaptation negatively or positively. The influence cannot necessarily be authenticated. If the speculation is confirmed or validated, it can no longer be considered residual stimuli; instead it becomes contextual or focal stimuli (Roy, 2009).

Coping-adaptation process

Coping-Adaptation Process in the SHA theory developed from Roy Adaptation Model (RAM) (Roy, 2009) is the cognator conceptualised as the major coping processes (cognitive coping). It is the response of an individual which is made up of processing by the use of any of the following, perception, information, learning, judgment and/or emotion. Based on the SHA theory and RAM women have adaptive systems with cognitive coping mechanisms and which is the ability to use thoughts to manage stressors (the disease, treatments effects influenced by demographic factors) and solves problems (sexual self-efficacy challenges).

Sexual self-concept

According to the SHA theory, the behaviours or responses that result from the work of the cognitive coping processes are observable through four adaptive modes patterned from RAM (Roy, 2009) and inherent in human beings. These

four adaptive modes are physiological, role function, interdependence and sexual self-concept as observed in all of them.

Only sexual self-concept denoted as sexual self-efficacy in the current study is relevant to this study. Sexual self-concept is the performance of various duties based on a given position in society e.g. sexual obligation as a wife. Sexual self-efficacy based upon Roy's self-concept, is conjectured to be the basic to women's overall sexual integrity or holism (completeness) (Cleary & Hegarty, 2011), which is significantly essential to this study.

The concepts of the theory imply that survivors of cervical cancer have the ability to use thoughts and/or adaptation process to manage the disease related stressors and solve sexual problems.

Roy adaptation model (RAM) (Roy, 2009).

According to Roy (2009), The Roy Adaptation Model (RAM) provides the framework for the development of the Sexual Health Adaptation (SHA) theory. The conceptual level of the model is divided into three areas: stimuli as treatment modalities, selected demographics and psychological distress, coping adaptation processes as cognitive coping and outcome(s) or adaptive behaviour as sexual self-efficacy. The stimuli (focal, contextual and residual) come from the environment within and around the individual, including the offending stressors. Coping mechanism (cognitive coping) makes up the coping adaptive processes within the individual relative to adaptation. The outcome or a response which is the sexual self-efficacy occurs through sexual self-concept mode.

The strength of the model is that, many strong points have been shown in this study regarding the application of the RAM. The researcher used all concepts of the RAM in a clear and organised way that focused on the purpose of the study which is well stated to examine adaptive strategies of patients with cervical cancer.

Application of the SHA theory and RAM to the current study

Roy and Andrews (1999) conceptualised the theory into environmental stimuli, coping processes and the sexual self-concept/adaptation mode. The environmental stimuli include cervical cancer treatment modalities, age, time since treatment began, psychological distress and lack of sexual health discussion. It is well established that sexual health problems result from most of the available treatment options and are capable of initiating multiple reactions and more stresses to the patients in a form of physical, physiological and psychosexual, or combination of all (Roy, 2009). In sum, Roy and Andrews (1999) highlighted how cognitive process can affect the relationship between stressors and sexual self-efficacy as a response in all its short-term and long-term effects of cervical cancer survivors. In addition, it also indicates survivors' ability to handle sexual activities through coping process in the midst of stressors, meanwhile, deficiency in cognitive coping skills increases vulnerability to depression and anxiety leading to sexual dysfunctions.

Self-efficacy theory (Bandura 1997)

Self-efficacy theory (Bandura, 1997) follows the principle that people are likely to engage in activities to the extent that they perceive themselves to be

competent at those activities. People believe they can produce desired effects by their actions but they have little incentive to act. Efficacy belief, therefore, is a major basis of action. People guide their lives by their beliefs of personal efficacy.

Sources of self-efficacy

Given the pivotal role of self-efficacy beliefs in understanding human behaviour, it is important to understand how these beliefs are formed. According to Bandura (1997), self-efficacy results from some primary sources that include mastery of performances, vicarious learning, social persuasion and physiological/emotional states from which people partly judge their abilities, strength and vulnerability to dysfunction.

Mastery experiences

The most influential source of efficacy information is personal mastery experiences because they provide the most authentic evidence of whether one can master whatever it takes to succeed in a particular field or endeavour (sexual health). According to Bandura (1997), the most potent source of self-efficacy typically comes from one's interpretations of one's own performance or mastery experience. Actions perceived as successful during sex, typically raise sexual self-efficacy, whereas those perceived as failure lower it.

Vicarious experience

A second source of self-efficacy is observing another person successfully perform the action that one is contemplating. Individuals also obtain information about what they can do from the vicarious experience of observing the actions of others, such as hospital mates, peers, colleague patients and adults (Bandura,

1997). Seeing a close friend or other cervical cancer patient succeed at a challenging sexual health task might convince a tentative patient that she could also succeed. Models play a particularly important role in the development of self-efficacy when patients have doubts about their skills or a weak experiential base in the health problem in question.

Verbal or social persuasion

Verbal persuasion involves verbal input from others, such as colleague patients, clinicians and therapists that serve to strengthen a person's belief that she possesses the capability to achieve a desired level of performance. Social persuasions and evaluative feedback from significant others, husbands and peers can alter patients' confidence. Younger or newly treated patients who eagerly await evaluative judgments from significant others may be most impressionable by what the husband tell her (Bandura, 1997). Feedback that is catered to patients' skill development can be particularly helpful in building self-efficacy (Hattie & Timperley, 2007). On the other hand, disparaging comments by trusted others like husbands can leave patients with a bruised sense of efficacy (Pajares, 2006).

Physiological and emotional states

When judging one's own capability, people rely partly on information conveyed by their physiological and emotional states. Individuals often interpret their physiological and emotional states, such as stress, anxiety, fatigue, and mood as indicators of their capabilities (Bandura, 1997). Patients learn to read their own bodily arousal as evidence of their personal competence by evaluating their

arousal in diverse situations. Strong emotional reactions can furnish useful information about one's eventual success or failure.

Examining the influence of these four informational sources of self-efficacy, most studies were done on students' and teachers' performance and students' perception (Usher & Pajares, 2008). Nevertheless, few studies were found in this regard. Chronic illnesses survivors or patients' sexual health and sexual self-efficacy have not been given the needed attention or focus in the past and recent years. Therefore, the current study will base its concepts on where patients derive their sources of ability, experiences and skills from to meet their sexual obligations set by society in the face of adversity.

Model of self-efficacy (Bandura, 1997)

In the Self-Efficacy Theory, one of the affective characteristics of patients that mediate their cognitive and self-efficacy is personal belief. Self-efficacy is the belief that individuals can control their behaviour in attaining the goals that they set for themselves. Bandura (1994; 1997) contended that four factors increase self-efficacy: mastery experiences, vicarious experience, social persuasion and psychological and emotional state.

It was established by Bandura (1997) that as the richness of the sources of self-efficacy increases, there would be an increase in patient self-efficacy and that the level of implementation of the new tactics and strategies would consequently increase the self-efficacy.

Justification and Relevance of self-efficacy theory and model to the current study

Self-efficacy theory backed by self-efficacy model hypothesised that individuals form self-efficacy beliefs based on their interpretation of information from their environment, specifically from four crucial sources. These sources (mastery of performances, vicarious learning, social persuasion and physiological/emotional states) determine the survivors' sexual self-efficacy or partly help the survivors to judge their abilities and strength to sexual self-efficacy or vulnerability to sexual dysfunction.

According to Usher and Pajares (2008) the four informational sources of self-efficacy have been proved potent in most studies done on students and teachers to yield performance and self-efficacy beliefs for achieving set goals. The current study used the concepts of both theory and model to determine the survivors' sources of ability and determinants of sexual self-efficacy during the disease's calamity. In the current study, the researcher adapted Bandura's sources of self-efficacy scale to solicit information on sexual self-efficacy from the survivors. The items of the scale were designed to cover the four crucial factors of sources of self-efficacy.

Empirical Review

This component comprises literature review on the sexual health problems and the impacts of demographics factors on sexual self-efficacy. Additionally, the study also examines the relationship between psychological distress, cognitive

coping and sexual self-efficacy. Finally, the study looks at the influence of the ‘‘sources of self-efficacy’’ on patients’ sexual self-efficacy.

Cervical cancer treatments and sexual health problems/challenges

According to Demirtas and Pinar (2014) surgical interventions, radiotherapy, chemotherapy and hormonal replacement treatments applied in gynaecological cancers have impact on sexual health of women. In other studies, it has been revealed that for the patients diagnosed with gynaecological cancer, specifically four elements of sexual health are affected negatively: body image, role of sexuality, sexual functions and reproduction ability, because women reproductive organs are the determiners of female identity. Research findings of Pinar, Okdem, Dogan, Buyukgonenc and Ayhan (2012) and Reis et al. (2010) revealed that most of the women diagnosed with gynaecological cancer experience sexual problems such as orgasmic dysfunction, dyspareunia, loss of sexual desire and decrease in sexual intercourse frequency. It could be said that women diagnosed and treated of cervical cancer suffer at least one sexual disorder in their life time. Despite the resourceful nature of the study, the findings, however, cannot be generalised in another context due to the qualitative design used.

Bal, Yilmaz and Beji (2013) revealed from a study that, most women with cervical cancer (70%) had no sexual problem before being diagnosed with cervical cancer, but after the various treatment modalities, all of them experienced at least one sexual problem. After the treatment, 23.3% of women experienced painful sexual intercourse, 36.7% described themselves as “being an incomplete

woman" and 40% of women experienced loss of libido. According to Baser, Li and Carter (2012), sexual dysfunction or sexual health problems are common quality of life issues among cervical cancer survivors. They revealed from their study that, out of 152 cervical cancer survivors who took part in a study after six months to 18 months after treatment, 64% reported vaginal dryness, 59% had vaginal shortness, 80% reported severe pain during sex and 53% and 41% of the them had low and no sex drive respectively as the common sexual health problems. The researchers must be commended on their qualitative mythologies used since discussions on sexual related issues are always difficult. However, the time treatment ended and the time of the studies were within two years. The short time duration can influence the survivors to report more sexual health challenges.

In a review by Bodurka and Sun (2006), 50% of women diagnosed with cervical cancer were diagnosed with at least one indicator of sexual dysfunction. Treatment regimens and the disease itself can cause physiological changes that make sex difficult after diagnosis and survival time has also been associated with sexual dysfunction (Donovan et al., 2007; Frumovitz et al., 2005). According to Tzung-Yi et al. (2011) and Vistad, Fossa and Dahl (2006), every cervical cancer survivor suffers at least one or two sexual dysfunctions. This means that majority of patients suffered at least one or more challenges.

The studies that have chosen to concentrate on the physical changes caused by cervical cancer have found several associations, particularly with treatment modalities. For example, radiation therapy is associated with the physiological effects of stenosis and shortening of the vagina and reduced

lubrication (Bodurka & Sun, 2006; Donovan et al., 2007). Surgery is associated with anatomical effects such as reduced vaginal wall elasticity, vaginal shortening, and changes in hormone levels, reduced sexual interest, feelings of negative body image, poor self-confidence and anxiety about sexual performance (Jensen et al., 2004; Vrzackova, Weiss, & Cibula, 2010). These physical changes have then been shown to cause reduced sexual desire, dyspareunia, low and/or no sex drive and the loss of the ability to achieve orgasm or reach climax (Donovan et al., 2007; Greenwald & McCorkle, 2008). Moreover, offensive vaginal discharge and bleeding as well as other vaginal changes such as vaginal dryness and atrophy are experienced by women with cervical cancer (Maree et al., 2013; Wainer et al., 2012). Some related studies (Herzog & Wright, 2007; Maree et al., 2013), also reported that women with cervical cancer experience vaginal alterations. Other groups of researchers (Ago, Agan & Ekanem, 2013; Eze et al., 2013; Langley & Mary, 2012), in their related studies also reported that vaginal bleeding and / or offensive vaginal discharge were the most frequently reported symptoms in women with advanced cervical cancer. The studies have shown that physical changes caused by cervical cancer and its treatment modalities have associations with sexual dysfunctions. However, the studies have limitations of not determining how these physical changes can be managed with coping mechanism to improve sexuality.

Results revealed from studies conducted by Lammerink et al. (2012) and Abbott-Anderson et al. (2012) indicate that the commonest sexual dysfunctions resulting from the treatment of cervical cancer disease include decreased

elasticity, mucosal atrophy, shortening and stenosis of the vagina, reduced lubrication and reduction / loss of vaginal sensation, dyspareunia, reduced sexual desire, reduced arousal and anorgasmia. A study conducted by Salani (2013) affirmed that 23 to 70 % of the cervical cancer survivors report problems with their sexual functioning. It can be concluded that the disease and the treatment modalities cause sexual dysfunctions. Nevertheless, the researchers did not find out whether there were systematic approaches for resolving sexual dysfunctions when these numerous dysfunctions were reported.

The findings in the literature surrounding sexual health problems of cervical cancer survivors seem to be similar across various studies. Most researchers have found that cervical cancer and its treatment modalities negatively affect the women's sexual health, relationships, mental health, and/or their overall quality of life. Generally, vaginal dryness, vaginal shortness, pain during sex, low and no sex drive, dyspareunia, loss of sexual desire and decrease in sexual intercourse frequency are the major sexual health problems reported by women diagnosed and treated of cervical cancer. Based on the evidence in literature, it can be inferred that there is no single study that did not find sexual health challenges among cancer patients. This means that every survivor of cervical cancer suffers at least one or more sexual health challenges either before or after diagnosis and treatment.

Age and sexual self-efficacy

Greimel, Winter, Kapp and Haas (2009) found from a study that cervical cancer mostly affects middle-aged women at a mean age of approximately 50

years. In contrast, Thulaseedharan et al. (2012) revealed from a study that the story is different today, since women as young as 20 years can be infected.

It has been shown according to Coker, Du, Fang and Eggleston (2006) and Wright et al. (2005) that there is an association found with increased age with poor and unfortunate survival after diagnosis of cervical cancer. Thulaseedharan et al. (2012) revealed from a study that the young women also struggle with the treatment's distresses which affect patients' sexuality since there are no communication between clinicians and patients and no systematic approach to psychological sequalae. Their studies proffered that increasing age were consistently associated with poor survival, poor quality of life and sexual dysfunctions. However, the study did not look at how the age difference can influence sexual self-efficacy.

A well-documented age-related issue with regards to cervical cancer by Carpenter, Andersen, Fowler and Maxwell (2009) and Wenzel et al. (2005) reported that, there was a frequent experience of psychological distress during the disease, treatment and post-treatment phase among younger women compared to older women. In the study findings, it was revealed that women's distress differed by age. It can be concluded that younger women were more psychologically distressed because of the challenges the disease and the treatment modalities posed to their QoL and sexuality but the studies did not focus on sexual self-efficacy.

Age differences were examined by Howell, Chen and Concato (1999) and the findings showed that not only did younger women report more psychological

distress leading to sexual dysfunction but they also reported experiencing higher levels of intrusive thoughts and avoidance with regard to their bodies. Alternatively, a study conducted by Wenzel et al. (2005) with a unique sample of long-term cervical cancer survivors of childbearing age found that younger aged survivors expressed higher sexual difficulties compared to the oldest survivors of childbearing age. The studies concluded that younger cervical cancer survivors experienced significantly higher psychological distresses leading to sexuality than older survivors. They recommended that health professionals should initiate sexual health communication with survivors to enable them to cope with the stressors and reduce their distresses.

Validation of the age-related reaction to sexuality was not only unique to cervical cancer patients. A study conducted by Papadakos et al. (2012) found a similar age-related reaction with breast and endometrial cancer survivors. The study specifically tested whether there were sexual adjustment differences between younger and older women. Results from the study showed that differences were indeed present and younger women reported significantly worse sexual adaptation than older women.

It can be inferred based on the results that age was a dependent prognostic factor for survival in cervical cancer, though age clearly impacted cervical cancer outcomes for some women. Based on the evidence, younger women suffer sexual dysfunction than older women. This implies that, the distresses leading to sexual dysfunction decreases as the affected women age. To be precise, the role that age plays related to cervical cancer and its psychological distress with regards to

sexual self-efficacy has not been well studied, though age is repeatedly discussed with other relevant demographics associated with gynaecological cancers specifically cervical cancer.

Time since treatment began and sexual self-efficacy

The De Groot et al. (2005) study assessed the range and intensity of concerns experienced by women with invasive cervical cancer, stage I-IV, up to two years since treatment began and included their male partners. Women reported lower intensities of concern when they had earlier stage disease (stage I-IIA) and were a year or more away from the 'time since treatment began. Lazarus and Folkman (1984) reported study findings similar to the De Groot study which have been seen among women, who had other health chronic illnesses but were able to adapt the pain and distress as the time progresses after treatment. The studies focused on survivors who began their treatment about two years ago. The two-year period can influence the results since the duration is short and they have not attended more reviews and might have not experienced or entertained the fear of recurring of the disease.

Lazarus and Folkman (1984) and Grover et al. (2012) asserted from a study that treatment of cervical cancer and its psychological distresses are markedly improved as time progresses coupled with adaptation and coping. On the contrary, Greenwald and McCorkle (2008) and Rodrigues et al. (2012) agued based on their results that, throughout all the stages after cervical cancer treatment women have reported experiencing different degrees of physical, psychological, and psychosexual problems. The studies revealed mixed results. This implies that

psychological distresses may improve as time progresses coupled with adaptation and coping leading to sexual self-efficacy but lack of coping skills may ruin sexuality.

However, it is well documented that women who had cervical cancer and treatment reported more sexual difficulties immediately after treatment and for longer periods of time compared to one or two years as the time of treatment progresses (Herzog et al., 2007). An example of this comparison was clearly depicted in a study conducted by Lalos and Eisemann (1999), which revealed that the well-being in women with endometrial and cervical cancer at three-time intervals: pre-treatment, six months, post-treatment and one-year post-treatment. Results indicated that, compared to the endometrial cancer survivors, the women with cervical cancer reported significantly more symptoms from the time immediately treatment began but reported more sexual desires and arousal, less pains and psychological distresses as time since treatment began elapses. Although the study looked at sexual desires and arousals which are an aspect of sexual-concepts, the researchers did not look at time since treatment began with regards to sexual self-efficacy.

Outcomes of a quantitative longitudinal study which assessed the sexual functioning, vaginal changes and coping among (n=118) cervical cancer survivors revealed that sexual function was reported by women up to 2 years post completion of radiotherapy. In terms of sexual desire, about 60.9% reported an increase in sexual interest and 62.5% reported an upsurge in vaginal lubrication at 12 months post treatment. A key finding in that study was that about 45% of

women were able to adjust and occasionally, able to complete sexual intercourse with arousal and orgasm (Jensen et al., 2003). The researchers must be commended on wide coverage of variables. Despite the good work done by the researchers, the qualitative method employed was a limitation where participants may find it difficult to discuss sexual issues verbally with a third party. Again, sexual self-efficacy was not given any attention.

Contradictory accounts of the amount and length of difficulty either reducing or increasing after treatment is usual. For example, in a study conducted by Greimel et al. (2009), which assessed women with breast cancer and several types of gynaecologic cancer, including women with cervical cancer, it compared aspects of quality of life at six-time intervals (pre to one-year post-treatment) and revealed that there was variance that exist in time since treatment began with regards to quality of life. The studies compared two diseases though they are all chronic but the roles they play in sexuality are quite different. In a similar study, breast cancer patients were compared to cervical cancer patients and the results revealed significantly higher quality of life scores during active treatment. The breast cancer patients had higher score of quality of life. The result was consistent with the findings that women with cervical cancer experience prolonged troublesome morbidity with treatment (Herzog et al., 2007). Donovan Butler, Butt, Jones and Hanney (2014) also revealed from a breast cancer study that patients reported positive quality of life during and after treatment. Although the related organs play major roles in sexuality, cervical cancer survivors may

definitely suffer sexual dysfunctions than the breast cancer patients. Secondly, study on breast cancer did not look at sexuality among breast cancer patients.

Sexual health communication and sexual self-efficacy

Abbott-Anderson and Kwekkeboom (2012) affirmed that there is growing recognition in medical and scientific research community to incorporate patient-centred communication. Zachariae et al. (2003), revealed from a study they undertook that, patient-clinician communication may contribute directly or indirectly to a number of health outcomes.

According to Zachariae et al. (2003) and Schofield et al. (2003), sexual health communication outcomes include strong patient/family clinician relationships, validation of emotions, acknowledgment, understanding and tolerance of uncertainty. On the contrary, sexual health communication is overlooked by healthcare professionals despite being identified as an essential aspect of patient care. A study conducted by Abbott-Anderson et al. (2012) indicated that patients with cervical cancer have identified issues of sexuality as being of equal importance to other quality-of-life issues. In addition, sexuality is not spoken about in some jurisdiction within the family, sexual education is not included in the health and education services and sexual myths are accepted as shame and sinful by individuals (Zachariae et al., 2003). Some studies proved the benefits of sexual health communication to patients while others revealed that sexual health communication is not accepted and allowed in some jurisdictions (Abbott-Anderson et al., 2012).

Given the preponderance of descriptive evidence about sexual problems for survivors, the lack of communication about sexuality between survivors and clinicians is striking (Flynn et al., 2012). In some studies, survivors reported a lack of information following treatment (Abbott-Anderson et al., 2012), persistent unanswered post treatment questions (Hammond, Abrams & Syrjala, 2007), and little direct discussion with their doctors about sexual issues (Day, Ganz & Costantino, 1999; Hendren et al., 2005). The studies used qualitative approach with small sample size. However, each researcher focused on an aspect of sexual health communication which means that sexual health communication was not fully studied.

Park et al. (2009) asserted from a study that barriers to communication were identified as lack of time and lack of preparation to discuss sexuality with survivors. Abbott-Anderson et al. (2012) revealed that when sexual problems go unaddressed, survivors can interpret this to mean that sexual dysfunction falls in the category of treatment-related collateral damage that must be endured. Schover et al. (2014) also stated based on the results of their study that, sexual dysfunction is a common consequence but sexual assessment and/or counselling are not routinely provided to oncology patients for several reasons. In addition, the investigators found that majority of the women wanted to discuss sexual matters but did not ask questions because they feared rejection or thought the setting was inappropriate for such discussion. This finding indicates that discussion about sexual functioning would be welcomed by patients if conducted in a sensitive manner.

Moreover, it is possible that health professionals in the health sector are affected by the cultural restrictions, moral values and religious doctrine regarding issues of sexuality but sexual health discussion would be greeted by patients if conducted in a professional manner.

Psychological distress and sexual self-efficacy

It has been established according to Jadoon, Munir, Shahzad and Choudhy, (2010) that, psychological distress developed in cancer patients due to diagnosis of cancer, long duration of treatment and side effects of treatment, lead to disruption in life and diminished quality of life. Based on the evidences in the literature, psychological distress is considered as predictive factors of sexual dysfunction and mortality in cancer patients (Satin, Linden & Phillips, 2009). Gervaz et al. (2001) asserted from their study that, the primary aim of the cancer treatment is to improve the survival of the patients but the physical or psychological problems caused by the disease affect the patients' self-efficacy negatively leading to increase in sexual function disorder.

According to Ros and Espuña (2013), cervical cancer treatments have adverse psychological effects that have directly affected one or more of the sexual response phases (desire, arousal/ excitement and orgasm) which led to sexual dysfunction or lack of sexual efficacy. Numerous studies have confirmed and reported that, there are several difficulties cervical cancer survivors have with sexual desire/arousal, lubrication and orgasm (Amsterdam & Krychman, 2006, Tangjitgamol et al., 2007; Tornatta, Carpenter, Schilder & Cardeness, 2009). Despite the numerous findings concerning psychological distress and sexuality,

researchers did not focus on the exploration of the influence of psychological distress and sexual self-efficacy.

In the cross-sectional study by Carter et al. (2010), it was revealed that, women who have undergone treatment for cervical cancer and have lost their fertility, expressed pain during vaginal penetration (62%), low levels of sexual desire (56%) and dissatisfactions with their overall sex lives (67%). Other studies involving patients with gynaecological cancers including cervical cancer have also identified that patients on treatment for gynaecological cancers experienced sexual dysfunction after diagnosis and treatment (Greenwald & McCorle, 2008). The study involved gynaecological cancers which could produce general results instead of solely on cervical cancer. Other cancer patients may influence the results positively or negatively.

Related studies have also revealed that the diagnosis and treatment of gynaecological cancers among women have resulted in the reduction of sexual desires and satisfaction (Van de Klundert, Incrocci, Hullu, & Snijders-Keilholz, 2007; Wenzel et al., 2005). In the similar study of Bergamark et al. (2002), sexual dysfunction has been rated as the most disturbing, upsetting and common symptom out of a total of 22 symptoms by cervical cancer survivors.

A study conducted by Stafford et al. (2016) determined the challenges of QoL and sexuality in women with cervical cancer in Australia. The results showed that 68% of the participants had no interest in sex and about two-thirds of older participants and women without partners were not sexually active. Kamau, Osoti, and Njuguna (2007) also identified that the majority of survivors with

cervical cancer receiving radiotherapy lacked interest in sexual intercourse. Similarly, in a cross-sectional correlation study in Brazil to evaluate the quality of life of 149 women with cervical cancer, Fernandes and Kimura (2010) identified that most cervical cancer survivors, even though they were living with their spouses, reported lack of interest in sexual activities and further lamented that, they paid very little or no attention to sexual activity, fear of engaging in sex, feeling less sexually attractive, and having a dried, narrow or shortened vagina. Though there are significant effects of psychological distress on sexuality, these studies were conducted in Australia and Brazil and the results cannot be generalised over Ghana.

In a related study, it was noted that many cervical cancer survivors in China delay in the resumption of sexual activities because of not having a partner, being too tired to have sex, fear that the sexual activity will render the cancer treatment ineffective and husbands not initiating sexual activity because of fear of the disease (Zeng, Andy & Cheng, 2016). Ashing-Giwa et al. (2004) found that, fears about injuring or aggravating the affected area or the cancer adversely affected the frequency and quality of sexual relationship among cervical cancer survivors.

In the work of Wenzel et al. (2005), they described the quality of life with regards to sexual self of 51 cervical cancer survivors and reported that 16 of the women were not sexually active. Reasons cited by the women included psychological distress, no interest and/or had a partner who was not being interested, fatigue, physical problems and pain with penetration. The sample size

is small and it was quality of life used against sexual self. There was no focus on psychological distress and sexual self-efficacy.

According to the results from a study of Liavaage et al. (2008), it was revealed that some cervical cancer survivors experienced loss of libido in part of their sexual organ due to pain and fears that sex would worsen and prolong their treatment plan. On the other hand, some of the survivors who were married reported that they end up forcing themselves to have sex to satisfy their sexual obligations and desires on the part of the husbands. Other survivors did not feel and acknowledge that their relationship was adversely affected due to the inability to satisfy their husbands sexually. This implies that sexual partners do not consider the patients' conditions but always demand sexual activities even in the face of the survivors' adversity.

Several studies have reported a relationship between psychological distress and sexual dysfunction where the patients lack interest and beliefs to approach sexual activities. Indeed, depression and anxiety from cervical cancer and its treatment modalities are correlated and that affect women's intimacy and sexuality.

Cognitive coping and sexual self-efficacy

Taylor et al. (2007) revealed from a study conducted that, cognitive coping aids patients to deal with the challenges and distresses at stake and could be capable enough to assist survivors' abilities to adjust and respond to sexually related activities. The study talked about sexually related activities in general but did not focus specifically on sexual self-efficacy.

A study conducted by Henselmans et al. (2010) on breast cancer has revealed that, women who reported cognitive coping in their lives before a breast cancer diagnosis experienced less psychological distress after the diagnosis and treatment and have a normal life. The results indicated that a strong sense of cognitive coping before diagnosis protected women from distress immediately after the treatment. Nevertheless, women with a low sense of control appraised cancer and coping skills more negatively, which probably made them more vulnerable to distress leading to sexual difficulties. The researchers are commended for their work but focus of the study's population is in contrast with the current study.

In another study conducted by Stiegelis et al. (2003) using positive cognitive coping, it was asserted that sexual adjustment after cancer diagnosis and treatments depended on the ability of individuals to sustain and modify illusions of cognitive coping. The perceptions of coping of the participants who had cancer were compared to 50 healthy individuals as a control. The results revealed that cancer patients reported greater and higher cognitive coping compared to the healthy respondents. The results further suggested that adaptive cognition related to cognitive coping are possible in patients with diverse cancer sites including cervical cancer.

In relation to age, mixed findings regarding differences with cognitive coping was found in studies. In some cancer studies younger-aged women were found not to cope well. Consistent with these findings, it has been noted elsewhere that younger women are less skilled in coping cognitively with cancer

treatment-related effects on sexuality (Bergmark et al., 2002; Carpenter, et al., 2009).

Comparably, similar findings were noted in an age-comparative longitudinal study conducted by Diehl, Coyle and Labouvie-Vief (1996) concerning the use of conscious and unconscious coping with regards to sexual desires. The findings suggested that developmental progress in coping strategy utilization was influenced not only by age, but also by life experiences and cognitive development, particularly to sexual ability. It can be concluded that participants became increasingly more effective and flexible in coping as they aged and after more life experiences and report less interest in sexual functioning.

Ramirez-Maestre, Esteve and Lopez (2008) conducted a cross-sectional study with 122 patients experiencing musculoskeletal chronic pain to examine the influence of cognitive coping and behaviour outcomes. Their findings showed, that participants who engaged in passive cognitive coping tend to show higher pain intensity, greater impairment to sexuality, and low levels of functioning, whereas those engaged in high levels of active cognitive coping tend to have higher daily functioning and high sexual interest. The findings indicate that cognitive coping in distresses may indirectly predict outcomes either pain intensity, impairment or high level of functioning through the mediating role of active or passive coping.

The findings indicated that adaptive cognition related to cognitive coping are possible in patients with diverse cancer sites including cervical cancer and chronic illnesses.

Sources of sexual self-efficacy and sexual self-efficacy

One of the sources of self-efficacy outcomes is the sexual self-efficacy. Bandura (2004) affirmed that many researchers have employed a number of analytic techniques to investigate the sources of self-efficacy, their correlates, their causal influence, their multidimensionality and the contextual factors that may moderate them in regards to performance and achievement.

Mastery experiences

Bandura (1997) revealed from a study that, the most influential source of efficacy information is personal mastery experiences because they provide the most authentic evidence of whether one can master whatever it takes to succeed in a particular field of endeavour. Successes build a robust belief in one's efficacy, especially when success is achieved early in learning with few setbacks. It was supported by some researchers that mastery experience is the most powerful source of self-efficacy (Arslan, 2012; Bandura, 1997; Usher & Pajares, 2006). Bandura (2001) affirmed that, self-efficacy beliefs in respect to sexuality may be diminished when success is achieved through extensive external assistance, after considerable effort, or on a sexual task perceived as easy or unimportant. Failures that cannot be attributed to a lack of effort or to external events are likely to have a deleterious effect on self-efficacy beliefs. Few researchers who used sources of self-efficacy in their studies argued that mastery experience can motivate a task at hand. However, it can be inferred that mastery experience could enhance sexual activities.

Additionally, Woolfolk, Hoy and Burke-Spero (2005) proclaimed from a study that, proficiency of a performance in a behaviour creates a new mastery experience that serves as a new source of self-efficacy that either confirms or disrupts existing self-efficacy beliefs in sexuality. Similarly, Bandura (1997) revealed that self-efficacy beliefs are created and developed as individuals interpret information from mastery experience. In line with the results of Bandura (2001), it was confirmed that when people believe that their efforts have been successful, their confidence to accomplish similar or related tasks is raised, and when they believe that their efforts failed to produce the effect desired, confidence to succeed in similar endeavours is diminished. Most of these studies were conducted in western countries and generalisation cannot be so for Ghana. However, there is the need to explore the influence of mastery of experience in Ghanaian context.

In a study conducted by Bandura (1997), it was affirmed that although failure may occur periodically when individuals notice a gradual improvement in skills over time, they typically experience a boost in their self-efficacy. Mastery experiences prove particularly powerful when individuals overcome obstacles or succeed on challenging tasks by their efforts. Nevertheless, Pajares (2007) asserted that, when the individuals experience failure after having put forth great effort, their efficacy beliefs may be undermined. Additionally, success that can only be achieved with the help of others provides a weaker indication of one's personal ability than does success achieved on one's own. Though the findings

demonstrate that trials boost self-efficacy, the studies were conducted on students' academic performance and no attention was given to sexual self-efficacy.

Vicarious experience

In interpreting the results of individual actions, Bandura (2004) revealed that, individuals build their efficacy beliefs through the vicarious experience of observing others. Hence, individuals gauge their capabilities in relation to the performance of others. According to Bandura (2001) and Pajares (2002), studies revealed that, social models play a powerful role in the development of self-efficacy, especially when individuals are uncertain about their own abilities or have limited experience with the task at hand. Bandura (2004) revealed that, in social models, those who struggle through problems until they reach a successful end or enjoyable state are more likely to boost the confidence of observers than the mastery models. Bandura (1997) contended that modelling can also work to undermine an observer's confidence, particularly when the model fails at a task perceived as easy. The researchers are commended for studying vicarious learning as the results proved positive relationship. In contrast, sexual self-efficacy was not given attention.

Moreover, Pajares and Urdan (2006) also discovered that, individuals are most likely to alter their beliefs following a model's success or failure to the degree that they feel similar to the model in the area in question, example sexuality. Bandura (2004) and Pajares and Urdan (2006) revealed from a study that, vicarious information gained from others perceived to be similar in ability yields the most influential comparative information, but the experiences of those

perceived as having similar attributes (e.g., age, gender, ethnicity, health status or condition) are often powerful sources of self-efficacy information for quality of life. It can be concluded that discussing with or watching a similar classmate or colleague patients succeed at a challenging problem like sexual dysfunction, for instance, may convince fellow individuals or colleagues that they can equally conquer the sexual difficulties.

Bandura (1997; 2004) asserted that, although vicarious experiences often occur between everyday associates such as mates, colleague patients or family members, the role of television and other mass media have brought symbolic models to people's fingertips. According to Pajares and Urdan (2006) and Bandura (2004), such models can convey attitudinal and enactive vicarious and help individuals to be able to compare their own current and past performances either cognitively or through multimedia playback. In this sense, self-comparative information becomes another type of vicarious experience capable of altering people's sexual self-efficacy (Austin, 2015; Ros & Espuña, 2013). In a study of Chin and Kameoka (2002), students were asked to provide the highest educational degree earned by members of their family and assessment was made of students' interpretations of this vicarious influence. It was revealed that, seeing family members progress, made the efficacious that, they can also make it. These results may imply that seeing or discussing one's success with another could influence performance and efficacy beliefs in both parties meanwhile most of these studies were conducted on students and teachers' academic performance. There is a need to explore vicarious learning in sexual self-efficacy.

Social persuasions

Bandura (2004) stated that, the verbal and social persuasions that individuals receive from significant others serve as another major source of sexual self-efficacy. It was again revealed that encouragement, praise and inspirations from parents, teachers, clinicians, husbands/partners and peers of whom people trust can boost people's confidence in their self-efficacy or sexual capabilities. Golbasi and Erenel (2012) confirmed that supportive messages and encouraging progress reports can serve to bolster an individual's effort and self-confidence, particularly when accompanied by conditions and instruction that help bring about sexual success.

According to Bandura (1997), social persuasions may be limited in their ability to create enduring increases in self-efficacy. However, it may actually be easier to undermine an individual's self-efficacy through social persuasions than to enhance it, particularly in the influential and challenging years during which youngsters and newly diagnosed patients carefully attend to the messages they receive from those close to them. Perhaps, as poet Stanley Kunitz (2000) wrote, "we learn, as the thread plays out, that we belong less to what flatters us than to what scars". To be effective, feedback should be framed appropriately so as to support people's sense of efficacy, particularly as their self-beliefs are developing. Golbasi & Erenel (2012) and Snell et al. (1992) revealed from their studies that effective mentors encourage individuals to measure success in terms of personal growth in sexual life flexibility rather than as triumphs over spouse or boyfriends. Even though it can be concluded that social persuasion influences personal sexual

growth, the studies employed qualitative approaches where small sample sizes were used and sexual self-efficacy was not considered for exploration. There is the need to explore social persuasion on sexual self-efficacy.

Lent, Lopez and Bieschke (1991) assessed social persuasions in educational settings and the results reported a strong association between social persuasion and high achievement. Bandura (2004) asserted that verbal persuasion involves verbal input from others, such as colleagues, supervisors, and clinicians that serves to strengthen a person's belief that he or she possesses the capability to achieve a desired level of performance. Bandura (1997) noted that "it is easier to sustain a sense of efficacy, especially in times of difficulty, if significant others express faith in one's capabilities than if they convey doubts". Snell et al. (1992) revealed from a study that verbal persuasion can bolster self-change if the positive appraisal promotes greater effort in the development of skills that subsequently lead to a stronger sense of sexuality. The studies found strong relationship between social persuasion and sexuality but focus was not given to sexual self-efficacy.

Physiological and emotional states

Bandura (1994; 1997) opined that, self-efficacy beliefs are stimulated by emotional and physiological states such as anxiety, stress, fatigue, and mood. Bandura affirmed that individuals learn to interpret their physiological arousal as an indicator of personal competence by evaluating their own performances under different conditions. Strong emotional reactions to challenging related tasks can provide cues to expected success or failure. Bandura (1997) suggested that people

tend to function optimally when their physiological arousal is neither too high nor too low; that is, physiological arousal may be related curvilinearly to self-efficacy. It was postulated that, generally, increasing individuals' physiological and emotional well-being and reducing negative emotional states strengthens and reinforce sexual self-efficacy beliefs, arousal and satisfaction (Snell et al., 1992; Golbasi & Erenel, 2012).

A classical study conducted in an educational setting by Lent et al. (1991) and Lopez and Lent (1992) where physiological arousal has typically been assessed as students' anxiety toward a particular academic subject. The results revealed that, a number of factors can influence physiological and affective states, including mood, physical strength, and levels of distress or elation and that heightened physiological arousal need not to result in diminished self-efficacy. Students who experience success under a positive mood are more likely to increase their personal self-efficacy beliefs. Similarly, those who interpret their arousal as a challenge experience may also boost their self-efficacy (Bandura, 1997).

Bandura (1997) and Gregoire (2003) asserted that, people judging their own capabilities rely partly on information conveyed by their physiological and emotional states. Bandura (2004) affirmed it by saying that, arousal, such as elevated heart and respiratory rate, increased perspiration, or trembling hands, may have enabling or debilitating effects, depending upon whether the situation is perceived as easy, challenging or a threat. Bandura (1997) opined that, moderate levels of arousal when perceived as a challenge can improve performance by

focusing attention and energy on the task, whereas high levels of arousal perceived as a threat might interfere with making the best use of one's skills and capabilities. Snell (2001) and Snell et al. (1992) maintained that, in the sexual development context, exposure to new knowledge and coping strategies may evoke sexual arousal in the form of interest and curiosity. According to Snell et al. (1992), it was documented that, initial experiences may cause nervous anticipation for individual but trying out new coping strategies and with social support where encouragement and assistance are available can stimulate sexual self-efficacy beliefs.

In comparison to low efficacy, medium efficacy as well high efficacy it was stated more often that mastery experience, social persuasion, and physiological state increases their beliefs in sexual self-efficacy (Bandura 1997; Zeldin & Pajares, 2000). Bandura (1997; 2004) asserted that, while mastery experience and vicarious experience significantly predict the self-efficacy beliefs of people with high and medium efficacy, it was found by Snell et al. (1992) that these factors might be added to the social persuasion for people with medium efficacy. In the light of these findings, it was concluded that mastery experience, vicarious experience and emotional states are effective in increasing sexuality beliefs of people with high and low efficacy; mastery experience and social persuasion are more suitable for medium efficacy people.

In most statistical models, the four conceptualised sources are the only independent variables predicting self-efficacy. Sexuality and sources of self-efficacy reciprocally affect the other. It was found that the predictors of the self-

efficacy beliefs of high achievers are mastery experience and physiological state; the predictors of the self-efficacy beliefs of medium achievers are mastery experience, vicarious learning and social persuasion; and none of the sources predicted the self-efficacy beliefs of low achievers.

Conceptual Framework

This section presents the conceptual framework which explains the study graphically using the main variables under study, the key factors, concepts or variable and presumably the relationships between the variables.

Theorists attribute psychological difficulties to dysfunctional patterns of interaction between cervical cancer and its treatment modalities and sexual output without proper coping strategies (Roy, 2009). The framework presents the relationship between the selected demographic factors; age, time since treatment began (TSTB) and sexual health communication (SHC), psychological distress, cognitive coping and sexual self-efficacy. Figure 1 presents the conceptual framework of the study.

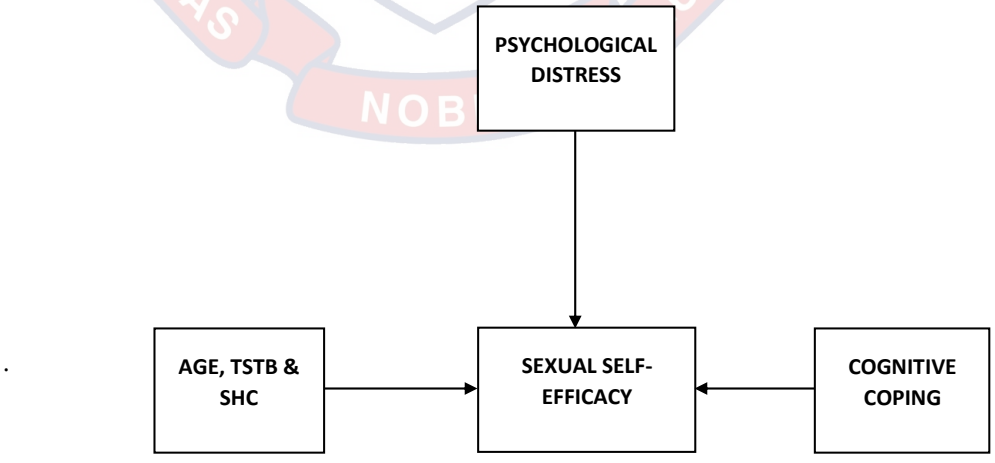

Figure 1: Conceptual Framework of the Study.

There is a gain in saying that Figure 1(conceptual framework of the study) covered all the variables under consideration. However, it provides a unique perspective that can contribute to a fuller understanding of the phenomenon of the selected demographic data, psychological distress, cognitive coping and sexual self-efficacy.

Summary of Literature Review

This chapter presented research works that linked to the problem under investigation. It was therefore treated based on four components. Conceptual review covered the concepts of cervical cancer and its treatment modalities, psychological distress, cognitive coping and sexual self-efficacy. Theories used were sexual health adaptation and self-efficacy together with Roy adaptation model and self-efficacy model.

The literature review showed that age, time since treatment began, sexual health communication and cervical cancer treatments led to sexual dysfunctions. Literature revealed that vaginal dryness, vaginal shortness, severe pain during sex, low and no sex drive, vaginal wall elasticity, changes in hormone levels, reduced sexual interest and anxiety about sexual performance are the common sexual health problems. It is also revealed that women's distress differed by age. Younger women were more psychologically distressed because of the challenges the disease and the treatment modalities posed to their quality of life and sexual life. It is evidential that, people with chronic illnesses were able to adapt to the pain and distress as the time progresses after treatment. From the findings of sexual health communication, health communication outcomes led to improved

survival, subjective well-being, and cognitive stability but sexual health communication is overlooked by healthcare professionals. Numerous studies have confirmed that, psychological distress after cervical cancer and its treatments lead to sexual function disorders. Again, the literature suggested that developmental progress in cognitive coping strategy utilization was influenced by age, life experiences and cognitive development particularly to sexual ability. More so, a strong sense of self-efficacy enhances human accomplishment and personal well-being in many ways. Finally, the conceptual framework graphically showed the relationship among the variables.

Gaps in the Literature

A comprehensive review of literature identifies several gaps in our knowledge of cervical cancer, its treatments modalities and distresses, use of cognitive coping strategies and sources of sexual self-efficacy in relation to sexual self-efficacy. First, in the majority of studies, the association between cognitive coping strategies and sexual self-efficacy was not clearly identified. Secondly, sources of sexual self-efficacy were rarely discussed in the related literature.

Consequently, the impacts of psychological distress on sexual self-efficacy were not well understood in African context as well as Ghana. Although psychological distress has been shown to be high among chronic disease patients, the role of cognitive coping with regards to sexuality seems to have been left out. More so, most of the studies on sexuality of women with cervical cancer were conducted in developed countries and few were done in Africa. Most of the studies conducted in relation to sexuality have employed qualitative approaches

with small sample sizes. Another important limitation of the previous research is that most of the studies especially those conducted in Ghana on cervical cancer were predominantly done in Komfo Anokye Teaching Hospital. Researches on psychological distress and cognitive coping on sexual self-efficacy in Ghana are missed in the literature.

Given these gaps in the literature, the current study explored the impacts of selected demographic factors, psychological distress and cognitive coping on sexual self-efficacy.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter looks at the research design and methodology used in the study. It further provides descriptions of how data were gathered, processed and analysed to draw conclusions. Details were given about the research population, the questionnaire, data collection and a full explanation on the conduct of the survey. The chapter ends with a discussion on how the data was analysed.

Research Design

The study employed cross-sectional survey design using quantitative method. Polit and Beck (2013) described cross-sectional design as a strategy for one-point data collection to depict a snapshot view of a phenomenon. The researcher used this survey design in order to obtain insight into the phenomenon.

Cross-sectional design is chosen for the study because the design is good in producing large amount of patient responses from the wide range of participants. Aside that, descriptive cross-sectional design provides a meaningful presentation of any event and seeks to explain people's views as well as their behaviour on the basis of collecting data at a point in time (Creswell, 2012). Since, there is the need to investigate further about the relationship among selected demographic variables (age, time since treatment began, sexual health communication), psychological distress, cognitive coping and sexual self-efficacy

of cervical cancer survivors in Ghana. This design with questionnaire was useful in examining the problem. This highly acknowledged the conceptions on the fact that, discussion of sexual issues with people in African and Ghanaian setting is a bit cumbersome.

Study Area

The Korle Bu Teaching Hospital (KBTH) is the study area. It was established on October 9, 1923 and presently, it is the third leading hospital in Africa, a tertiary teaching hospital and a premier centre of referral in Ghana (Quentin et al., 2011). It has bed capacity estimated to be 2000 with staff strength of over 4,000, both medical and paramedical staff. KBTH is located in Ablekuma south of the Accra metropolis, in the Greater Accra region. The hospital has 21 clinical and diagnostic departments/units which include the National Centre for Radiotherapy and Nuclear Medicine (NCRNM). The NCRNM is one of the three cancer referral centres with Radiation therapy in Africa, together with South Africa and Nigeria. The radiotherapy centre is the first of such centres in the country where patients with various types of cancers are treated.

The Radiotherapy centre of KBTH was commissioned in 1997 to provide radiotherapy (external beam and brachytherapy) services to cancer patients in the southern sector of the country. However, a unit within the centre has been designated for the administration of cancer chemotherapy. The NCRNM and Radiotherapy Unit of the hospital record approximately 620 to 650 cervical cancer cases annually, with an average weekly case load of 13 clients (KBTH Annual report, 2016).

The centre has a Cobalt 60 Teletherapy machine; a simulator treatment planning system; a film processor; a C-arm Fluoroscopy machine; two Remote Low Dose Radiation (LDR) machines and Cesium-After Loader for intracavitary application for cervical cancer. KBTH is chosen for the study because it is the only hospital in Ghana (apart from Komfo Anokye Teaching Hospital in Kumasi) and the only hospital in the region with both cervical cancer screening and treatment services.

Population

Polit and Beck (2013) defined a population as the entire aggregation of cases that meet a designated set of criteria. The target population is the Ghanaian women living with cervical cancer who attend the NCRNM in KBTH. According to the Information and Records Unit of the NCRNM, the centre provides treatment to averagely thirteen (13) cervical cancer survivors including new and review cases on weekly basis. This accounts for approximately 624 cases attended to annually. Accessible population is 110 survivors who met the inclusion criteria.

Inclusion criteria

- One of the inclusion criteria for the study was cervical cancer survivors who had received or were receiving cancer treatments at KBTH.
- The participants were 18 years and above. This criterion age was chosen because in Ghana anyone who falls within this age bracket is considered as an adult

- Time since treatment began was from 3 months to 3 years. Time since treatment began was above 3 months for the survivors to experience some kind of distresses and utilised some form of coping mechanisms.
- The survivors who were mentally stable, with no known cervical cancer neurological disorder and willing to participate in the study.

Exclusion criteria

- The study excluded: (a) survivors diagnosed with cancers other than cervical cancer; (b) those who were too ill to participate and (c) survivors of cervical cancer with a diagnosis of a psychiatric disorder.

Sample and Sampling Procedure

The accessible population of women diagnosed, treated and/or receiving treatment of cervical cancer is 110. This is based on the available information from NCRNM. Sample size has to be determined for the study, however, to achieve this, a confidence interval of 95%, an alpha level of 0.05 is set and the researcher used Yamane's (1967) sampling formula to compute the sampling size for the study. This is as follows:

$$n = \frac{N}{1 + N(e)2}$$

Where: n = required sample size

N= Accessible population

e = alpha level (0.05)

$$n = \frac{110}{1 + 110(0.05)2}$$

$$n = \frac{110}{1 + 110 \text{ X } 0.0025}$$

$$n = \frac{110}{1 + 0.275}$$

$$n = \frac{110}{1.275}$$

$$n = 86.27$$

Thus, n = 86

The sample size for the study is 86 but 5 of the respondents representing 4.5% were added to cater for non-response and bias. Cohen, Manion and Morrison, (2004) suggest that from one to half of the sample size could be added to the sample size to cater for non-return questionnaires and biases. This brought the total sample size to 91. Thus, the researcher targeted at least 91 participants as the required sample size for the study.

The researcher contacted 91 of the respondents, where 2 of them declined to participate and 89 of the respondents consented and participated in the study.

Sampling technique is the selection of individuals from accessible population who reflect the characteristic of the target population (Khan, 2012). The researcher purposively selected Korle-Bu Teaching Hospital (KBTH), because it is the only health facility providing cervical cancer treatment and care within the Accra metropolis. A consecutive sampling technique was used to recruit the survivors who met the inclusion criteria and consented to participate in the study. Consecutive sampling is a sampling technique in which every individual meeting the criteria of inclusion and agreed to participate is selected until the required sample size is achieved (Bowers, House & Owens, 2015). The participants were the cervical cancer survivors available at the NCRNM facility of KBTH.

This sampling technique is chosen because the researcher adopted stringent selection criteria against a reason of limited accessible population of interest. Consecutive sampling enables the researcher to recruit participants in the order in which they arrived at the setting for data collection and consented until the sample size is reached (Bowers et al., 2015). The Nurse Managers of the Nuclear Medicine and Radiotherapy unit served as gatekeepers and assisted the researcher and the trained assistants in identifying prospective qualified participants for the study. This identification was based on the information and records of the cervical cancer survivor and this information included, the age, time since treatment began and ended. Each prospective participant was contacted individually and those who consented were recruited. It is reasonable to use non-probabilistic sampling technique to recruit participants for a study when the population is ‘‘scarce’’ and when it also involves clinical sample or the study area is sensitive like cancer.

Data Collection Instruments

According to Polit and Beck (2013), data collection is the gathering of information needed to address a research problem. They opined that various sources, tools and techniques should be employed by researchers to collect, validate and detect inconsistencies in data.

The instrument is made up of five sections with a total number of 54 items (see Appendix A). The instrument includes a demographic data developed by the researcher and the modified versions of standardised instruments including; Kessler Psychological Distress Scale (K10), Coping Adaptation Processing Scale

(CAPS), Sources of Sexual Self-Efficacy Questionnaire and Multidimensional Sexual Self Concept Questionnaire (MSSCQ).

Demographic Data

The demographic data form has 9 items. It was used to elicit information regarding the participants' personal data: age, marital status, educational level, cancer stage, treatment modalities, time of diagnose, time since treatment began and ended, sexual health problems before and after cervical cancer treatment and confidant with whom sexual problems are discussed.

Questionnaire was the appropriate tool chosen for the study because it helped to quickly and/or easily get a lot of information from survivors. It was completed anonymously, inexpensive to administer, easy to compare and to analyse, administered to many people, it got a lots of data and could be adapted into many forms. The discussions of the various instruments are as follows.

Kessler Psychological Distress Scale (K10)

The Kessler Psychological Distress Scale (K10) was developed by Kessler et al. (2003). K10 is a standardised instrument designed to measure anxiety and depression through a 10-item questionnaire and each question pertains to an emotional state and each has a five-level response scale. The measure can be used as a brief screen to identify levels of distress. This instrument uses a patient self-report measure making it a desirable method of assessment because it depends on the clinician's genuine pursuit to collect information about the patient's current condition.

The 10-item questionnaire is intended to yield a global measure of distress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4-week period. The instrument is a five Likert scale which ranges from ‘‘none of the time (score 1)’’, ‘‘a little of the time (score 2)’’, ‘‘some of the time (score 3)’’, ‘‘most of the time (score 4)’’ and ‘‘all of the time (score 5)’’. The score ranges from 10 to 50. Scores of the 10 items are then summed, yielding a minimum score of 10 and a maximum score of 50. Low scores indicate low levels of psychological distress and high scores indicate high levels of psychological distress. The Victorian Population Health Survey (2001) adopted a set of cut-off scores and that was used as a guide for screening for psychological distress. These are outlined as below: 10 - 19 (likely to be well), 20 - 24 (likely to have a mild disorder), 25 - 29 (likely to have a moderate disorder) and 30 - 50 (likely to have severe disorder). The internal consistency and reliability of the scale range from .75 to .88 for the majority of samples (Kessler et al., 2003). In the current study, the Cronbach’s alpha coefficient for this scale is determined as .93 (see Appendix B).

Coping Adaptation Processing Scale (CAPS)

Coping adaptation processing Scale (CAPS) was developed by Roy (2011). Roy is the creator of the Roy Adaptation Model, as a rejoinder to the on-going challenge of how to measure the multidimensional construct of coping (Folkman & Moskowitz, 2004; Roy, 2009) and cognitive coping (Roy, 2009). However, as an important variable for establishing research based clinical practice, CAPS measures how prudently people, whether sick or well, cope and

adapt to their stressors or their environments (Roy & Andrews, 1999; Roy, 2009). The CAPS contains five subscales with a total of 47 items with a Likert scale format ranging from 1 (never) to 4 (always). The subscales include; Resourceful and Focused Subscale, Systematic Processing Subscale, Physical and Fixed Subscale, Alert Processing Subscale and Knowing and Relating Subscale.

One CAPS subscale called the Resourceful and Focused Subscale was used in the current study to support in the identification of optimism and control/mastery, creativity as well as measuring survivors' cognitive coping. This scale was chosen due to the fact that, it was the major dimension of the construct of coping and adaptation processing.

The Resourceful and Focused Subscale of CAPS contains 10 items on how the patients cope cognitively with their treatments' side effects. Resourceful and Focused Subscale of CAPS was chosen over the four because it reflects behaviours used by an individual and focuses on the use of self-abilities and resources and concentrates on expanding input, being optimistic, inventive and seeking outcomes through self-effectiveness.

It is measured on a four Likert scale which ranges from ''1 = never; 2 = rarely; 3 = sometimes; 4 = always''. The scale has scoring range from 10 to 40. Lower scores corresponded to less ability to use cognitive coping and higher scores indicated consistent usage of cognitive coping mechanism. According to Roy & Andrews (1999), Resourceful and Focused Subscale of CAPS reliability has been established with the Cronbach's alpha coefficient of .85. The Cronbach's alpha of the CAPS is established as .66 (see Appendix B).

Sources of Sexual Self-efficacy Scale

The "sources of self-efficacy scale" was adapted from the scale designed by Bandura (1999) to investigate sources of academic efficacy belief and performance on students. The evaluation and assessing of sources of sexual self-efficacy is based on Bandura's model, Social Cognitive theory (Bandura, 1997) and Self-Efficacy theory (Bandura, 1997). This scale measures perceived competence and capability of behavioural, cognitive, and affective dimensions of self-efficacy. The source of self-efficacy scale consists of 24 items designed to measure the four theorised sources of self-efficacy based on Bandura's model of efficacy. According to Bandura (1999), the sources of self-efficacy scale's reliability has been established with the Cronbach's alpha coefficient of .85. In the study of Usher and Pajares (2006), Cronbach's alpha reliability for the scale was .90.

The 24-item scale of sources of self-efficacy designed to determine efficacious performance and behaviour was adapted, and structured as a multidimensional scale to investigate whether these sources of self-efficacy could predict sexual self-efficacy among cervical cancer survivors. The items on sources of self-efficacy which measured against academic ability, efficacy and performance were changed to sexual ability to be measured against sexual self-efficacy. Some items were combined because during the modification processes some items seem to be communicating similar ideas and/or concepts, so they were put together. This brings about the reduction in the total items from 24 to 20-item scale.

The "Sources of sexual self-efficacy scale" was an objective self-report instrument designed to measure the following 4 psychological aspects of sources of self-efficacy (mastery performance, vicarious learning, social persuasion and emotional state) of human sexuality. The scale is designed to determine how the sources of self-efficacy could predict sexual self-efficacy among cervical cancer survivors. The scale has 20 items, sampling the four sources of sexual self-efficacy: mastery performance, vicarious learning, social or verbal persuasion and physiological or emotional state. Five items assessed mastery experiences, 5 assessed vicarious experiences, 5 assessed verbal persuasion and 5 assessed physiological/emotional state. It is measured on five Likert scale. The Likert scale ranges from 1 to 5: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) and Strongly Agree (5). Higher scores corresponded to greater amounts of the subscale tendency. Each subscale is scored from the ranges of 5 to 20 with the composite score ranging from 20 to 100. In the current study, Cronbach's alpha reliability of "Sources of sexual self-efficacy" scale was determined as .93 (see Appendix B).

Multidimensional Sexual Self-concept Questionnaire (MSSCQ)

Multidimensional sexual self-concept questionnaire (MSSCQ) is a twenty-subscale questionnaire developed by Snell (2001). Sexual Self-Efficacy is one of the twenty subscales of the MSSCQ that was used in this study. The Sexual Self-Efficacy Subscale of the 20 MSSCQ subscales defined sexual self-efficacy as the belief that one has the ability to deal effectively with the sexual aspects of oneself. The subscale contains 5 items and measured on five Likert scale. The Likert scale

ranges from 1 to 5 with (1) indicating that an item is "not at all characteristic of me"; (2) "slightly characteristic of me"; (3) "somewhat characteristic of me"; (4) "moderately characteristic of me" and (5) "very characteristic of me". This scale is scored on the range from 5 to 25. In order to create subscale scores, items on the subscale are averaged, so that higher scores corresponded to greater amounts of the relevant subscale tendency. The Cronbach's alpha coefficient was reported as .85 (Snell, 2001). In brief, the 20 MSSCQ subscales have more than adequate internal consistency (Snell, Fisher & Schuh, 1992; Snell, 2001). The current study established the Cronbach's alpha coefficient for sexual self-efficacy scale as .88 (see Appendix B).

Likert scale for K10 ranges from 1-5, CAPS ranges from 1-4, MSSCQ ranges from 1-5 and Sources of self-efficacy from 1-5. The least of the Likert scale is 1 and the highest is 4 in the case of CAPS and 5 in the rest. During the analysis, the Likert scales were summated to determine the composite scores for all the various Likert type instruments. Lower scores correspond to less ability or tendency and higher scores indicate consistent usage or higher tendency while the inverse applied to K10, where low scores indicate low levels of psychological distress and high scores indicate high levels of psychological distress.

Pre-testing and Validation of the Research Instrument

To ensure the accuracy of the constructs, the questionnaire was reviewed and evaluated exhaustively and face validity of the instrument was determined by experts. After review of the questionnaire by experts and its approval, pre-testing was carried out in Sweden Ghana Medical Center (SGMC) in the Greater Accra

Region on 10 women living with cervical cancer to ascertain the reliability of the instrument. In the current study, the internal consistency of reliability of the study instruments was determined as .85. However, the Cronbach's alpha coefficient for K10 scale was determined as .93, Resourceful and Focused Subscale of CAPS was determined as .66, Sources of sexual self-efficacy scale was determined to be .93 and Sexual self-efficacy was reported as .85

To ensure the validity of the instrument, it was evaluated and judged covering the concept it purports to measure by supervisors. The data from the pre-testing was analysed and any ambiguities in the questionnaire were corrected.

The purpose of the pre-testing was to ascertain the clarity, applicability of the study tools and to identify the obstacles and problems that may be encountered during data collection. It also helped to estimate the time needed to fill in the questionnaire. Based on the results of the pre-testing, modifications, clarifications, omissions and rearrangement of some items were done.

Data Collection Procedure

The researcher used clearance letter from the College of Education Studies Ethical Review Board (CES-ERB) (see Appendix F) and an introductory letter from Department of Education and Psychology (see Appendix G) to obtain permission from the directors of KBTH and NCRNM. Approval was given by the KBTH and NCRNM (see Appendix H). The data was collected within three months (from 25th June to 1st October, 2019) which is fifteen weeks in the health facility of NCRNM-KBTH with the help of 5 trained women research assistants. The trained research assistants followed the rules and instructions given to them

and demonstrated professionalism during the data collection process. The research assistants helped in the supervision of participants as they filled the questionnaire and they guided against double ticking of answers and not answering or omitting questions. They also ensured return of the questionnaires.

Ethical Considerations

The research was conducted personally by the researcher with the help of the research assistants. The researcher and the assistants approached the participants, introduced themselves, briefed the participants about the study and its purpose and then sought their voluntary participation for data collection at the health facility of NCRNM-KBTH. The participants were approached for data collection process at the NCRNM-KBTH health facility at a location with a conducive and enabling environment with minimal intrusion that facilitated a smooth and confidential process.

The respondents were made aware of the fact that they are at liberty to withdraw from the study at any point in time with or without any given reason. While this was to build confidence in the respondents of protecting the information they provided, this right ended after the instrument has been submitted. This is because it is impossible to trace the respondents' questionnaire since there is no indictor to trace their questionnaire. The gathered data were kept in a drawer and locked. Only the researcher had access to it. One year after the analysis, the questionnaires would be burnt by the researcher. This is to ensure that no one gets access to the questionnaires.

The purpose of research ethics is to protect the welfare and dignity of the research participants. The researcher safeguards the rights, interests and sensitivities of the informants. In the course of data collection, the researcher thoroughly explained the aims and the purposes of the study to the informants. Consent forms (see Appendix I) were duly signed by few and majority concerted verbally which indicated the participants' wills to take part in the study.

Data Processing and Analysis

This section presents how data was processed and analysed. Data analysis is the systematic organization and synthesis of research data and the testing of a research questions using those data. After retrieving the questionnaires, the responses were edited to ensure the completeness of the questionnaire. Serial numbers were given to the questionnaires and codes were also given to the Likert scales. Analysis of data was carried out using Statistical Product and Service Solutions (SPSS) version 22.0 which is software for research analysis. Following data entry, initial frequency analysis was conducted to examine the extent of missing data. Double checking and manual cleaning of data were done to ensure data accuracy.

Descriptive statistics including frequencies and percentages were employed to analyse demographic data (personal characteristics of the respondents and other health-related characteristics). This demographic data included; age, marital status, educational level, stage of cancer, time of diagnosis, time since treatment began and ended and who sexual health problems are

discussed with. This is to determine some background information that could aid further analyses and discussions.

Descriptive statistics comprising frequencies and percentages were used to analyse sexual health challenges experienced by survivors before and after treatment of cervical cancer. This is to determine the sexual health challenges experienced by survivors after treatment of cervical cancer by comparing them with those sexual health challenges experienced before diagnosis and treatment.

Frequencies and percentages were also employed to analyse who cervical cancer survivors communicate to about their sexual health challenges. The options provided were husband/boyfriend, relatives, friends, and health professionals (doctor, nurse, counsellor, and psychologist). This is to assess the conception in literature about the difficulties in the discussion of sexual health challenges with health professionals in Ghana and Africa.

However, parametric analysis including ANOVA was used to analyse research question 3 and 4 to determine the effect of the differences of "age" and "time since treatment began" on sexual self-efficacy, Standard Multiple Linear Regression was used to analyse research hypotheses 1 and 2 to determine the degree and the direction of the relationship between psychological distress, cognitive coping and sexual self-efficacy. Finally, Simultaneous Multiple Linear Regression was used to analyse research hypotheses 3, specifically to determine whether sources of sexual self-efficacy (mastery of performance, vicarious experience, verbal/social persuasion and physiological/emotional state) could predict sexual self-efficacy among cervical cancer survivors.

Chapter Summary

This chapter explained the research method adopted for this study. A Cross-sectional survey with quantitative approach was used to examine how demographic factors, psychological distress and cognitive coping relate to sexual self-efficacy and assessed how sources of self-efficacy predict sexual self-efficacy among cervical cancer survivors at the Korle-Bu Teaching Hospital in Accra, Ghana.

The study adopted the consecutive sampling technique to recruit the survivors of cervical cancer who met the inclusion criteria and consented to participate in the study. Questionnaire was used for data collection and the research instrument includes Kessler Psychological Distress Scale (K10), Coping Adaptation Processing Scale (CAPS), Sources of Self-Efficacy Questionnaire and Multidimensional Sexual Self Concept Questionnaire (MSSCQ). The data was analysed using frequencies and percentages, One-way ANOVA, and multiple linear regressions.

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CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the results of the data collected from the field and a discussion of the results. The purpose of the study was to investigate how demographic factors, psychological distress and cognitive coping relate to sexual self-efficacy and whether sources of self-efficacy could predict sexual self-efficacy. The results are based on the 89 valid questionnaires out of the 91 distributed, representing 97.8% response rate. The results are presented in two parts. The first part presents the background information of the respondents, and the second part presents the main results based on the research questions and hypotheses.

Demographic Characteristics

This section presents the distribution of the respondents' personal characteristics, and other health-related characteristics. Table 1 presents the personal characteristics of the respondents.

Table 1- *Personal Characteristics of Respondents (n=89)*

Variable/sub-group	Frequency	Percentage (%)
Age		
31 – 40 years	24	27.0
41 – 50 years	59	66.3
51 years & above	6	6.7
Marital status		
Separated	1	1.1
Living with spouse	86	96.6
Divorced	2	2.2
Educational level		
None	1	1.1
Basic	24	27.0
SHS	45	50.6
Tertiary	19	21.3

Source: Field survey (2019)

From Table 1, majority 59 (66.3%) of the respondents were from the ages of 41 – 50 years, followed by 31 – 40 years, and the least 6 (6.7%) respondents were 51 years and above. This implies that, no survivor is 30 years or below, few of them are 51 years and above and majority of the respondents who are receiving cervical cancer treatment are between the ages of 31 and 50. This result is in agreement with the assertion that, cervical cancer is the most frequent cancer among women between the ages of 14 and 45 years (WHO, 2013).

In relation to marital status, vast majority (96.6%) of the respondents were married and living with their husbands, 1 (1.1%) was married but separated, and 2 (2.2%) of the respondents were divorced (see Table 1). It was further revealed that, the incidence of divorce happened less than three weeks from the time of data collection, but not as a result of their condition. From the results, it can be inferred that, majority of the respondents are still living with their partners despite the marital implication with regards to the disease, diagnosis, treatment and its

physical, medical, psychological and sexual effects on the survivors and the sexual partners.

With regard to the educational level of the respondents, half (50.6%) of the respondents had up to Senior High School education, followed by basic and tertiary level of education, while a respondent had no formal education (see Table 1). This may imply that most of the cervical cancer survivors had basic and SHS level of education. Table 2 presents the health-related information of respondents.

Table 2 - *Health-related Characteristics (n=89)*

Variable/sub-group	Frequency	Percentage (%)
Stage of cancer		
Stage 0	10	11.2
Stage 1	42	47.2
Stage 2	28	31.5
Stage 3	8	9.0
Stage 4	1	1.1
Treatment modalities		
Surgery only	6	6.7
Chemotherapy only	10	11.2
Radiotherapy only	7	7.9
Surgery & Radiotherapy	11	12.4
Surgery & Chemotherapy	46	51.7
Chemo-Radiation therapy	9	10.1
Time of diagnosis		
3 – 12 months	28	31.5
13 – 24 months	37	41.5
25 – 36 months	23	25.8
Time since treatment began		
3 – 12 months	29	32.6
13 – 24 months	39	43.8
25 – 36 months	18	20.2
Time treatment ended		
3 – 12 months	48	53.9
13 – 24 months	29	32.6
25 – 36 months	12	13.5

Source: Field survey (2019)

As presented in Table 2, majority of the respondents, 42 (47.2%) were at Stage 1 of cervical cancer, followed by Stage 2, 28 (31.5%), while the least of the Stages 3 and 4 were reported by respondents 8 (9.0%) and 1 (1.1%) respectively. This may imply that, cases of cervical cancer are diagnosed in early stages.

With regards to treatment modalities, little above half 46 (51.7%) of the respondents received surgery and chemotherapy, followed by surgery and radiation therapy 11 (12.4%), only chemotherapy 10 (11.2%), chemotherapy and radiation therapy 9 (10.1%) and few of the respondents had, however, undergone only radiation therapy 7 (7.9%) and only surgery 6 (6.7%) (see Table 2). This implied that, the commonest treatment modalities utilised on the survivors are surgery and chemotherapy and surgery was the least.

The results in Table 2 further showed that majority of the respondents were diagnosed of having cervical cancer between 13 – 24 months (second year after treatment) away from the time of data collection. It is then followed by "between 3 – 12 months" (first year after treatment), while the least was "between 25 – 36 months" (third year after treatment). This implied that 88 (98.9%) of the respondents were diagnosed within the three years and only 1 (1.1%) was diagnosed more than three years but the time since treatment began was within the three years.

Higher number (39) of respondents started treatment between 13 – 24 months, followed by "between 3 – 12 months", and the least respondents started treatment between 25 – 36 months (see Table 2). When the results of "time of diagnosis" are compared with "time since treatment began", the results indicated

that, 37 of the respondents were diagnosed "between 13 – 24 months" and 39 of them started treatment "between 13 – 24 months". What may account for this difference could be that some survivors could not raise the funds to start treatment immediately after diagnoses. Therefore, the lack of fund delays treatment for some survivors. This may prolong the time treatment may begin after diagnosis. Similar indications are applied to 3 – 12 months and 25 – 36 with regards to time of diagnosis and time treatment begins. This may imply that, cervical cancer treatments begin as soon as a survivor is clinically diagnosed of the disease but some survivors do not get the funds for the treatment to begin immediately.

In addition, the time the treatment ended was not left out. More than half of the respondents ended their treatment for cervical cancer between 3 – 12 months close to the time of the study. It is followed by between "13 – 24 and 25 – 36 months" (see Table 2). In comparison, 39 (43.8%) survivors of cervical cancer started treatment within 13 – 24 months, and more than half 48 (53.9%) of the respondents ended their treatment for cervical cancer within 3 – 12 months. This also means that, some of the survivors who started treatment between 13 – 24 months ended treatments not more than a year now. Based on the results of "time since treatment began" and "time treatment ended", there is clear indication that, it takes about six months or less to end treatment plan when diagnosis is made and treatment begins. Meanwhile clinical review continues which has no time limit because it is dependent on the survivor's ability to heal.

Main Results

This section presents the main findings. The results are presented in the order of the research questions, followed by the hypotheses.

Research Question 1: What sexual health challenges do survivors experience before and after diagnosis and treatment of cervical cancer?

This research question sought to determine the forms of sexual health challenges respondents encountered before they are diagnosed of cervical cancer, and sexual health challenges that ensued after the treatment of cervical cancer. Respondents were asked to indicate from among a number of health challenges, the ones they have and/or experiencing. Details of the results are presented in Table 3.

Table 3- *Sexual Health Challenges*

Experience	Before Diagnosis and Treatment		After Diagnosis and Treatment	
	F	%	*F*	%
Painful penetration	59	66.3	40	44.9
Fear for sex	42	47.2	45	49.4
Vaginal dryness	31	34.8	58	65.2
Vaginal bleeding	78	87.6	18	20.2
Vaginal tightness	32	36.0	53	59.6
Low sex drive	30	33.7	35	39.3
No sex drive	49	55.1	49	55.1
Unable to climax	23	25.8	22	24.7
Sexual dissatisfaction	42	47.2	29	32.6
No problem	3	3.4	7	7.9

Source: Field survey (2019)

As shown in Table 3, the general results showed that, vast majority 86 (96.6%) of the respondents experienced one or more sexual health challenges before diagnoses were made and majority 82 (92.1%) of the respondents also experienced at least one sexual health challenge after the treatment. The evidence supporting this assertion was indicated in the current results where handful, 3 (3.4%) and 7 (7.9%) of the respondents experience none of the sexual health challenges before and after the disease diagnosis and treatment respectively.

In relation to penetration during sexual intercourse as indicated in Table 3, more than half of the respondents experienced painful penetration, however, less than half of the respondent experienced painful penetration after diagnosis and treatment. This shows a reduction in the proportion of respondents experiencing painful penetration among respondents after being diagnosed and treated.

In addition, little less than half of the respondents experienced fear for sex, whereas, half of the respondents experienced fear for sex after receiving treatment. This shows an increase in the fraction of respondents entertaining fear for sex after being diagnosed and treated. This may imply that cervical cancer survivors may perhaps experience fear for sex due to the abnormal vaginal changes, pains, recurring of the disease and probably an injury on the treatment area.

Further, prior to respondents being diagnosed as presented in Table 3 above, few of the respondents experienced vaginal dryness, whereas, more than half of the respondents experienced vaginal dryness after receiving treatment. This result disclosed a great increase in the proportion of respondents

experiencing vaginal dryness after treatment. This may imply that the disease together with the various treatment modalities when meted on survivors may possibly cause hormonal changes leading to vaginal dryness.

In reference to Table 3, a vast majority of the respondents experienced vaginal bleeding before diagnosis, however, this number reduced after treatment. This showed a vast reduction in the ratio of respondents experiencing vaginal bleeding after diagnosis and treatment. This can be inferred that cervical cancer treatment could reduce or stop vaginal bleeding of cervical cancer survivors.

Vaginal tightness was low before diagnosis and treatment but increased afterwards as indicated in Table 3. Preceding the diagnosis of the respondents, a handful of the respondents experienced vaginal tightness. In contrast, more than half of the respondents experienced vaginal tightness after receiving treatment. The current finding revealed a rise in the proportion of respondents experiencing vaginal tightness among respondents after treatment. This may imply that the disease together with the various treatment modalities may increase the incidence of vaginal tightness among cervical cancer survivors.

As indicated in Table 3, however, low sex drive, no sex drive and unable to climax have very minimal differences with regards to sexual health challenges before and after treatment. Few of the respondents experienced low sex drive before diagnosis and treatment but in addition to this, five more respondents further experienced low sex drive after treatment. This may imply that both the disease and the treatments lead to low sex drive among few cervical cancer survivors. Surprisingly, the same number of respondents experienced no sex drive

before and after treatment. Since more than half of the respondents reported this and the results too are the same, it may imply that the disease and the treatment modalities cause the same "no sex drive" challenges among above half of the respondents. Moreover, sexual climax is the ultimate stage of the sexual cycle. Few of the respondents were unable to reach the sexual climax before and after diagnosis and treatment. The result is reduced by only one respondent after treatment. This may imply that one-quarter of the respondents were not able to reach the climax of sex either before or after the disease diagnosis and treatment.

More so, close to half of the respondents experienced sexual dissatisfaction before diagnosis and treatment but far less than half of the respondents experienced sexual dissatisfaction after diagnosis and treatment. This shows a reduction in the proportion of respondents experiencing sexual dissatisfaction among respondents after being diagnosed and treated. This may imply that treatment modalities reduce sexual dissatisfaction among cervical cancer survivors.

Research Question 2: Who do the cervical cancer survivors communicate to about their sexual health challenges?

The research question sought to determine whom cervical cancer survivors communicate to about their sexual health challenges. Respondents were asked to choose one from the options (sexual partners, relatives, friends, and health professionals) whom they mostly discussed their sexual dysfunctions with. To achieve this, frequencies and percentages were employed to analyse the question. This is to ascertain the conception in literature about the difficulties in the

discussion of sexual health challenges with health professionals. The results are presented in Table 4.

Table 4- *Whom Respondents Share Sexual-related Challenges with*

Response	Frequency	Percentage (%)
No one	6	6.7
Relatives	10	11.2
Friends	8	9.0
Husband/boyfriend	60	67.4
Health providers	5	5.6
Total	89	100.0

Source: Field survey (2019)

As indicated in Table 4, vast majority of the respondents mostly discuss cervical cancer sexual related challenges with their husband/boyfriend, followed by relatives, and friends. Few 6 (6.7%) of the respondents discuss it with no one. The least of whom respondents discuss sexual challenges with are the health professionals. Majority of the respondents 60 (67.4%) discuss their sexual challenges with their sexual partners. This may imply that the discussion was initiated due to the sexual challenges the survivors faced or the physical vaginal changes the sexual partners encountered before or after sexual contact. Relatives and friends were also contacted for the discussion. This may imply that due to the close relationship and attachment that exist among them, survivors tried to share their sexual challenges. Few of the respondents neither discuss their sexual challenges with sexual partners, relatives/friends nor professionals. This may

imply that the survivors either have no sense or feeling of sexuality or they have no confidence to share it with people. Instead, they remain quiet and suffer in silence. Meanwhile, the health professionals who have to initiate and implement programs and strategies that can help the cervical cancer survivors to curb down sexual health challenges were the least of whom respondents discuss sexual challenges with. This means that the health professionals scarcely discuss sexual challenges with cervical cancer survivors.

Research Question 3: How does the age of the cervical cancer survivors relate to sexual self-efficacy among cervical cancer survivors?

This research question sought to determine the influence of respondents' age on their level of sexual self-efficacy. Data collected on this research question were analysed using one-way between groups analysis of variance (ANOVA). The criterion variable was respondents' score on sexual self-efficacy. The predictor variable was age of respondents, which was categorical with three levels: 31 – 40 years, 41 – 50 years, and 51 years or more. Prior to the analysis, normality assumption was checked to determine whether the data was normally distributed across the levels of the predictor variable. The results are presented in Table 5

Table 5- *Tests of Normality*

		Kolmogorov-Smirnov		
	Age	Statistic	Df	Sig.
Sexual self-efficacy	31-40yrs	.167	24	.083
	41-50yrs	.204	59	.000*
	51+yrs	.233	6	.200

*Significant, $p < .05$

From Table 5, the results of the Kolmogorov-Smirnov test show that data on sexual self-efficacy was normally distributed among respondents within the age groups of 31 – 40 years, and those from 51 years or more. However, in the case of respondents from the age group of 41 – 50 years, it suggests violation. Even though this result (41 – 50 years) suggests a violation of normality assumption, further examination of the normal Q-Q plot suggests otherwise. In addition, a comparison of the mean (20.81) and the 5% trimmed mean (21.11) were approximately the same (see Appendix C). Based on these, it can be said that the data was normally distributed across all the age groups. Further, homogeneity of variance assumption was tested, and the result showed a violation of the assumption.

Following the violation of the homogeneity assumption, Welch test instead of ANOVA was performed. Table 6 presents the results.

Table 6 - *Robust Tests of Equality of Means*

	Statistic[a]	df1	df2	Sig.
Welch	1.540	2	12.299	.253

a. Asymptotically F distributed.

As shown in Table 6, there is no statistically significant difference in the level of sexual self-efficacy with respect to age of the respondents as indicated by Welch test. These results imply that among cervical cancer survivors, their level of sexual self-efficacy is the same, irrespective of their age differences. Based on these results, it can be said that age of cervical cancer survivors does not determine their level of sexual self-efficacy.

Research Question 4: What influence does the ‘‘time since treatment began’’ have on sexual self-efficacy of cervical cancer survivors?

The research question sought to determine the influence of time since respondents started treatment of cervical cancer on their level of sexual self-efficacy. The criterion variable was respondents’ score on sexual self-efficacy scale, which was measured on continuous basis. The predictor variable, time since treatment began, was measured categorically, with three levels: 3 – 12 months, 13 – 24 months, and 25 – 36 months. One-way ANOVA test was performed to compare the mean scores of sexual self-efficacy with respect to the time respondents started treatment. As a prerequisite for conducting one-way ANOVA normality of the data was checked (see Table 7).

Table 7- *Normality Tests*

	Commencement of treatment	Kolmogorov-Smirnov[a]		
		Statistic	Df	Sig.
Sexual self-efficacy	3 - 12months	.232	29	.000*
	13 - 24months	.249	39	.000*
	25 - 36months	.195	18	.069

*Significant, $p < .05$

As indicated in Table 7, the data on sexual self-efficacy was not normally distributed among respondents who received treatment from 3 – 12 months and 13 – 24 months. The data was, however, normally distributed among respondents who received treatment from 25 – 36 months. Upon visual examination of the normal Q-Q plots for 3 – 12 months and 13 – 24 months, the distribution was

normally distributed. In addition, the mean and 5% trimmed mean of sexual self-efficacy were approximately the same and this suggests that the distribution was normally distributed (see Appendix D).

Having met the normality assumption, the homogeneity of variance assumption was checked, and the result shows non-violation of homogeneity of variance assumption. Based on this, one-way ANOVA test was performed. Table 8 presents the ANOVA result.

Table 8- *ANOVA Test for Differences in Time Since Treatment Began on Sexual Self-Efficacy*

	Sum of Squares	Df	Mean Square	*F*	Sig.
Between Groups	22.272	2	11.136	.863	.425
Within Groups	1070.577	83	12.899		
Total	1092.849	85			

From Table 8, there is no statistically significant difference in the level of sexual self-efficacy among cervical cancer survivors, $F(2, 83) = .86$, $p = .425$. The result implies that cervical cancer survivors equally have the same level of sexual self-efficacy, irrespective of the time they started treatment. It can therefore be said that time since treatment began has no influence on their level of sexual self-efficacy. Based on the current results, it could be explained that survivors have the same level of sexual self-efficacy regardless of the time they started treatment.

Hypothesis 1

***H_0:* There will be no significant relationship between psychological distress and sexual self-efficacy of cervical cancer survivors.**

***H_1:* There will be significant relationship between psychological distress and sexual self-efficacy of cervical cancer survivors.**

Hypothesis 2

***H_0:* There will be no significant relationship between cognitive coping and sexual self-efficacy of cervical cancer survivors.**

***H_1:* There will be significant relationship between cognitive coping and sexual self-efficacy of cervical cancer survivors.**

These hypotheses sought to determine the influence of psychological distress and cognitive coping on sexual self-efficacy among cervical cancer survivors. These hypotheses were tested using standard multiple linear regression analysis. The predictor variables were respondents' score on psychological distress and cognitive coping scales. The criterion variable was scores on sexual self-efficacy. Prior to this analysis, assumptions such as normality, linearity, homoscedasticity, multicollinearity, and independence of residuals were adhered to. Tables 9 and 10 present the results on the hypothesis.

Table 9 - *Overall Model for Psychological Distress, Cognitive Coping, and Sexual Self-efficacy*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.336	.113	.092	3.408	1.951

$F(2, 84) = 5.36$, $p = .006$

From Table 9, the Durbin's Watson (d = 1.95) shows there was no autocorrelation, since it was greater than 1.4 but less than 2.4. The model containing psychological distress, cognitive coping, and sexual self-efficacy was statistically significant, $F(2, 84) = 5.36$, $p = .006$. The model explained 11.3% of the variance in sexual self-efficacy. Table 9 presents the regression coefficients of the predictors.

Table 10 - *Influence of Psychological Distress and Cognitive Coping on Sexual Self-efficacy*

	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Toler.	VIF
(Constant)	20.925	2.457		8.515	.000		
Psychological distress	-.145	.052	-.296	-2.796	.006*	.944	1.059
Cognitive coping	.060	.061	.105	.997	.322	.944	1.059

*Significant, $p < .05$

From Table 10, there was no multicollinearity since the VIFs were less than 10. As shown in the table, while controlling for cognitive coping, psychological distress was found to be a significant predictor of sexual self-efficacy, β = -.30, $p = .006$. The result implies that a standard deviation increase in psychological distress would lead to .30 standard deviation unit decrease in sexual self-efficacy. This shows a negative relationship between psychological distress and sexual self-efficacy. This result mean that as cervical cancer survivors become more distressed psychologically, their sexual self-efficacy diminishes.

Based on the findings, the null hypothesis that "There will be no significant relationship between psychological distress and sexual self-efficacy of cervical cancer survivors", is rejected in favour of its alternative hypothesis.

To affirm the results, the researcher went further to find the number of respondents with regard to level of psychological distress and sexual self-efficacy. The researcher adopted a set of cut-off scores for the levels of psychological distress by Victorian Population Health Survey (2001) that was used as a guide for screening for psychological distress. These levels are outlined below: 10 - 19 likely to be well, 20 - 24 likely to have a mild disorder, 25 - 29 likely to have a moderate disorder and 30 - 50 likely to have a severe disorder. The results are presented in Tables 11 and 12.

Level of psychological distress

This section presents the levels of psychological distress among cervical cancer survivors. Table 11 presents the details.

Table 11 - *Level of Psychological Distress*

Level	Score Range	Frequency	Percentage (%)
Well	10 – 19	4	4.5
Mild	20 – 24	10	11.2
Moderate	25 – 29	7	7.9
Severe	30 – 50	68	76.4
Total		89	100.0

Source: Field survey (2019)

From Table 11, a vast majority 68 (76.4%) of the respondents were psychologically distressed severely, followed by mild and moderate, while few, 4 (4.5%) were psychologically well. The results imply that respondents have

psychological distress. This can be said that cervical cancer and its treatments modalities pose severe psychological distress to many survivors that affect their sexual self-efficacy.

The researcher further determined the level of the sexual self-efficacy in order to ascertain the number of survivors who have very low, low, high or very high sexual self-efficacy since majority of the survivors had severe psychological distress.

Level of sexual self-efficacy

The levels of sexual self-efficacy among respondents were determined by the researcher based on the sexual self-efficacy scale. The scale contains 5 items which are measured on five Likert scale. This scale is scored on the ranges from 5 to 25. In order to create levels of the subscale scores, items on the subscale were averaged, so the higher scores corresponded to greater level and lower scores denote low level of sexual self-efficacy. The results are presented in Table 12.

Table 12 - *Level of Sexual Self-efficacy*

Level	Score Range	Frequency	Percentage (%)
Very low	5 – 10	3	3.4
Low	11 – 15	56	62.9
High	16 – 20	29	32.6
Very high	21 – 25	1	1.1
Total		89	100.0

Source: Field survey (2019)

As shown in Table 12, majority of the respondents experienced low level of sexual self-efficacy and three of the respondents experienced very low level of sexual self-efficacy. The results showed that more than half of the respondents

lacked sexual self-efficacy. However, few experienced high and very high level of sexual self-efficacy. This can be implied that despite the majority experiencing low and very low sexual self-efficacy, there was high proportion of survivors who have their sexual self-efficacy intact.

Based on the results on the levels of psychological distress and sexual self-efficacy, it is revealed that psychological distress is a significant predictor of sexual self-efficacy. Evidentially, majority of the respondents are severely distressed and more than half of the survivors have low sexual self-efficacy.

Based on the results, the null hypothesis for Hypothesis 1, which states that "There will be no statistically significant relationship between psychological distress and sexual self-efficacy among cervical cancer survivors", was rejected in favour of the alternative hypothesis. It can therefore be said that when cervical cancer patients become more distressed psychologically, their sexual self-efficacy would reduce.

The results (see Table 10) further showed no statistically significant influence of cognitive coping on sexual self-efficacy, $\beta = .11$, $p = .322$. The result implies that a standard deviation increase in cognitive coping leads to .11 standard deviation unit increase in sexual self-efficacy, while controlling for psychological distress. This prediction was however not significant. This result implies that cognitive coping does not influence cervical cancer survivors' sexual self-efficacy.

From the findings of this study, the researcher failed to reject or accepted the null hypothesis of Hypothesis 2, which states that "There will be no

statistically significant relationship between cognitive coping and sexual self-efficacy among cervical cancer survivors". It can be said from the finding that, among cervical cancer patients, their cognitive coping does not determine their level of sexual self-efficacy.

Hypothesis 3

***H_0:* There will be no significant influence of the ''sources of self-efficacy'' on the sexual self-efficacy of cervical cancer survivors.**

***H_1:* There will be significant influence of the ''sources of self-efficacy'' on the sexual self-efficacy of cervical cancer survivors.**

This hypothesis sought to determine the influence of sources of self-efficacy on the sexual self-efficacy of cervical cancer survivors. The predictor variable was sources of self-efficacy, which has four dimensions: mastery performance, vicarious experience, verbal/social persuasion, and physiological/emotional state. These were measured on continuous basis. The criterion variable was sexual self-efficacy, and this was also measured on continuous basis. This hypothesis was tested using simultaneous multiple linear regression analysis. There was no violation of linearity, and homoscedasticity (see Appendix E). The results are presented in Tables 13 and 14.

Table 13- *Overall Model for Sources of Self-efficacy and Sexual Self-efficacy*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.434[a]	.188	.145	3.27832	1.678

$F(4, 75) = 4.34$, $p = .003$

From the Durbin-Watson's test as presented in Table 13, there was no autocorrelation. The model was statistically partially significant, $F(4, 75) = 4.34$, $p = .003$. The model explained 18.8% of the variance in sexual self-efficacy. Table 14 presents the regression coefficients of each of the dimensions of sources of sexual self-efficacy.

Table 14- *Influence of Sources of Self-efficacy on Sexual Self-efficacy*

	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Toler.	VIF
(Constant)	8.046	3.071		2.620	.011		
Mastery performance	.235	.128	.269	1.830	.071	.503	1.989
Vicarious experience	.066	.137	.062	.480	.633	.652	1.534
Verbal persuasion	.279	.106	.438	2.621	.011*	.387	2.583
Physiological state	.364	.106	.585	3.427	.001*	.371	2.692

*Significant, $p < .05$

As shown in Table 14, there was no multicollinearity among the predictor variables since all the VIFs were below 10. The results showed statistically partial influence. Among the dimensions of sources of sexual self-efficacy, verbal persuasion and physiological/emotional state were the only significant predictors of sexual self-efficacy. The results imply that a unit increase each in verbal persuasion and physiological/emotional state, sexual self-efficacy would improve by .44 and .59, respectively. The results further showed no statistically significant influence of mastery performance and vicarious experience (see Table 14).

From the results, it can be said that two out of the four dimensions (verbal persuasion and physiological/emotional state) of sources of sexual self-efficacy have a positive relationship with sexual self-efficacy. However, the relationship was not significant for mastery performance and vicarious experience. Based on the findings, the null hypothesis (there will be no significant influence of the ‘‘sources of self-efficacy’’ on the sexual self-efficacy of cervical cancer survivors) and the alternative hypothesis (there will be significant influence of the ‘‘sources of self-efficacy’’ on the sexual self-efficacy of cervical cancer survivors) were partially supported.

Table 15- *Summary of Main Findings*

Research Questions
1: Most common sexual health challenges include painful penetration, fear for sex, dryness, bleeding and tightness of the vagina, low and no sex drive, unable to reach climax and sexual dissatisfaction.
2: Survivors mostly discussed cervical cancer sexual related challenges with sexual partners followed by their relatives and least is the health professionals.
3. Cervical cancer survivors had the same level of sexual self-efficacy irrespective of their age differences.
4. Cervical cancer survivors equally had the same level of sexual self-efficacy, regardless of the time they started treatment
Hypotheses
H_1: There was significant statistical negative relationship between psychological distress and sexual self-efficacy.
H_2: There was no significant relationship between cognitive coping and sexual self-efficacy of cervical cancer survivors.
H_3: There was a partially positive relationship between the sources of self-efficacy and sexual self-efficacy.

Discussion of Research Findings

Sexual self-efficacy is one's beliefs in his/her ability to handle a sexual context well. Sexuality is one of the indicators of quality of life because it influences thoughts, feelings, actions, social integration and therefore, physical and mental health. However, demographic factors and cervical cancer treatments can lead to significant late adverse effects, such as sexual dysfunction. Nevertheless, effective coping mechanism and predictors of self-efficacy may bring about sexual self-efficacy. The study investigated how demographic factors, psychological distress and cognitive coping can relate to sexual self-efficacy and to determine whether sources of self-efficacy could predict sexual self-efficacy. The research findings of the current study are presented and discussed in this section in accordance with the various research questions and the hypotheses.

Health-related demographic characteristics

As presented in Table 2, majority of the respondents were at Stage 1 of cervical cancer, followed by Stage 2, while the least of the stages reported by the respondents were Stages 3 and 4. The result shows that only few of the respondents were diagnosed at the advanced stages (III and IV). The results are not in agreement with the study conducted in Ghana by Duda et al. (2005), which revealed that most women infected in Ghana are mostly diagnosed at the advanced stages (Stages III-IV). This may imply that education, awareness creation and screening for cervical cancer may perhaps be making some impacts in the life of Ghanaian women for early detection, diagnosis and treatment.

With regard to treatment modalities, little above half of the respondents received surgery and chemotherapy, followed by surgery and radiation therapy, only chemotherapy, chemotherapy and radiation therapy and few of the respondents had, however, undergone only radiation therapy and only surgery (see Table 2). This result supports the findings of a study done by Pelkofski et al. (2016) which disclosed that, standard treatment for cervical cancer ranges from surgery, radiation therapy and chemotherapy or a combination of any of the three. Literature suggests that standard surgical treatments are for early cervical cancer (e.g. stage I – II). Radiation therapy is as effective as surgery at eradicating the disease for early stage (0-II) of cervical cancer. For women with more advanced cervical cancer stage (II-IV), radiation combined with chemotherapy is considered the most effective treatment. Radiation was thought to be associated with significantly more sexual dysfunction compared to surgery and chemotherapy (Donovan et al., 2007). It is said in the literature that sexual problems seem to be worse and longer lasting when treatment modalities are combined, particularly with radiation therapy (Frumovitz et al., 2005; Mouga, 2002).

Sexual health challenges

Generally, the most prevalent/common sexual health challenges experienced by cervical cancer survivors before and after diagnosis and treatments were found to be painful penetration, fear for sex, vaginal dryness, bleeding and tightness, low and no sex drive, inability to reach climax and sexual dissatisfaction. It was also found that, vast majority of survivors reported to have experienced more than one challenge. These current results are in accordance with

the results of many studies reporting that at least one sexual health challenge is experienced by the survivors.

For instance, the findings is in support of a study conducted by Tzung-Yi et al. (2011) which revealed that every cervical cancer survivor suffers at least one or two sexual dysfunctions before and after treatment. Baser, Li and Carter (2012) who aimed at determining sexual health problems among cervical cancer survivors indicated that, out of 152 cervical cancer survivors who took part in a study after six months to 18 months after treatment, 64% reported vaginal dryness, 59% had vaginal shortness, 80% reported severe pain during sex and 53% and 41% of the them had low and no sex drive respectively. Advancing the argument, many researchers affirmed that, offensive vaginal discharge and bleeding as well as other vaginal changes such as vaginal dryness and atrophy and no or low sex drive are experienced by women with cervical cancer (Abbott-Anderson et al., 2012; Lammerink et al., 2012; Maree et al., 2013; Salani, 2013).

This means that every survivor of cervical cancer suffers at least one or more sexual health challenges either before or after diagnosis and treatment.

Sexual health communication

The results revealed that majority of the respondents mostly discuss cervical cancer sexual related challenges with their husband/boyfriend, relatives and friends while the least of whom respondents discuss sexual challenges with is the health professionals. This is in agreement with the conception in literature that there are difficulties in discussing sexual health challenges with health professionals. These results are in accordance with the results of many studies

which indicated that it is possible that health professionals in the health sector are affected by the cultural restrictions, moral values and religious doctrine regarding issues of sexuality in Africa.

The results of this study is in accordance with studies conducted by Abbott-Anderson et al. (2012) which revealed a lack of information following cervical cancer treatments; Hammond et al. (2007) whose study also revealed persistent unanswered post treatment questions and Hendren et al. (2005) whose results affirmed that, there is little direct discussion with doctors about sexual challenges. Similar result was revealed by Bober et al. (2009) where it indicated barriers to communication as lack of time and lack of preparation by health professionals to discuss sexuality with survivors. Schover et al. (2014) study is in agreement with the current findings where sexual dysfunction is a common consequence but sexual assessment and/or counselling are not routinely provided to oncology patients for several reasons. It was found in the same study that, majority of the women wanted to discuss sexual matters but could not ask questions because they feared rejection or thought the setting was inappropriate for such discussion.

These research findings as well as the current study may imply that when sexual problems go unaddressed, survivors can interpret this to mean that sexual dysfunction falls in the category of treatment-related collateral damage that must be endured and so they suffer in silence.

In contrast to the above assertions, studies conducted by Schofield et al. (2016) and Zachariae et al. (2003) assert that if sexual health communication is

done, it brings about strong patient-clinician relationships, validation of emotions, acknowledgment, understanding and tolerance of uncertainty. Zachariae et al. (2003) added that patient-clinician communication may contribute directly or indirectly to a number of sexual health outcomes and benefits. Abbott-Anderson et al. (2012) indicated that sexuality is not spoken about in some jurisdiction within the family, sexual education is not included in the health and education services and sexual myths are accepted as shame and sinful by individuals.

Some studies proved the benefits of sexual health communication to patients while others revealed that sexual health communication is not accepted and allowed in some jurisdictions. However, the mixed findings indicated that if discussion and programs are initiated and implemented about sexual functioning, they would be welcomed by cervical cancer survivors if conducted in a sensitive and approachable manner.

Influence of age difference on sexual self-efficacy

The findings from this study also found that there is the same level of sexual self-efficacy among the survivors regardless of the differences in their age. This can be inferred that, increase in age of cervical cancer survivors does not influence or relate to their level of sexuality. This means that cervical cancer survivors aged from 30 and above would have no difference in the level of sexual self-efficacy during the disease, diagnosis and treatments. In relation to the age differences with regards to sexual self-efficacy, few studies have been done to explore the influence of age on sexuality.

This finding contradicts the findings of the study conducted by Thulaseedharan et al. (2012) which asserts that, young women struggle with the disease and treatment's distress which affect their sexual self-efficacy since there are no communication between clinicians and survivors and no systematic approach to psychological sequalae. A similar finding from a study by Carpenter et al. (2009) is in disagreement with the current results which indicated that survivor's distress and sexuality differed by age. The result indicated that younger survivors were more psychologically distressed with no and low sexual drive because of the challenges the disease and its treatment modalities posed to their quality of life and sexual life. However, validation of the age-related reaction to sexuality was not only unique to cervical cancer survivors. A study conducted by Papadakos et al. (2012) found a similar age-related reaction with breast and endometrial cancer survivors. Results from the study indicated that differences were indeed present and younger women reported significantly worse sexual adaptation than older women.

It can be inferred based on the evidence in literature that age was a dependent prognostic factor for survival in cervical cancer, though age clearly impacted cervical cancer outcomes for some women. Based on the same evidence, younger women suffer sexual dysfunction than older women. This may imply that, either the distresses leading to sexual dysfunction or the sexual self-concepts itself decreases as the affected women aged.

Influence of time since treatment began on sexual self-efficacy

Considering the findings for research question four, it was concluded that, cervical cancer survivors equally have the same level of sexual self-efficacy, irrespective of the time they started treatment. It can therefore be said that time since treatment began has no influence on survivors' level of sexual self-efficacy. This may perhaps be explained that, because survivors were diagnosed and treated within three years and still have their review in the same health facility, they could be psychologically traumatised due to the routine clinical activities they still engage in. These results are in accordance with the results of many studies which indicate that, sexuality is affected by the time survivor started treatments.

The result of this study is in accordance with a study conducted by Greimel et al. (2009) who compared breast cancer patients with cervical cancer patients. The results indicated that though breast cancer patients had significantly higher quality of life scores during active treatment, cervical cancer patients experienced prolonged troublesome morbidity with treatment. Similarly, the result from a comparison study between women with endometrial cancer and cervical cancer conducted at three-time intervals by Lalos and Eisemann (1999) is in agreement with the current results. The results indicated that the women with cervical cancer reported significantly more psychosexual symptoms during the six months to two years after treatment.

Contrary to this study, a key finding from a quantitative longitudinal study with cervical cancer survivors up to 2 years post completion of radiotherapy conducted by Jensen et al. (2003), indicated that about 60.9% of the respondents

reported an increase in sexual interest, 62.5% reported an upsurge in vaginal lubrication at 12 months post treatment and 45% of women were able to adjust and occasionally able to complete sexual intercourse with arousal and organism. Grover (2012) asserted from a study that treatment of cervical cancer and its psychological distresses are markedly improved as time progresses coupled with adaptation and coping.

Relationship between psychological distress and sexual self-efficacy

In hypothesis one, it was proposed that, there is a significant relationship between psychological distress and sexual self-efficacy. This hypothesis was supported. The result shows a negative relationship between psychological distress and sexual self-efficacy. This result means that cervical cancer survivors experience numerous psychological distresses; hence, when survivors become more psychologically distressed, their sexual self-efficacy would reduce. This may perhaps imply that survivors of chronic illnesses will suffer sexual health challenges due the associated psychological distress.

The findings however, is in agreement with that of Satin, Linden and Phillips (2009) who found that psychological distress is found as a predictive factor of sexual dysfunction and mortality in cancer patients. Similarly, a result from a study conducted by Ros and Espuña (2013) revealed that cervical cancer treatments have adverse psychological effects that have direct effects on one or more of the sexual response phases (desire, arousal/excitement and orgasm) which led to low sexual self-efficacy. Van de Klundert et al. *(*2007) also found that the diagnosis and treatment of gynaecological cancers among women have

resulted in the reduction of sexual desires, satisfaction and efficacy. To buttress these findings of psychological distress leading to reduction in sexual self-efficacy, Fernandes and Kimura (2010) disclosed that due to the disease and treatments' distress, most survivors lack interest in sexual activities, paid very little or no attention to sexual activity, entertain fear of engaging in sex and feeling less sexually attractive. The finding of Wensel et al. (2005) was consistent with the current result that asserted that survivors were not sexually active due to psychological distress. The findings of a study by Liavaage et al. (2008) is similar to the current result, that survivors experience loss of libido due to the pain and fear they entertain that sex would worsen their condition and prolong their treatment plan.

Indeed, psychological distress (depression and anxiety) from cervical cancer and its treatment modalities are related factors that affect survivors' intimacy and sexuality.

Relationship between cognitive coping and sexual self-efficacy

The hypothesis two aimed at examining the relationship between cognitive coping and sexual self-efficacy among cervical cancer survivors. The results showed no statistically significant relationship between cognitive coping and sexual self-efficacy. This result implies that cognitive coping does not influence cervical cancer patients' sexual self-efficacy. Based on the results it can be inferred that cervical cancer survivors do not use their thoughts to cope with the distresses and to have sexual self-efficacy. This may imply that cognitive coping plays no role in the life of survivors with regards to sexual self-efficacy among

survivors above 30 years, diagnosed and treated within three years. No previous study is in agreement with the current study that explored and found that there is no relationship between cognitive coping and sexual self-concepts.

Furthermore, the insignificant of the results may perhaps be attributed to the facts that, survivors were experiencing some form of fear before treatment review, stressed up, tired and/or were in hurry to go home during the data collection. These factors could influence the results being insignificant. It could also be attributed to the conception of African norms and values with regards to the discussion of sexual related issues with third parties.

The findings however, is inconsistent with a study conducted by Taylor et al. (2007) which revealed that cognitive coping aids patients to deal with the challenges and distresses at stake and could be capable enough to assist survivors' abilities to adjust and respond to sexual related activities. Henselmans et al. (2010) conducted a study on breast cancer survivors which revealed that, a strong sense of cognitive coping before diagnosis protected women from distress after the treatment. The study again revealed that women with a low sense of control appraised cancer and coping skills more negatively, which probably made them more vulnerable to distress leading to sexual difficulties. Advancing the argument of cognitive coping influencing behaviour, Ramirez-Maestre, Esteve, and Lopez (2008) findings confirmed that participants who engaged in passive cognitive coping tend to show higher pain intensity, greater impairment to sexuality, and low levels of functioning, whereas those engaged in high levels of active cognitive coping tend to have higher daily functioning and high sexual interest.

The findings in the literature indicated that cognitive coping is possible in patients with diverse cancer sites including cervical cancer and chronic illnesses.

Influence of "sources of self-efficacy'' on sexual self-efficacy

This hypothesis sought to determine the influence of sources of self-efficacy on the sexual self-efficacy of cervical cancer patients. Among the dimensions of sources of sexual self-efficacy, verbal persuasion and physiological/emotional state were the only significant predictors of sexual self-efficacy, while the results further showed no statistically significant influence of mastery performance and vicarious experience. It can be said that half of the dimensions of sources of sexual self-efficacy have a positive relationship with sexual self-efficacy.

The overall results of the regression model of the current study is in accordance with the study conducted by Bandura (2004) which asserted that many researchers have employed a number of analytic techniques to investigate the sources of self-efficacy and their correlates, their causal influence, their multidimensionality and the contextual factors moderate them in regards to performance and achievement. This implied that sources of self-efficacy could predict sexual self-efficacy among cervical cancer survivors.

Verbal persuasion and physiological/emotional state were the only significant predictors of sexual self-efficacy. The findings of the current study is in accordance with the study by Gregoire (2003) who concluded that, people judging their own capabilities rely partly on information conveyed by their physiological and emotional states. Bandura (1997) also affirmed that individuals

learn to interpret their physiological arousal as an indicator of personal competence by evaluating their own performance under different conditions. Similarly, Golbasi and Erenel (2012) postulated from a study in line with the current result that, increasing individuals' physiological and emotional well-being and reducing negative emotional states strengthen and reinforce sexual self-efficacy beliefs, arousal and satisfactions. This can be concluded that having high physiological/emotional state influences survivors' sexual self-efficacy.

These results are in accordance with the results of many studies reporting verbal and social persuasions that individuals receive from significant others influence survivors' sexual self-efficacy. For instance, a study conducted by Bandura (2004) revealed that encouragement, praise and inspirations from parents, teachers, clinicians, husbands/partners and peers whom people trust can boost people's confidence in their sexual capabilities. In similar regards, the results of Lent et al. (1991) confirmed that social persuasions in educational settings moderate a strong association between social persuasion and high capability and achievement.

This can be inferred that, it is easier to sustain a sense of self-efficacy, especially in times of difficulty, if significant others express faith in one's capabilities than if they convey doubts. Moreover, verbal and social persuasion can bolster self-change if the positive appraisal promotes greater effort in the development of skills that will subsequently lead to a stronger sense of sexual self-efficacy.

The findings that indicated no statistically significant influence of mastery performance and vicarious experience, however, are inconsistent with many studies. Bandura (1997) found from a study that the most influential source of self-efficacy is personal mastery experiences. Arslam (2012) also found similar contradicting results to the current results. He indicated that successes build a robust belief in one's efficacy, especially when success is achieved early in learning with few setbacks. Usher and Pajares (2006) confirmed that mastery experience is the most powerful source of self-efficacy.

Mastery experiences prove particularly powerful when individuals overcome obstacles or succeed on challenging tasks by their sexual efforts. In conclusion, if people believe that their efforts have been successful, their confidence to accomplish similar or related tasks is raised, and when they believe that their efforts failed to produce the effect desired, confidence to succeed in similar endeavours is diminished. This can be said that survivors do not consider their experience in sexuality due to numerous psychological and physical traumas from the disease and its treatment modalities.

Vicarious experience which means getting one's efficacy beliefs and capabilities through watching or observing others performing similar tasks has no significant influence on sexual self-efficacy in this study. Based on the results, it can be explained that, cervical cancer survivors do not watch pornographic materials (on televisions, phone, computer or pictures) for sexual self-efficacy and do not discuss sexual tactics with colleagues. Again, survivors do not use their sexual partner as a remodel and take no encouragement from colleagues and

partners. Also, they do not teach survivors how to enjoy sex without fear or panic and pain. The absence of these activities leads to low or no sexual self-efficacy.

In contradiction, some researchers also found that vicarious experience predicts self-efficacy. Pajares and Urdan (2006) discovered a result from a study that revealed that, vicarious information gained from others perceived to be similar in ability yields the most influential comparative information. However, the experiences of those perceived as having similar attributes (e.g., age, gender, health status or condition) are often powerful sources of self-efficacy information for good life achievements. Similar study by Bandura (2004) revealed that, although vicarious experiences often occur between every day associates such as mates, colleague patients or family members, the role of television and other mass media have symbolic models that increase one's sexual self-efficacy when watched continuously.

Explaining the findings in light of the Theoretical Frameworks underlying the Study

The theoretical framework underlying this study was based on Roy and Andrews' sexual health adaptation theory and Bandura's self-efficacy theory. These frameworks served as a blue print and provided a clear explanation and structure for the study.

In reference to sexual health adaptation theory by Roy and Andrews (1999), sexual environmental stimuli including cervical cancer treatment modalities, age, time since treatment began, and lack of sexual health discussion initiate many psychological distresses and dysfunctions. The results were in

accordance with the theory that stated that sexual health problems result from most of the available treatment options and are capable of initiating multiple reactions and more stresses to the patients in a form of physical, physiological and psychosexual, or combination of all (Roy, 2009). These results are in accordance with the concepts of the theory, which states that environmental stimuli cause distress and discomfort. In effect, cognitive adaptation process was noted to effect positive relationship between stressors and sexual self-concepts but the study revealed no relationship. This result is inconsistent with the theory. In addition, the theory also indicated survivors' ability to handle sexual activities through coping process in the midst of stressors, meanwhile, the deficiency in cognitive coping skills increases the vulnerability to psychological distress (depression and anxiety) leading to sexual dysfunctions specifically, lack of sexual self-efficacy.

In relation to self-efficacy theory by Bandura (1997), self-efficacy results from some primary sources that include mastery of performances, vicarious learning, social persuasion and physiological/emotional states from which people partly judge their abilities, strength and vulnerability to dysfunction. The overall results of the regression model of the current study is in accordance with the study conducted by Bandura (2004) which revealed the correlation, the causal influence, their multidimensionality and the contextual factors which predict sexual self-efficacy. The results may imply that in the absence of utilisation of cognitive coping strategies, survivors use sources of self-efficacy specifically, social persuasion and physiological state to cope and manage their sexual issues.

Chapter Summary

This chapter presented the results of the data collected from the field, and the discussion of the results. The results were presented in two parts. The first part presents the background information of the respondents including the distribution of the respondents' personal characteristics, and other health-related characteristics. The second part presents the analyses and discussions of the main findings based on the research questions and the hypotheses. The study revealed that, cervical cancer survivors experienced sexual health challenges before and after diagnosis and treatment, psychological distress affected sexual self-efficacy negatively and sources of self-efficacy influenced sexual self-efficacy positively. The differences in survivors' age and time since treatment began had no significant influence on survivors' sexual self-efficacy. The chapter ended with how the findings are in accordance with the theoretical frameworks of the study.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the summary of the study, key findings, the conclusions and recommendations as well as suggestions for further research.

The purpose of the study was to investigate how demographic factors, psychological distress and cognitive coping relate to sexual self-efficacy and whether sources of self-efficacy could predict sexual self-efficacy among cervical cancer survivors in Korle Bu Teaching Hospital (KBTH). The study was guided by four research questions and three research hypotheses. Cross-sectional survey design involving quantitative approach was used in the study. The target population was Ghanaian women living with cervical cancer who had received or were receiving treatments at National Centre for Radiotherapy and Nuclear Medicine (NCRNM) in KBTH.

A sample size of 89 cervical cancer survivors was selected for the study using Yamane's (1967) sampling formula. A self-administered questionnaire was used for the data collection. Pre-testing of the instrument was done and reliability and validity were ensured. Ethical consideration was also ensured during the actual data collection. The data collected was analysed using descriptive statistics (frequencies and percentages) and inferential statistics (One way ANOVA and multiple linear regression analysis).

Key Findings

The first research question sought to determine the sexual health challenges survivors experienced before and after diagnosis and treatment of cervical cancer. The results revealed that 86 (96.6%) of the respondents experienced one or more sexual health challenges before diagnoses were made and 82 (92.1%) of the respondents experienced at least one sexual health challenge after the treatment. The common sexual health challenges include painful penetration, fear for sex, dryness, bleeding and tightness of the vagina, low and no sex drive, unable to reach climax and sexual dissatisfaction.

The second research question brought to light that survivors mostly discussed cervical cancer sexual related challenges with sexual partners followed by their relatives and least of whom respondents discuss sexual challenges with is the health professionals.

The third research question revealed that cervical cancer survivors have the same level of sexual self-efficacy irrespective of their age differences. It can be said that age of cervical cancer survivors does not determine their level of sexual self-efficacy.

In relation to research question four, the results showed that cervical cancer survivors equally have the same level of sexual self-efficacy, regardless of the time they started treatment. It means that time since treatment began has no influence on their level of sexual self-efficacy.

With regard to research hypothesis one, the result showed a negative relationship between psychological distress and sexual self-efficacy. This result

means that as cervical cancer survivors become more psychologically distressed, their sexual self-efficacy diminishes.

Pertaining to research hypothesis two, the study indicates that, cognitive coping does not influence cervical cancer survivors' level of sexual self-efficacy.

With reference to research hypothesis three, the regression model revealed that all the four sources of self-efficacy have a positive relationship with sexual self-efficacy. However, the relationship was significant for verbal/social persuasion and physiological/emotional state, while, the relationship was not significant for mastery performance and vicarious experience.

Conclusions

This study demonstrates consistency and adds unto the discovery of many research studies which have showed that cervical cancer survivors experience sexual health challenges before and after diagnosis and treatment. Psychological distresses affect sexual self-efficacy negatively and sources of self-efficacy influence sexual self-efficacy positively.

In addition, the cervical cancer disease, the stages, treatment modalities and lack of sexual health communication were the major factors found to affect the survivors' sexual self-efficacy. Consequently, the findings suggested that cervical cancer survivors experienced a host of physical consequences from the disease and treatment side effects. These physical effects caused psychological distress of anxiety and depression that made survivors not able to cope cognitively, manage their stressors and solve their sexual health problems.

Differences in survivors' age and time since treatment began have no significant influence on survivors' sexual self-efficacy. Similarly, cognitive coping that helps people in chronic situations for quality of life made no impact on the survivors' sexual self-efficacy and two sources of sexual self-efficacy, mastery of performance and vicarious experience which logically have to lead to the phenomena (sexual self-efficacy) were not significant.

Recommendations

Based on the key findings of the study, few recommendations and policy suggestions deserve mentioning.

Policy makers, advocacy groups and other stakeholders such as the World Health Organization (WHO), Ministry of Health and Non-Governmental Organizations (NGOs) on cervical cancer should enforce policies and laws to adopt a multi-disciplinary care (bio-psychosocial model) approach regarding cervical cancer management and care.

Ghana Health Service should organise regular in-service training for nurses, physicians, and clinical psychologists/counsellors to enhance their skills in cancer management so as to ensure holistic care of cervical cancer survivors in Ghana. Periodic training should be organized for health professionals on effective health worker-patient sexual health communication.

Staff of NCRNM in KBTH should initiate and discuss sexual health challenges with the survivors. Possible side effects and/or after diagnosis and treatment sequalae should be communicated to the survivors.

Sexual partners/husbands should cooperate with their wives' conditions when signs and symptoms, distresses and sexual health challenges start to surface.

There is also the need for a holistic patient/family centred care rather than individualised care of the survivors, where sexual partners and care givers would be given some kind of education. Sexual partners or relatives of survivors should be informed of the essential role their support plays in the survival and sexual growth of women with cervical cancer.

Furthermore, awareness creation within the public on the risk factors, presenting symptoms of cervical cancer and screening is necessary.

Suggestions for Further Research

Based on the findings of the study, the researcher suggests the following for further studies:

Another study could look at the effect of the disease and its treatment modalities on sexual partners' sexual self-efficacy. Since the effects of the disease and treatment modalities are extended to the sexual partners, their reaction to sexuality would be of great importance. A study into the relative experience or care giver burden should therefore be an important undertaking.

More research could be particularly salient with studies that utilise a longitudinal design. Such a design could follow women from the start of treatment to several years post treatment to determine important variations in psychological distress, coping processes and sexual self-efficacy.

Additionally, the study employed questionnaires as the sole instrument for data collection; therefore, further studies could include interviews to give more

practical and realistic evidence about the effect of age, time since treatment began, sexual health communication and cognitive coping on sexual self-efficacy.

Finally, the current study was limited in scope because it was based on only survivors of cervical cancer at NCRNM in KBTH. To make the study more representative and the results generalizable for the whole country, there is the need to replicate this study in other cervical cancer facilities in the country and also using larger geographical areas.

REFERENCES

Abbott-Anderson, K., & Kwekkeboom, K. L. (2012). A systematic review of sexual concerns reported by gynaecological cancer survivors. *Gynaecologic oncology*, *124*(3), 477-489.

Ago, B. U., Agan, T. U., & Ekanem, E. I. (2013). Cancer of the uterine cervix at the University of Calabar Teaching Hospital, Calabar Nigeria. *Cancer Research Journal*, *1*(4), 37-40.

American Cancer Society (2007). Cancer Facts and Figures. Retrieved from https://www.cancer.org/acs/groups/content/@nho/documents/document/globalfactsandfigures2007rev2p.pdf.

American Joint Committee on Cancer (2017). Cervix Uteri. In: *AJCC Cancer Staging Manual*. 8th Ed. New York, NY: Springer.

American Society of Clinical Oncology. (2012). Cervical Cancer. Retrieved from http://www.cancer.netipatientiCancer+Types/Cervical+Cancer/ci.Cervical+Cancer.printer.

Amsterdam, A., & Krychman, M. L. (2006). Sexual dysfunction in patients with gynaecologic neoplasms: a retrospective pilot study. *The journal of sexual medicine*, *3*(4), 646-649.

Arslan, A. (2012). Predictive Power of the Sources of Primary School Students' Self-Efficacy Beliefs on Their Self-Efficacy Beliefs for Learning and Performance. *Educational Sciences: Theory and Practice*, *12*(3), 1915-1920.

Ashing-Giwa, K. T., Kagawa-Singer, M., Padilla, G. V., Tejero, J. S., Hsian, E., Chhabra, R., & Tucker, M. B. (2004). The impact of cervical cancer and dysplasia: A qualitative, multiethnic study. *Psycho-oncology, 13*(10),709–728.

Austin J. (2015). Cervical Cancer Treatment and Its Effects on Sexual Function: Recent Evidence and Approach. *Womens Health*, *2*(1): 1010-1019.

Bailes S. C., Fichten C. S., Libman E., Brender W. & Amsel R. (2013). *Sexual self-efficacy scale for female functioning. Handbook of Sexuality-Related Measures* (3rd Ed). New York: Syracuse.

Bal, M. D., Yilmaz, S. D., & Beji, N. K. (2013). Sexual health in patients with gynaecological cancer: a qualitative study. *Sexuality and Disability*, *31*(1), 83-92.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behaviour*, Volume. 4 (pp. 71-81). New York: Academic Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review* [Special Issue on Evil and Violence], *3*(4), 193–209.

Bandura A. (2001). Social Cognitive Theory. An agentic perspective. *Annual Review of Psychology*, Volume 52 (pp. 1-26). Palo Alto: Annual Review, INC.

Bandura, A. (2004). Social cognitive theory for personal and social change by enabling media. In A. Singhal, M. J. Cody, E. M. Rogers, & M. Sabido (Eds.), *Entertainment education and social change: History, research, and practice*, Volume 3 (pp. 75-96). Mahwah, NJ: Lawrence Erlbaum.

Barnaś, E., Skręt-Magierło, J., Skręt, A., & Bidziński, M. (2012). The quality of life of women treated for cervical cancer. *European Journal of Oncology Nursing, 16*(1), 59–63.

Barry, J. (2005). The effect of socio-economic status on academic achievement (Master'sthesis). Retrieved from http://www.soar.wichitaedu/bitstream/handle/10057/616/.

Baser, R. E., Li, Y., & Carter, J. (2012). Psychometric validation of the Female Sexual Function Index (FSFI) in cancer survivors. *Cancer, 118*(18), 4606-4618.

Benard, V. B., Thomas, C. C., King, J., Massetti, G. M., Doria-Rose, V. P., & Saraiya, M. (2014). Vital signs: cervical cancer incidence, mortality, and screening—United States, 2007–2012. *MMWR. Morbidity and mortality weekly report,63*(44), 1004.

Bergmark, K., ÅVall-Lundqvist, E., Dickman, P. W., Henningsohn, L., & Steineck, G. (2002). Patient-rating of distressful symptoms after treatment for early cervical cancer.*Acta obstetricia et gynaecologica Scandinavica*, *81*(5), 443-450.

Binka, C., Doku, D. T., & Awusabo-Asare, K. (2017). Experiences of cervical cancer patients in rural Ghana: An exploratory study. *PloS one*, *12*(10), e0185829.

Bober, S. L., Recklitis, C. J., Campbell, E. G., Park, E. R., Kutner, J. S., Najita, J. S., & Diller, L. (2009). Caring for cancer survivors: a survey of primary care physicians. *Cancer*,*115*(S18), 4409-4418.

Bodurka, D. C., & Sun, C. C. (2006). Sexual function after gynaecologic cancer. *Obstetrics and Gynaecology Clinics*, *33*(4), 621-630.

Bowers, D., House, A., & Owens, D. (2015). *Getting started in health research*. Chichester: Wiley-Blackwell/BMJ Books.

Brezsnyak, M., & Whisman, M. A. (2004). Sexual desire and relationship functioning: The effects of marital satisfaction and power. *Journal of Sex & Marital Therapy*, *30*(3), 199-217.

Brotto, L. A., Bitzer, J., Laan, E., Leiblum, S., & Luria, M. (2010). Women's sexual desire and arousal disorders. *The journal of sexual medicine*, *7*(1), 586-614.

Bruckner, T. A., Scheffler, R. M., Shen, G., Yoon, J., Chisholm, D., Morris, J., ... & Saxena, S. (2011). The mental health workforce gap in low-and middle-income countries: a needs-based approach. *Bulletin of the World Health Organization*, *89*, 184-194.

Bruni, L., Barrionuevo-Rosas, L., Albero, G., Serrano, B., Mena, M., Gómez, D., ... & de Sanjosé, S. (2017). ICO information centre on HPV and cancer

(HPV Information Centre). Human papillomavirus and related diseases in the World. Summary Report 27 July 2017.

Bruni, L., Barrionuevo-Rosas, L., Albero, G., Aldea, M., Serrano, B., Valencia, S., ... & Bosch, F. X. (2015). ICO information centre on HPV and cancer (HPV Information Centre). *Human papillomavirus and related diseases in the world. Summary Report*, *4*(08).

Carpenter, K. M., Andersen, B. L., Fowler, J. M. & Maxwell, G. L. (2009). Sexual self-schemas as a moderator of sexual and psychological outcomes for gynaecologic cancer survivors. *Archives of Sexual Behaviour*, *38*(1), 828 – 841.

Carter, J., Chi, D. S., Brown, C. L., Abu-Rustum, N. R., Sonoda, Y., Aghajanian, C., ... & Barakat, R. R. (2010). Cancer-related infertility in survivorship. *International Journal of Gynaecologic Cancer*, *20*(1), 2-8.

Chan, J. L., Letourneau, J., Salem, W., Cil, A. P., Chan, S. W., Chen, L. M., & Rosen, M. P. (2015). Sexual satisfaction and quality of life in survivors of localized cervical and ovarian cancers following fertility-sparing surgery. *Gynaecologic oncology*, *139*(1), 141-147.

Cleary, V., & Hegarty, J. (2011). Understanding sexuality in women with gynaecological cancer. *European Journal of Oncology Nursing*, *15*(1), 38-45.

Cohen, L., Manion, L. and Morrison, K. R. B. (2004) A Guide to Teaching Practice (4th edition). London: Routledge.

Coker, A. L., Du, X. L., Fang, S., & Eggleston, K. S. (2006). Socioeconomic status and cervical cancer survival among older women: Findings from the SEER–Medicare linked data cohorts. *Gynaecologic oncology*, *102*(2), 278-284.

Collins, F.S., Lowy, D.R., Hodes, R., Grady, P. A., Gibbon, G. H.,Fauci A. (2017). *Gynaecological Cancer*. Bethesda, Maryland, USA: National Institute of Health.

Costanzo, E. S., Lutgendorf, S. K., Rothrock, N. E., & Anderson, B. (2006). Coping and quality of life among women extensively treated for gynaecologic cancer. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, *15*(2), 132-142.

Creswell, J. W. (2012). Education research; planning, conducting, evaluating, quantitafive and qualitatifive research.

Day R., Ganz P. A. & Costantino J. P. (1999): Healthrelated quality of life and tamoxifen in breast cancer prevention: A report from the National Surgical Adjuvant Breast and Bowel Project P-1 Study. *Journal Clinical Oncology 17*(3), 2659-2669.

De Groot, J. M., Mah, K., Fyles, A., Winton, S., Greenwood, S., DePetrillo, A. D., & Devins, G. M. (2005). The psychosocial impact of cervical cancer among affected women and their partners. *International Journal of Gynaecologic Cancer*, *15*(5), 918-925.

Demirtas, B., & Pinar, G. (2014). Determination of sexual problems of Turkish patients receiving gynaecologic cancer treatment: a cross-sectional study. *Asian Pacific Journal of cancer prevention*, *15*(16), 6657-6663.

Diehl, M., Coyle, N. & Labouvie-Vief, G. (1996). Age and sex differences in strategies of coping and defence across the life span. *Psychology and Aging*, 11(1), 127-139.

Donovan, C., Butler, L., Butt, A. J., Jones, T. H., & Hanney, S. R. (2014). Evaluation of the impact of National Breast Cancer Foundation-funded research. *Medical Journal of Australia*, *200*(4), 214-218.

Donovan, K. A., Taliaferro, L. A., Alvarez, E. M., Jacobsen, P. B., Roetzheim, R. G., & Wenham, R. M. (2007). Sexual health in women treated for cervical cancer: characteristics and correlates. *Gynaecologic Oncology*, *104*(2), 428-434.

Duda, R. B., Chen, G. L., Hill, A. G., Darko, R., Adanu, R. M. K., & Seffah, J. (2005). Screening for cervical cancer still not included as routine health care for women. *International Journal of Tropical Medicine*, *1*(1), 1-6.

Dwyer, C., Guthold, M., Falvo, M., Washburn, S., Superfine, R., & Erie, D. (2002). DNA-functionalized single-walled carbon nanotubes. *Nanotechnology*, *13*(5), 601.

Eifel, P. J., Klopp, A. H., Berek, J. S., & Konstantinopoulos, P. A. (2018). Cancer of the cervix, vagina, and vulva. In *DeVita, Hellman, and Rosenberg's Cancer: Principles & Practice of Oncology* (pp. 1172-1210). Wolters Kluwer Health Pharma Solutions (Europe) Ltd.

Eze, J. N., Emeka-Irem, E. N., & Edegbe, F. O. (2013). A six-year study of the clinical presentation of cervical cancer and the management challenges encountered at a state teaching hospital in southeast Nigeria. *Clinical Medicine Insights: Oncology*, *7*, CMO-S12017.

Farchi, M., Cohen, A., & Mosek, A. (2014). Developing specific self-efficacy and resilience as first responders among students of social work and stress and trauma studies.*Journal of Teaching in Social Work*, *34*(2), 129-146.

Fernandes, W. C., & Kimura, M. (2010). Health related quality of life of women with cervical cancer. *Revista latino-americana de enfermagem*, *18*(3), 360-367.

Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., ... & Bray, F. (2015). Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. *International journal of cancer*, *136*(5), E359-E386.

Flynn, K. E., Reese, J. B., Jeffery, D. D., Abernethy, A. P., Lin, L., Shelby, R. A., ... & Weinfurt, K. P. (2012). Patient experiences with communication about sex during and after treatment for cancer. *Psycho-Oncology*, *21*(6), 594-601.

Frumovitz, M., Sun, C. C., Schover, L. R., Munsell, M. F., Jhingran, A., Wharton, J. T., ... & Bodurka, D. C. (2005). Quality of life and sexual functioning in cervical cancer survivors. *Journal of Clinical Oncology*, *23*(30), 7428-7436.

Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual. Review, Psychology*, *55*(4), 745-774.

Gamel, C., Hengeveld, M. & Davis, B. (2000). Informational needs about the effects of gynaecological cancer on sexuality: a review of the literature. *Journal of Clinical Nursing*, *9*(5), 678-688.

Garnefski, N., Legerstee, J., Kraaij, V., van Den Kommer, T., & Teerds, J. A. N. (2002). Cognitive coping strategies and symptoms of depression and anxiety: A comparison between adolescents and adults. *Journal of adolescence*, *25*(6), 603-611.

Garnefski, N., Teerds, J., Kraaij, V., Legerstee, J., & van Den Kommer, T. (2004). Cognitive emotion regulation strategies and depressive symptoms: Differences between males and females. *Personality and individual differences*, *36*(2), 267-276.

Gervaz, P., Bucher, P., Konrad, B., Morel, P., Beyeler, S., Lataillade, L., & Allal, A. (2008). A prospective longitudinal evaluation of quality of life after abdominoperineal resection. *Journal of surgical oncology*, *97*(1), 14-19.

Gilbert, E., Ussher, J. M., & Perz, J. (2013). Embodying sexual subjectivity after cancer: A qualitative study of people with cancer and intimate partners. *Psychology & health*, *28*(6), 603-619.

GLOBOCAN (2015) Cervical cancer estimated incidence, mortality and prevalence worldwide in 2012. Retrieved from http://www.globocan.iarc.fr/old/FactSheets/cancers/cervix-new.asp.

Golbasi, Z., & Erenel, A. S. (2012). The quality of sexual life in women with gynaecological cancers. *Archives of gynaecology and obstetrics*, *285*(6), 1713-1717.

Greenwald, H. P., & McCorkle, R. (2008). Sexuality and sexual function in long-term survivors of cervical cancer. *Journal of Women 's Health, 17*(6), 955-963.

Gregoire, M. (2003). Is it a challenge or a threat? A dual-process model of teachers' cognition and appraisal processes during conceptual change. *Educational psychology review*,*15*(2), 147-179.

Greimel, E. R., Winter, R., Kapp, K. S., & Haas, J. (2009). Quality of life and sexual functioning after cervical cancer treatment: A long-term follow-up study. *Psycho-Oncology: Journal of the Psychological, Social and Behavioural Dimensions of Cancer*, *18*(5), 476-482.

Grover, S., Hill-Kayser, C. E., Vachani, C., Hampshire, M. K., DiLullo, G. A., & Metz, J. M. (2012). Patient reported late effects of gynaecological cancer treatment. *Gynaecologic oncology*, *124*(3), 399-403.

Haaga, D. A., Thorndike, F. P., Friedman-Wheeler, D. G., Pearlman, M. Y., & Wernicke, R. A. (2004). Cognitive coping skills and depression vulnerability among cigarette smokers. *Addictive Behaviors*, *29*(6), 1109-1122.

Haghshenas, M., Golini-Moghaddam, T., Rafiei, A., Emadeian, O., Shykhpour, A., & Ashrafi, G. H. (2013). Prevalence and type distribution of high-risk human papillomavirus in patients with cervical cancer: a population-based study. *Infectious Agents and Cancer*, *8*(1), 20.

Hammond, C., Abrams, J. R., & Syrjala, K. L. (2007). Fertility and risk factors for elevated infertility concern in 10-year hematopoietic cell transplant

survivors and case-matched controls. *Journal of clinical oncology: official journal of the American Society of Clinical Oncology*, *25*(23), 3511.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of educational research*, *77*(1), 81-112.

Hendren, S. K., O'Connor, B. I., Liu, M., Asano, T., Cohen, Z., Swallow, C. J., ... & McLeod, R. S. (2005). Prevalence of male and female sexual dysfunction is high following surgery for rectal cancer. *Annals of surgery*, *242*(2), 212.

Henselmans, I., Helgeson, V. S., Seltman, H., de Vries, J., Sanderman, R., & Ranchor, A. V. (2010). Identification and prediction of distress trajectories in the first year after a breast cancer diagnosis. *Health Psychology*, *29*(2), 160 -168.

Herzog, T. J., & Wright, J. D. (2007). The impact of cervical cancer on quality of life—the components and means for management. *Gynaecologic oncology*, *107*(3), 572-577.

Ho, C-M., Chien, T. Y., Huang, S. H., Wu, C. J., Shih, B. Y. & Chang, S. C. (2004). Multivariate analysis of the prognostic factors and outcomes in early cervical cancer patients undergoing radical hysterectomy. *Gynaecologic Oncology, 93*(2), 458 – 464.

Howell, E. A., Chen, Y. & Concato, J. (1999). Differences in cervical cancer mortality among Black and White women. *Obstetrics & Gynaecology*, *94*(4), 509-515.

Jadoon, N. A., Munir, W., Shahzad, M. A., & Choudhry, Z. S. (2010). Assessment of depression and anxiety in adult cancer outpatients: a cross-sectional study. *BMC cancer*, *10*(1), 594.

Jemel, A., Bray, F., Center, M. M., Ferlay, J., Ward, E., & Forman, D. (2011). Global cancer statistics. CA: *A Cancer Journal for Clinicians*, *61*(2), 69–90.

Jensen, P. T., Groenvold, M., Klee, M. C., Thranov, I., Petersen, M. A., & Machin, D. (2004). Early-stage cervical carcinoma, radical hysterectomy, and sexual function: A longitudinal study. *Cancer: Interdisciplinary International Journal of the American Cancer Society*, *100*(1), 97-106.

Jensen, P. T., Groenvold, M., Klee, M. C., Thranov, I., Petersen, M. Aa. & Machin, D. (2003). Longitudinal study of sexual function and vaginal changes after radiotherapy for cervical cancer. *International Journal of Radiation Oncology Biology Physics*, *56*(4), 937 – 949.

Kamau, R. K., Osoti, A. O., & Njuguna, E. M. (2007). Effect of diagnosis and treatment of inoperable cervical cancer on quality of life among women receiving radiotherapy at Kenyatta National Hospital. *East African medical journal*, *84*(1), 24-30.

Katz, A. (2005). The sounds of silence: Sexuality information for cancer patients. *Journal of Clinical Oncology*, *23*(1), 238 – 241.

Kangmennaang, J., Thogarapalli, N., Mkandawire, P., & Luginaah, I. (2015). Investigating the disparities in cervical cancer screening among Namibian women. *Gynaecologic Oncology*, *138*(2), 411–416.

Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., ... & Zaslavsky, A. M. (2003). Screening for serious mental illness in the general population. *Archives of general psychiatry*, *60*(2), 184-189.

Khan, J. A. (2012). *Research Methodology*. New Delhi: APH Publishing Corporation.

Korle Bu Teaching Hospital, (2016). *Annual Report*, Accra, Ghana, Korle Bu Teaching Hospital.

Lalos, A., & Eisemann, M. (1999). Social interaction and support related to mood and locus of control in cervical and endometrial cancer patients and their spouses. *Supportive Care in Cancer*, *7*(2), 75-78.

Lammerink, E. A., de Bock, G. H., Pras, E., Reyners, A. K., & Mourits, M. J. (2012). Sexual functioning of cervical cancer survivors: a review with a female perspective. *Maturitas*, *72*(4), 296-304.

Langley, G., & Mary, N. (2012). HealthSeeking Behaviour of Women with Cervical Cancer. *Journal Community Medicine Health Education*, *2*(8), 1–4.

Lanowska, M., Mangler, M., Spek, A., Grittner, U., Hasenbein, K., Chiantera, V., ... & Speiser, D. (2011). Radical vaginal trachelectomy (RVT) combined with laparoscopic lymphadenectomy: prospective study of 225 patients with early-stage cervical cancer. *International Journal of Gynaecologic Cancer*, *21*(8), 1458-1464.

Laurent, S. M., & Simons, A. D. (2009). Sexual dysfunction in depression and anxiety: conceptualizing sexual dysfunction as part of an internalizing dimension. *Clinical psychology review*, *29*(7), 573-585.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.

Lent, R. W., Lopez, F. G., & Bieschke, K. J. (1991). Mathematics self-efficacy: Sources and relation to science-based career choice. *Journal of counselling psychology*, *38*(4), 424.

Liavaag, A., Dorum, A., Bjoro, T., Oksefjell, H., Fossa, S., Trope, C., & Dahl, A. (2008). A controlled study of sexual activity and functioning in epithelial ovarian cancer survivors. A therapeutic approach. *Gynaecologic Oncology*, *108*(2), 348–354.

Lopez, F. G., & Lent, K. W. (1992). Sources or Mathematics self-efficacy in high school students. *Career Development Quarterly, 41*(1) 3-12.

Lynn G. T., & Cornblat, M. W. (2002). Breast cancer survivors give voice: a qualitative analysis of spiritual factors in long-term adjustment. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*,*11*(6), 524-535.

Maree, J. E., Mosalo, A., & Wright, S. C. D. (2013). 'It depends on how the relationship was before you became ill': B lack South African women's experiences of life partner support through the trajectory of cervical cancer. *European journal of cancer care*, *22*(4), 459-467.

Machuki-Ogoncho, I. (2015). Determinants of Quality of Life Among Gynaecological Cancer Patients on Follow Up at a Referral Hospital in Kenya. *American Journal of Nursing Science, 4*(3), *127.*

Mirowsky, J., & Ross, C. E. (2002). Measurement for a human science. *Journal of Health and Social Behaviour*, 152-170.

Mouga, U. (2002). Sexual functioning in cancer patients. *Sexuality and Disability*, *20*(4), 277-295.

Nartey, Y., Hill, P. C., Amo-Antwi, K., Nyarko, K. M., Yarney, J., & Cox, B. (2016). Cervical cancer in the Greater Accra and Ashanti regions of Ghana. *Journal of global oncology*, *3*(6), 782-790.

National Cancer Institute (2010). Probability of Breast and Cervical Cancer in American Women. Retrieved from http://www.cancer.gov/cancertopics/factsheet/detection/probabilitybreastandcervicalcancer

National Comprehensive Cancer Network (2012). Distress Management. NCCN Clinical Practice Guidelines in Oncology. Retrieved from http://www.nccn.org/professionals/physiciangls/fguidelines.asp#distress.

Nelms, L. W., & Gorski, J. (2006). The role of the African traditional healer in women's health. *Journal of Transcultural Nursing*, *17*(2), 184-189.

Nourissat, A., Vasson, M. P., Merrouche, Y., Bouteloup, C., Goutte, M., Mille, D., ... & Chauvin, F. (2008). Relationship between nutritional status and quality of life in patients with cancer. *European Journal of Cancer*, *44*(9), 1238-1242.

Opoku, C. A., Browne, E. N. L., Spangenberg, K., Moyer, C., Kolbilla, D., & Gold, K. J. (2016). Perception and risk factors for cervical cancer among women in northern Ghana. *Ghana medical journal*, *50*(2), 84-89.

Oppong A. K., & Meyer-Weitz, A. (2017). Prevalence and predictors of suicidal ideations and attempts among homeless children and adolescents in Ghana. *Journal of Child & Adolescent Mental Health,* 29(1), 27–37.

Osann, K., Hsieh, S., Nelson, E. L., Monk, B. J., Chase, D., Cella, D., & Wenzel, L. (2014). Factors associated with poor quality of life among cervical cancer survivors: Implications for clinical care and clinical trials. *Gynaecologic Oncology, 135*(2), 266–272.

Pajares, F. (2002). Overview of social cognitive theory and of self-efficacy.

Pajares, F. (2006). Self-efficacy beliefs during adolescence: Implications for teachers and parents. In F. Pajares & T. Urdan (Eds.), *Adolescence and education.* Volume 5. *Self-efficacy beliefs of adolescents* (pp. 339–367). Greenwich, CT: Information Age Publishing.

Pajares, F. (2007). Culturahzing educational psychology. In F. Sahh & R. Hoosain (Eds.), *Culture, motivation, and learning* (pp. 19-42). Charlotte, NC: Information Age.

Pajares, F., & Urdan, T. (Eds.). (2006). *Adolescence and education: Volume 5. Self-efficacy beliefs of adolescents*. Greenwich, CT: Information Age.

Papadakos, J., Bussière-Côté, S., Abdelmutti, N., Catton, P., Friedman, A. J., Massey, C., ... & Ferguson, S. E. (2012). Informational needs of gynaecologic cancer survivors.*Gynaecologic Oncology*, *124*(3), 452-457.

Park, E. R., Bober, S. L., Campbell, E. G., Recklitis, C. J., Kutner, J. S., & Diller, L. (2009). General internist communication about sexual function with cancer survivors.*Journal of general internal medicine*, *24*(2), 407.

Pelkofski, E., Stine, J., Wages, N. A., Gehrig, P. A., Kim, K. H., & Cantrell, L. A. (2016). Cervical Cancer in Women Aged 35 Years and Younger. *Clinical Therapeutics, 38*(3), 459–466

Pfaendler, K. S., Wenzel, L., Mechanic, M. B., & Penner, K. R. (2015). Cervical Cancer Survivorship: Long-term Quality of Life and Social Support. *Clinical Therapeutics, 37*(1), 39–48.

Pinar, G., Okdem, S., Dogan, N., Buyukgonenc, L., & Ayhan, A. (2012). The effects of hysterectomy on body image, self-esteem, and marital adjustment in Turkish women with gynaecologic cancer. *Clinical Journal Oncology Nurse, 16*(3), E99-104.

Potter P.J. (2007). Breast biopsy and distress: feasibility of testing a Reiki intervention. *Journal of Holistic Nursing 25*(4), 238-248.

Polit, D. F., & Beck, C. T. (2013). *Essentials of nursing research: Appraising evidence for nursing practice.* Wolters Kluwer Health.

Quentin, W., Adu-Sarkodie, Y., Terris-Prestholt, F., Legood, R., Opoku, B. K., & Mayaud, P. (2011). Costs of cervical cancer screening and treatment using visual inspection with acetic acid (VIA) and cryotherapy in Ghana: the importance of scale. *Tropical medicine & international health, 16*(3), 379-389.

Ramírez-Maestre, C., Esteve, R., & López, A. E. (2008). Cognitive appraisal and coping in chronic pain patients. *European Journal of Pain, 12*(6), 749-756.

Reis, N., Beji, N. K., & Coskun, A. (2010). Quality of life and sexual functioning in gynaecological cancer patients: results from quantitative and qualitative data. *European Journal of Oncology Nursing*, *14*(2), 137-146.

Rogers, M. & Kristjanson, L. J. (2002). The impact on sexual functioning of chemotherapy – induced menopause in women with breast cancer. *Cancer Nursing*, *25*(1), 57 – 65.

Rodrigues, A. C., Teixeira, R., Teixeira, T., Conde, S., Soares, P., & Torgal, I. (2012). Impact of pelvic radiotherapy on female sexuality. *Archives of gynaecology and obstetrics*, *285*(2), 505-514.

Ros, C., & Espuña, M. (2013). Impact of cervical cancer treatment on micturition and sexual function. *Actas Urológicas Españolas (English Edition)*, *37*(1), 40-46.

Rostosky, S. S., Dekhtyar, O., Cupp, P. K. & Anderman, E. M. (2008). Sexual self-concept and sexual self-efficacy in adolescents: A possible clue to promoting sexual health. *Journal of Sex Research*, *45*(1), 277–286.

Roy, C. (2009). *The Roy adaptation model (3rd Ed.)*. Upper Saddle River, NJ: Pearson.

Roy, C., & Andrews, H. A. (1999). *The Roy adaptation model* (Volume 2). Stamford, CT: Appleton & Lange.

Sadock B. J., Kaplan H. I. & Sadock V. A. (2009). *Kaplan and Sadock comprehensive textbook of psychiatry*. Philadelphia, Lippincott Williams and Wilkins.

Salani, R. (2013). Survivorship planning in gynaecologic cancer patients. *Gynaecologic Oncology*, *130*(2), 389-397.

Satin, J. R., Linden, W., & Phillips, M. J. (2009). Depression as a predictor of disease progression and mortality in cancer patients: a meta-analysis. *Cancer*, *115*(22), 5349-5361.

Schwartz, K. L., Crossley-May, H., Vigneau, F. D., Brown, K. Banerjee, M. (2003). Race, socioeconomic status and stage at diagnosis for five common malignancies. *Cancer Causes and Control*, *14*(8), 761 – 766.

Schofield, P. E., Butow, P. N., Thompson, J. F., Tattersall, M. H. N., Beeney, L. J., & Dunn, S. M. (2003). Psychological responses of patients receiving a diagnosis of cancer. *Annals of oncology*, *14*(1), 48-56.

Schover, L. R., van der Kaaij, M., van Dorst, E., Creutzberg, C., Huyghe, E., & Kiserud, C. E. (2014). Sexual dysfunction and infertility as late effects of cancer treatment. *European journal of cancer supplements*, *12*(1), 41-53.

Stafford, L., Komiti, A., Bousman, C., Judd, F., Gibson, P., Mann, G. B., & Quinn, M. (2016). Predictors of depression and anxiety symptom trajectories in the 24 months following diagnosis of breast or gynaecologic cancer. *The Breast*, *26*(1), 100-105.

Stewart, B. W., & Wild, C. P. (2018). World Cancer Report 2014. Lyon, France: International Agency for Research on Cancer World Health Organization; 2014.

Stetz, T. A., Stetz, M. C., & Bliese, P. D. (2006). The importance of self-efficacy in the moderating effects of social support on stressor–strain relationships. *Work & Stress*,*20*(1), 49-59.

Stiegelis, H. E., Hagedoorn, M., Sanderman, R., Van der Zee, K. I., Buunk, B. P., & Van den Bergh, A. C. (2003). Cognitive adaptation: A comparison of cancer patients and healthy references. *British Journal of Health Psychology*, *8*(3), 303-318.

Snell Jr, W. E., Fisher, T. D., & Schuh, T. (1992). Reliability and validity of the Sexuality Scale: A measure of sexual-esteem, sexual-depression, and sexual-preoccupation.

Snell Jr, W. E. (2001). Measuring multiple aspects of the sexual self-concept: The Multidimensional Sexual Self-Concept Questionnaire. *New directions in the psychology of human sexuality: Research and theory*, (ch 17).

Tangjitgamol, S., Manusirivithaya, S., Hanprasertpong, J., Kasemsarn, P., Soonthornthum, T., Leelahakorn, S., ... & Lapcharoen, O. (2007). Sexual dysfunction in Thai women with early-stage cervical cancer after radical hysterectomy.*International Journal of Gynaecologic Cancer*, *17*(5), 1104-1112.

Taylor, S. E., & Stanton, A. L. (2007). Coping resources, coping processes, and mental health. *Annual. Review. Clinical. Psychology.*, *3*(1), 377-401.

Thulaseedharan et al., J. V., Malila, N., Hakama, M., Esmy, P. O., Cheriyan, M., Swaminathan, R., ... & Sankaranarayanan, R. (2012). Socio demographic and reproductive risk factors for cervical cancer-a large prospective cohort

study from rural India. *Asian Pacific Journal of Cancer Prevention*, *13*(6), 2991-2995.

Tornatta, J. M., Carpenter, J. S., Schilder, J., & Cardenes, H. R. (2009). Representations of vaginal symptoms in cervical cancer survivors. *Cancer nursing*, *32*(5), 378-384.

Torre, L. A., Bray, F., Siegel, R. L., Ferlay, J., Lortet-Tieulent, J., & Jemal, A. (2015). Global cancer statistics, 2012. *CA: a cancer journal for clinicians*, *65*(2), 87-108.

Tzung-Yi, T., Shu-Yi, C, Mei-Huei, T., Yi-Lin, S., Chih-Ming, H., & Hui-Fang, S. (2011). Prevalence and associated factors of sexual dysfunction in cervical cancer patients. *Journal of Sexual Medicine*, 8(6), 1789-1796.

Usher, E. L., & Pajares, F. (2006). Sources of academic and self-regulatory efficacy beliefs of entering middle school students. *Contemporary Educational Psychology*, *31*(2), 125-141.

Usher, E. L., & Pajares, F. (2008). Self-efficacy for self-regulated learning: A validation study. *Educational and Psychological Measurement*, *68*(3), 443-463.

Van de Klundert, M., Incrocci, L., Hullu, J., & Snijders-Keilholz, A. (2007). Comparison of the effect of non-surgical treatment modalities on sexual functioning and quality of life of patients with carcinoma of the cervix: a pilot study. *Sexologies*, *16*(1), 8–14.

Victorian Population Health Survey (2001). Melbourne: Department of Human Services, Victoria.

Vistad, I., Fossa, S. D., & Dahl, A A (2006). A critical review of patient-rated quality of life studies of long-term survivors of cervical cancer. *Gynaecologic Oncology*, *102*(3), 563-572.

Vistad, I., Cvancarova, M., Kristensen, G. B., & Fosså, S. D. (2011). A study of chronic pelvic pain after radiotherapy in survivors of locally advanced cervical cancer. *Journal of Cancer Survivorship*, *5*(2), 208-216.

Vrzackova, P., Weiss, P., & Cibula, D. (2010). Sexual morbidity following radical hysterectomy for cervical cancer. *Expert review of anticancer therapy*, *10*(7), 1037-1042.

Wainer, J., Willis, E., Dwyer, J., King, D., & Owada, K. (2012). The treatment experiences of Australian women with gynaecological cancers and how they can be improved: a qualitative study. *Reproductive health matters*, *20*(40), 38-48.

Walter, T. (2010). Jade and the journalists: Media coverage of a young British celebrity dying of cancer. *Social science & medicine*, *71*(5), 853-860.

Watson, D., & Clark, L. A. (1992). Affects separable and inseparable: on the hierarchical arrangement of the negative affects. *Journal of personality and social psychology*, *62*(3), 489.

Wenzel, L., DeAlba, I., Habbal, R., Kluhsman, B. C., Fairclough, D., Krebs, L. U., ... & Aziz, N. (2005). Quality of life in long-term cervical cancer survivors. *Gynaecologic oncology*, *97*(2), 310-317.

Williams, M. S., & Amoateng, P. (2012). Knowledge and beliefs about cervical cancer screening among men in Kumasi, Ghana. *Ghana Medical Journal, 46*(3), 147- 51.

Woolfolk Hoy, A., & Burke-Spero, R. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education, 21*(3), 343–356.

World Health Organisation (2013) WHO guidance notes: comprehensive cervical cancer prevention and control: a healthier future for girls and women. Geneva.

World Health Organization. (2015*). Comprehensive Cervical Cancer Control: A guide to essential practice.* Geneva, Switzerland: World Health Organization.

Wright, J. D., Gibb, R. K., Geevarghese, S., Powell, M. A., Herzog, T. J., Mutch, D. G. & Rader, J. S. (2005). Cervical Carcinoma in the elderly. *Cancer, 103*(1), 85-91.

Xiang, X. (2015). Serious psychological distress as a barrier to cancer screening among women. *Women's Health Issues,25*(1), 49-55.

Yamane, T. (1967). Statistics: an introductory analysis, 2nd Edn, Harper and Row, New York.

Zachariae, R., Pedersen, C. G., Jensen, A. B., Ehrnrooth, E., Rossen, P. B., & von der Maase, H. (2003). Association of perceived physician communication style with patient satisfaction, distress, cancer-related self-efficacy, and perceived control over the disease. *British journal of cancer,88*(5), 658.

Zeldin, A. L., & Pajares, F. (2000). Against the odds: Self-efficacy beliefs of women in mathematical, scientific, and technological careers. *American educational research journal*, *37*(1), 215-246.

Zeng, Y., Cheng, A., Liu, X., & Feuerstein, M. (2016). Symptom profiles, work productivity and quality of life among Chinese female cancer survivors. *Gynecol Obstet (Sunnyvale)*, *6*(357), 2161-0932.

APPENDICES

APPENDIX A

RESEARCH QUESTIONNAIRE

RELATIONSHIP BETWEEN PSYCHOLOGICAL DISTRESS, COGNITIVE COPING AND SEXUAL SELF-EFFICACY OF CERVICAL CANCER SURVIVORS IN KORLE BU TEACHING HOSPITAL, ACCRA, GHANA

This questionnaire is designed to establish the relationship among psychological distress, cognitive coping and sexual self-efficacy of cervical cancer survivors. Your kind support is needed for the successful completion of this research. Your responses would be used for academic purpose only. I would be very grateful if you could answer as many questions as you can. Check one appropriate box(es) that best suits your perspective for each statement.

SECTION ONE

DEMOGRAPHIC DATA

1. Age: 18-30 [ ] 31-40 [ ] 41-50 [ ] 51+ [ ]
2. Marital status: Separated [ ] Living with Spouse [ ]
   Divorced [ ]

   If Divorced, is it in relation to cervical cancer diagnosis and /or treatment? YES [ ] NO [ ]
3. Educational level: None [ ] Basic [ ] SHS [ ] Tertiary [ ]

4. What stage is or was your cervical cancer?

Stage **0** (pre-cancer) [ ] Stage **I** [ ] Stage **II** [ ]

Stage **III** [ ] Stage **IV** [ ] Unknown [ ]

5. What type of cervical cancer treatment have you had (Tick as applicable)?

Surgery Only [ ] Chemotherapy Only [ ]

Radiotherapy Only [ ] Surgery & Radiotherapy [ ]

Surgery & Chemotherapy [ ] Chemo-Radiation Therapy [ ]

6. When was the diagnosis made? Month ..... Year .....

7. When did you start treatment? Month ..... Year .....

Have you ended your treatment? YES [ ] NO [ ]

If yes, please specify the time. Month ..... Year .....

8. Sexual health problems (Before and After diagnosis)

A. Do you have any of the following sexual health problems **BEFORE** your cancer was diagnosed? **(Tick as applicable)**

Painful penetration [ ] Low sex drive [ ]

Fear for sex [ ] No sex drive [ ]

Vaginal dryness [ ] Unable to climax [ ]

Vaginal bleeding [ ] Sexual dissatisfaction [ ]

Vaginal tightness [ ] No problem [ ]

B. Do you have any of the following sexual health problems **AFTER** your cancer was diagnosed? **(Tick as applicable)**

Painful penetration [ ] Vaginal dryness [ ]

Fear for sex [ ] Vaginal bleeding [ ]

Vaginal tightness	[ ]	Unable to climax	[ ]
Low sex drive	[ ]	Sexual dissatisfaction	[ ]
No sex drive	[ ]	No problem	[ ]

9. If you have any cervical cancer sexual related problem, whom do you communicate to or discuss them with? **(Tick as applicable)**

No one[ ] Husband/Boyfriend [ ] Relatives [ ]

Health professionals (doctor, nurse, counsellor, psychologist) [ ]

Friends [ ] Others (please specify).....

SECTION B

PSYCHOLOGICAL DISTRESS (K10)

Give each item a rating of how much it applies to you by using the following scale:

Likert scale & Score	None of the time	A little of the time	Some of the time	Most of the time	All of the time
	1	2	3	4	5

In the past 4 weeks, about how often did you feel	1	2	3	4	5
10. tired out for no good reason?					
11. nervous?					
12. so nervous that nothing could calm you down?					
13. hopeless?					
14. restless or fidgety?					
15. so restless you could not sit still?					
16. depressed?					
17. that everything was an effort?					

18. sad that nothing could cheer you up?					
19. worthless?					

SECTION C

COGNITIVE COPING (CAPS)

Give each item a rating of how much it applies to you by using the following scale:

Likert scale & Score	Never	Rarely	Sometimes			Always
	1	2	3			4
"When I experience a crisis or extremely difficult event, I……..''			1	2	3	4
20. Generally, come up with a new solution to a new problem						
21. Gather as much information as possible to increase my options						
22. Generally, try to make everything work in my favour						
23. Identify how I want the situation to turn out, then see how I can get there						
24. Work hard to re-channel my feelings to a constructive approach						
25. Keep my eyes and ears open for anything related to the event						
26. Try to get more resources to deal with the situation						
27. Try to be creative and come up with a new solution						
28. Am likely to attack the crisis head on						
29. Develop a plan with a series of actions to deal with the event						

SECTION D

THE SOURCES OF SEXUAL SELF-EFFICACY

Give each item a rating of how much it applies to you by using the following scale:

Likert Scale & Score	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
Mastery Performance					
30. I have positive experiences and skills performing sexual act in the past					
31. I have always done well on my sexual obligation					
32. I still enjoy sex as before					
33. I know how to solve or deal with my sexual challenges.					
34. I could put my tactics together to make my sexual partner satisfied.					
Vicarious Experience					
35. I improve my sexual skills by watching pornographic materials					
36. I learn more tactics from discursions with colleague patients.					
37. I use my sexual partner as a model					
38. Most of my colleague patients tell me they do well at sex.					

39. My husband or boyfriend always teach me how to enjoy sex without fear or pain					
Verbal/Social Persuasion					
40. My colleagues tell me, I am a good sex performer.					
41. Members of my family believe and always encourage me that I can perform well.					
42. My sexual partner has told me my practice efforts have improved my performance skills.					
43. I feel confident when I received positive feedback from my sexual partner.					
44. I have met or exceeded my sexual partner's expectations of being a good sexual partner.					
Physiological or Emotional State					
45. I am learning to control nervousness.					
46. Performing or having sex with my husband or boyfriend makes me feel good.					
47. I don't notice my heart pounding when I am about to have sex.					
48. I don't lose confidence when I feel sick after having sex.					
49. I have positive memories of my past sexual performances.					

SECTION E

SEXUAL SELF-EFFICACY (MSSCQ)

Give each item a rating of how much it applies to you by using the following scale:

Likert scale & Score	**Not at all** characteristic of me.	**Slightly** characteristic of me.	**Somewhat** characteristic of me.	**Moderately** characteristic of me.	**Very** characteristic of me.
	1	**2**	**3**	**4**	**5**

	1	**2**	**3**	**4**	**5**
50. I have the ability to take care of any sexual needs and desires that I may have.					
51. I am competent enough to make sure that my sexual needs are fulfilled.					
52. I have the skills and ability to ensure rewarding sexual behaviours for myself.					
53. I am able to cope with and to handle my own sexual needs and wants.					
54. I have the capability to take care of my own sexual needs and desires.					

End of Questionnaire

Thank you.

APPENDIX B

RELIABILITY COEFFICIENTS

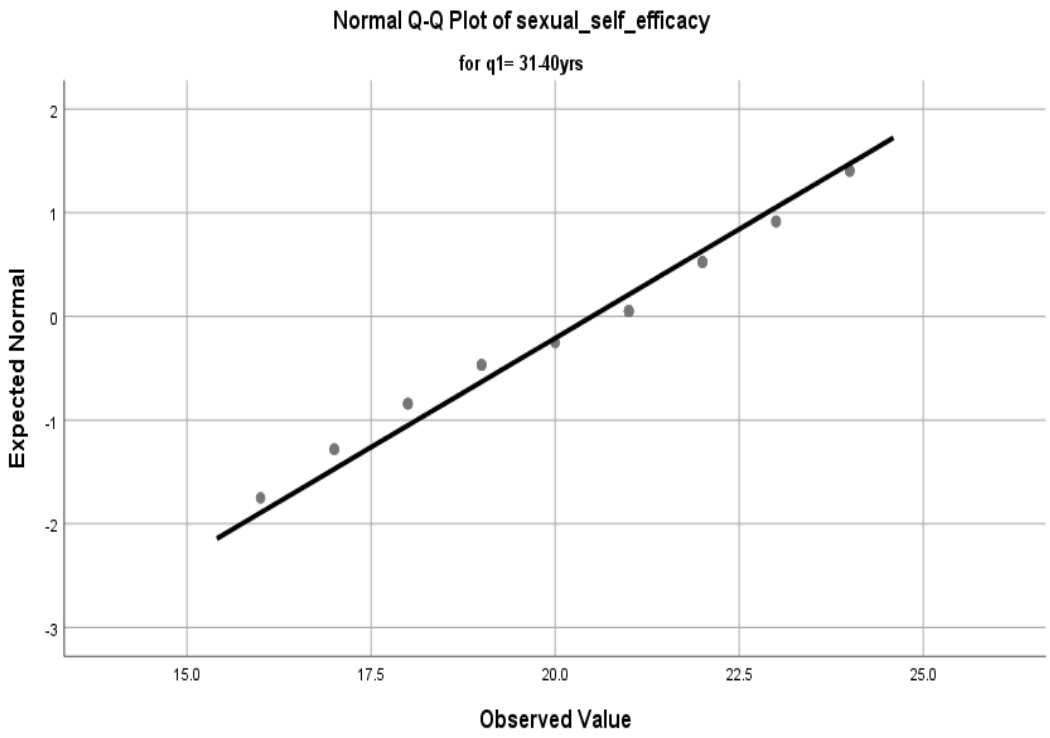
Scale/sub-dimension	Number of items	Cronbach's alpha
Psychological Distress	10	.93
Cognitive Coping	10	.66
Sources of Sexual Self-efficacy		
Mastery performance	5	.91
Vicarious experience	5	.91
Verbal/Social	5	.96
Psychological or emotional state	5	.96
Overall Sources of Sexual Self-efficacy	*20*	*.93*
Sexual Self-efficacy	5	.88

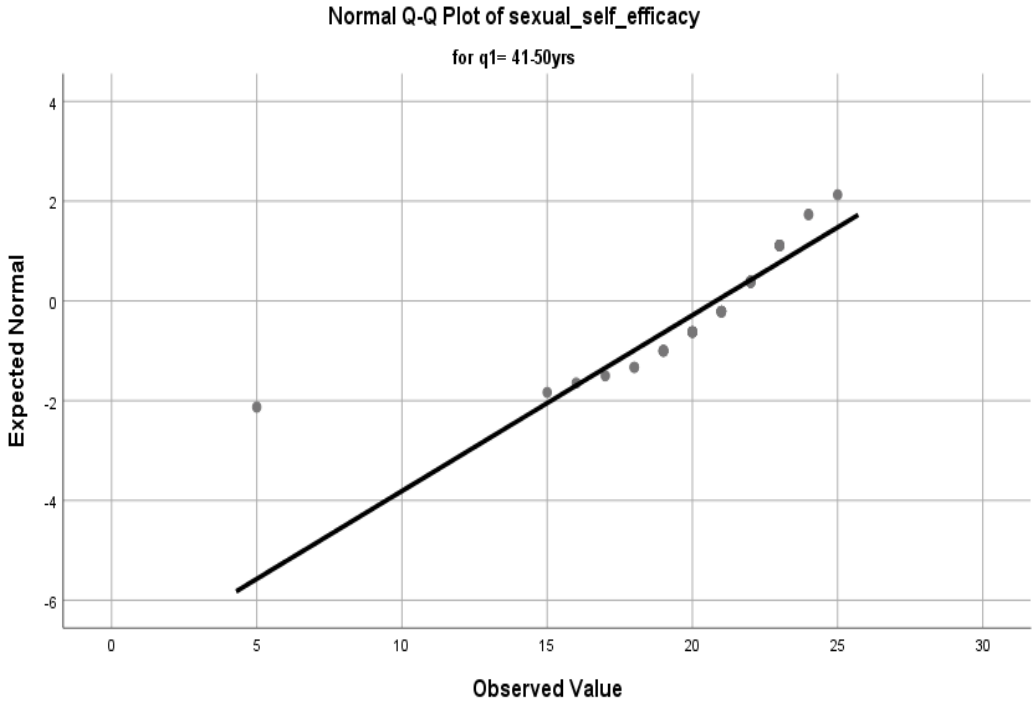
APPENDIX C

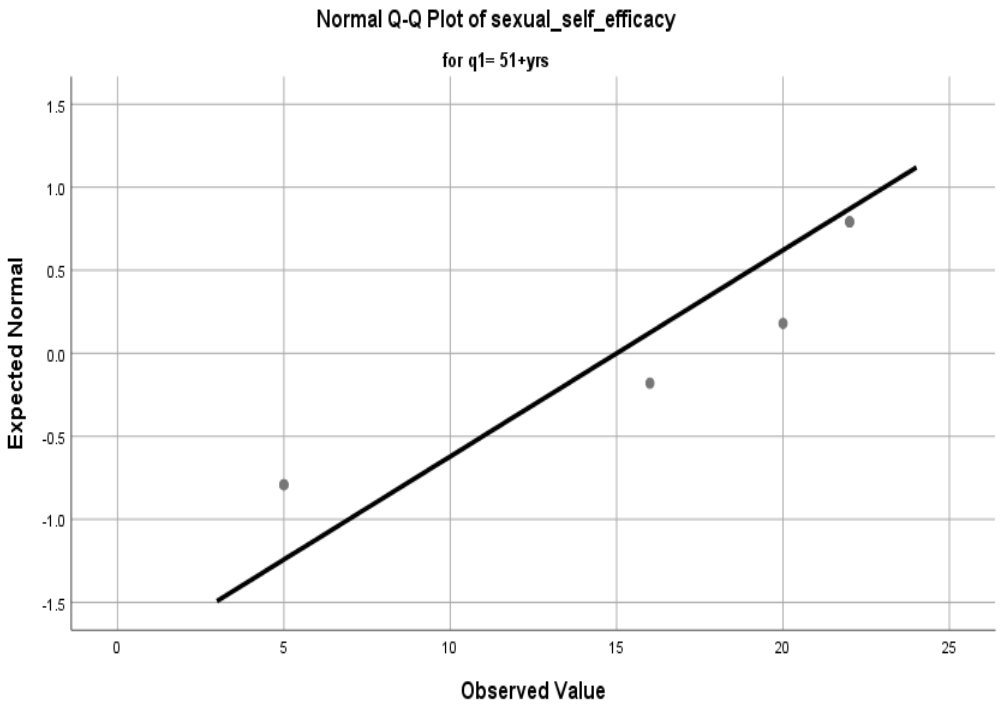
AGE AND SEXUAL SELF-EFFICACY

Descriptives					
	Age			Statistic	Std. Error
sexual_self_efficacy	31-40yrs	Mean		20.5000	.48529
		95% Confidence Interval for Mean	Lower Bound	19.4961	
			Upper Bound	21.5039	
		5% Trimmed Mean		20.5463	
		Median		21.0000	
		Variance		5.652	
		Std. Deviation		2.37743	
		Minimum		16.00	
		Maximum		24.00	
		Range		8.00	
		Interquartile Range		3.75	
		Skewness		-.212	.472
		Kurtosis		-.976	.918
	41-50yrs	Mean		20.8136	.36940
		95% Confidence Interval for Mean	Lower Bound	20.0741	
			Upper Bound	21.5530	
		5% Trimmed Mean		21.1111	
		Median		21.0000	
		Variance		8.051	
		Std. Deviation		2.83740	
		Minimum		5.00	

		Maximum		25.00	
		Range		20.00	
		Interquartile Range		2.00	
		Skewness		-3.235	.311
		Kurtosis		16.123	.613
	51+yrs	Mean		15.0000	3.28634
		95% Confidence Interval for Mean	Lower Bound	6.5522	
			Upper Bound	23.4478	
		5% Trimmed Mean		15.1667	
		Median		18.0000	
		Variance		64.800	
		Std. Deviation		8.04984	
		Minimum		5.00	
		Maximum		22.00	
		Range		17.00	
		Interquartile Range		17.00	
		Skewness		-.683	.845
		Kurtosis		-2.011	1.741





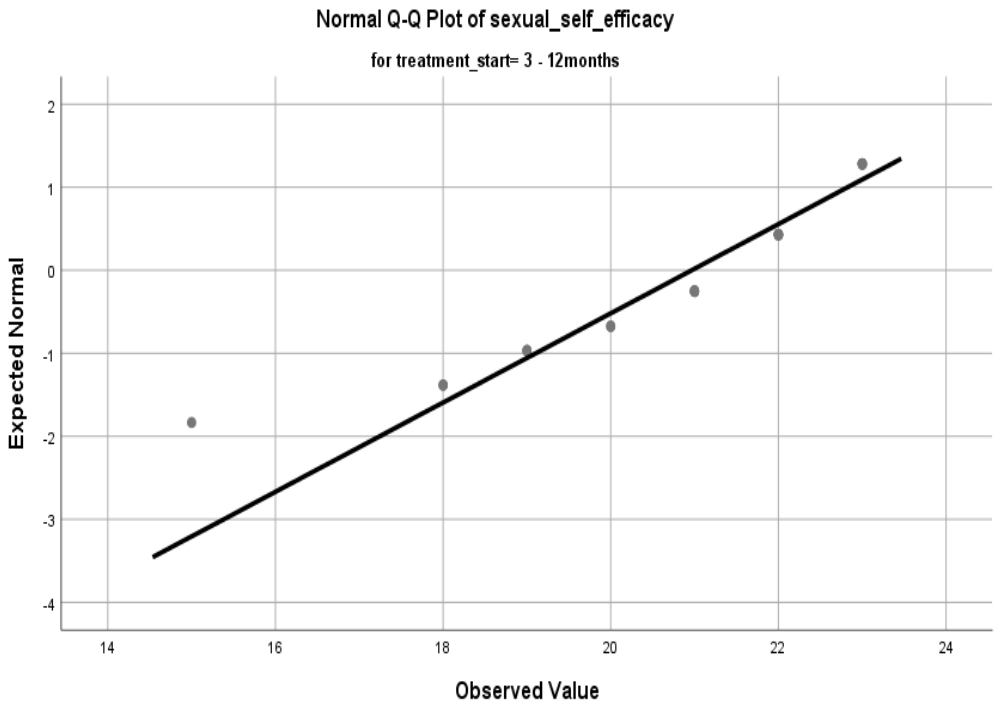


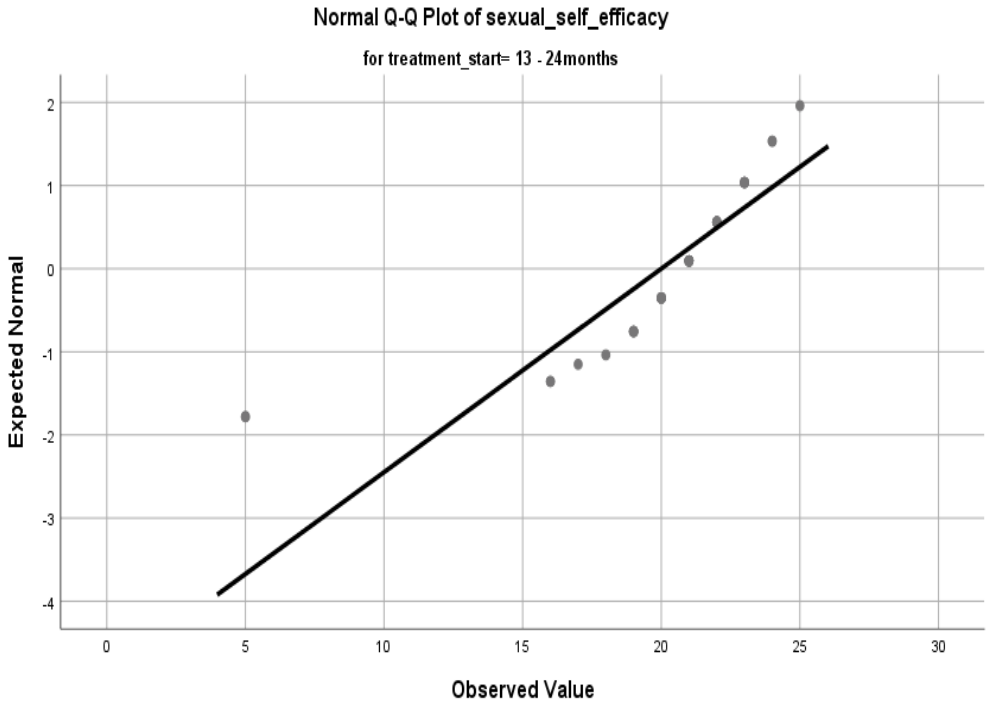
APPENDIX D

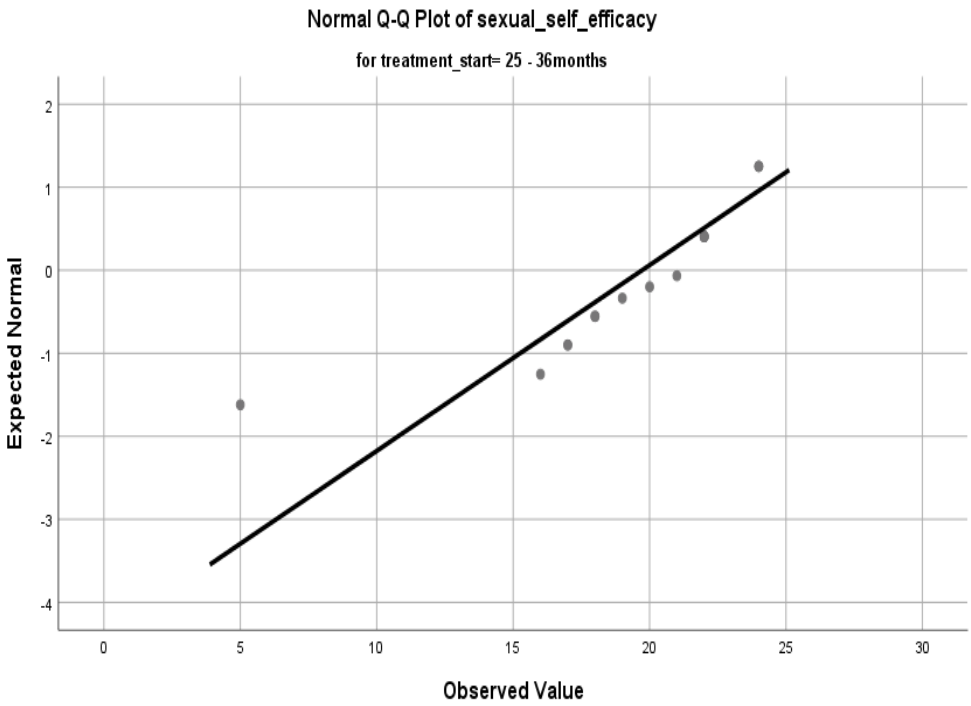
TIME SINCE TREATMENT BEGAN AND SEXUAL SELF-EFFICACY

Descriptives					
	treatment_start			Statistic	Std. Error
sexual_self_efficacy	3 - 12months	Mean		20.9655	.34557
		95% Confidence Interval for Mean	Lower Bound	20.2577	
			Upper Bound	21.6734	
		5% Trimmed Mean		21.1322	
		Median		21.0000	
		Variance		3.463	
		Std. Deviation		1.86093	
		Minimum		15.00	
		Maximum		23.00	
		Range		8.00	
		Interquartile Range		2.00	
		Skewness		-1.411	.434
		Kurtosis		2.420	.845
	13 - 24months	Mean		20.0000	.65406
		95% Confidence Interval for Mean	Lower Bound	18.6759	
			Upper Bound	21.3241	
		5% Trimmed Mean		20.5826	
		Median		21.0000	
		Variance		16.684	
		Std. Deviation		4.08463	
		Minimum		5.00	

		Maximum		25.00	
		Range		20.00	
		Interquartile Range		3.00	
		Skewness		-2.635	.378
		Kurtosis		8.208	.741
	25 - 36months	Mean		19.7222	1.05349
		95% Confidence Interval for Mean	Lower Bound	17.4996	
			Upper Bound	21.9449	
		5% Trimmed Mean		20.3025	
		Median		21.5000	
		Variance		19.977	
		Std. Deviation		4.46958	
		Minimum		5.00	
		Maximum		24.00	
		Range		19.00	
		Interquartile Range		4.25	
		Skewness		-2.213	.536
		Kurtosis		6.567	1.038



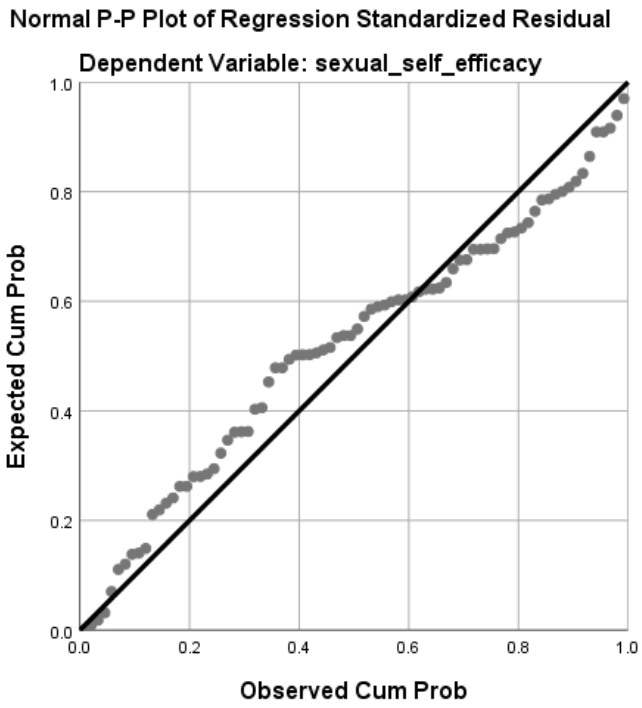


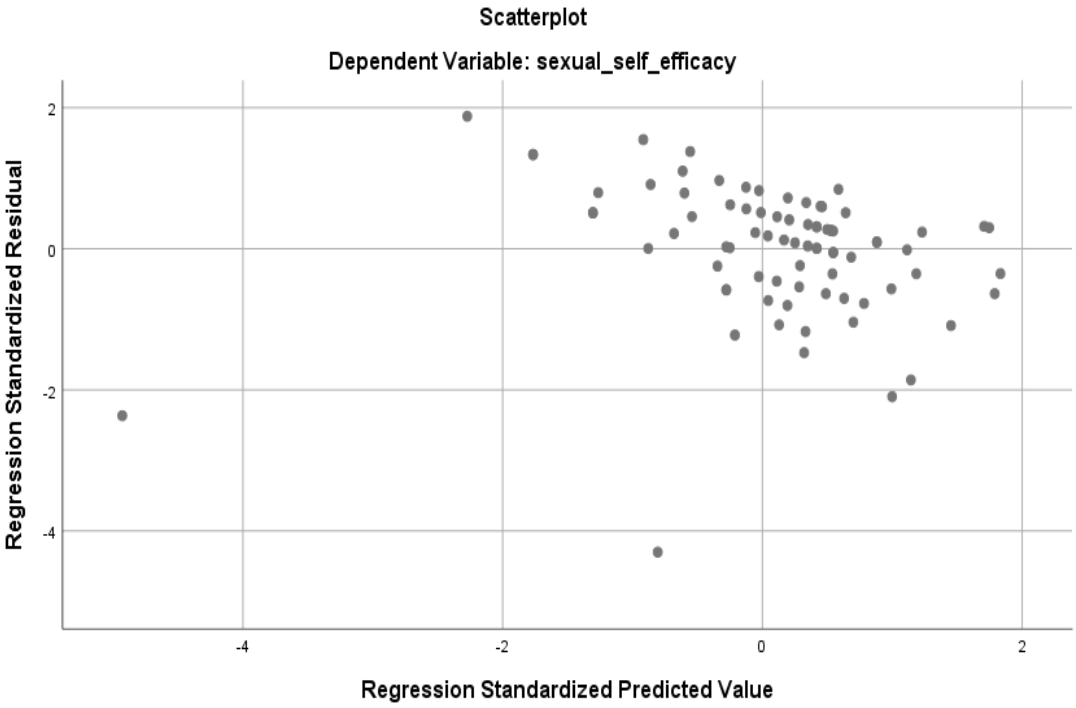


APPENDIX E

SOURCES OF SELF-EFFICACY AND SEXUAL SELF-EFFICACY

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	12.7584	23.1552	20.4871	1.50891	80
Std. Predicted Value	-4.929	1.833	.098	.981	80
Standard Error of Predicted Value	.416	2.053	.770	.322	80
Adjusted Predicted Value	15.9093	23.5395	20.5363	1.41449	80
Residual	-14.09752	6.15797	-.04964	3.05147	80
Std. Residual	-4.300	1.878	-.015	.931	80
Stud. Residual	-4.440	2.016	-.022	.983	80
Deleted Residual	-15.02605	7.09073	-.09880	3.43362	80
Stud. Deleted Residual	-5.136	2.059	-.033	1.036	80
Mahal. Distance	.283	29.988	4.125	5.243	80
Cook's Distance	.000	.977	.026	.115	80
Centered Leverage Value	.004	.380	.052	.066	80
a. Dependent Variable: sexual_self_efficacy					





APPENDIX F

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES-ERB/ucc.edu/v3/19-18
Your Ref: .....
Date: March 4, 2019

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

The bearer, Funu Innocent Asiaame Reg. No. EF/CHP/17/0015 is an M.Phil. / ~~Ph.D.~~ student in the Department of Education and Psychology ..... in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. He / ~~She~~ wishes to undertake a research study on the topic:

Psychological distress, cognitive coping and sexual self-efficacy of cervical cancer patients in Accra

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

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

Thank you.
Yours faithfully,

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

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

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

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

APPENDIX G

INTRODUCTORY LETTER

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

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

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref:

8th March, 2019

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

THESIS WORK
LETTER OF INTRODUCTION
MR. INNOCENT FUNU ASIWOME

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

Mr. Funu is researching on the topic: ***"Psychological Distress, Cognitive Coping and Sexual Self-Efficacy of Cervical Cancer Patients".***

He has opted to collect data at your institution/establishment for the Thesis work. We would be most grateful if you could provide him the opportunity for the study. Any information provided would be treated as strictly confidential.

Thank you.

Yours faithfully,

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

APPENDIX H

APPROVAL LETTER FROM KORLE BU TEACHING HOSPITAL

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

My Ref. No. KBTH/(MI)/C73/19
Your Ref. No...........................

KORLE BU TEACHING HOSPITAL
P. O. BOX KB 77,
KORLE BU, ACCRA.

Tel: +233 302 667759/673034-6
Fax: +233 302 667759
Email: Info@kbth.gov.gh
pr@kbth.gov.gh
Website: www.kbth.gov.gh

15th July, 2019

FUNU INNOCENT ASIWOME
UNIVERSITY OF CAPE COAST
CAPE COAST

PSYCHOLOGICAL DISTRESS, COGNITIVE COPING AND SEXUAL SELF-EFFICACY OF CERVICAL CANCER SURVIVORS IN KORLE BU TEACHING HOSPITAL

KBTH-IRB /00072/2019

Investigator: FUNU INNOCENT ASIWOME

The Korle Bu Teaching Hospital Institutional Review Board (KBTH IRB) reviewed and granted approval to the study entitled "Psychological distress cognitive coping and sexual self-efficacy of cervical cancer survivors in Korle Bu Teaching Hospital"

Please note that the Board requires you to submit a final review report on completion of this study to the KBTH-IRB.

Kindly, note that, any modification/amendment to the approved study protocol without approval from KBTH-IRB renders this certificate invalid.

Please report all serious adverse events related to this study to KBTH-IRB within seven days verbally and fourteen days in writing.

This IRB approval is valid till 30th June, 2020. You are to submit annual report for continuing review.

Sincere regards,

MR OKYERE BOATENG
CHAIR (KBTH-IRB)

Cc: The Chief Executive Officer
Korle Bu Teaching Hospital

APPENDIX I

INFORMED CONSENT FORM

Title: Relationship between psychological distress, cognitive coping and sexual self-efficacy of cervical cancer survivors in Korle Bu Teaching Hospital, Accra, Ghana.

Principal Investigator: Innocent Asiwome Funu

Address: Department of Education and Psychology, University of Cape Coast

General Information about Research

Sexuality is one of the indicators of Quality of Life (QoL); it influences thoughts, feelings, actions, social integration, and therefore, physical and mental health. Studies indicated that women undergoing cervical cancer treatment may suffer infertility and sexual dysfunctions as a major side effect which may be a source of distress to them. The questionnaire will last for about 35 to 50 minutes and your participation is completely voluntary. You are to respond to the questions by filling the blank spaces or ticking **[**√**]** where appropriate.

Possible Benefits

The findings of the study will serve as a guide and help in policy formulation to adopt a multi-disciplinary care approach in the management of cervical cancer and its related effects. It will also inform practice by helping the Clinical Health Psychologists to contribute to the development of interventions, including coping strategies, to maximize women's sexual self-concepts following gynaecological cancer treatments since sex life is an integral part in quality of life.

Confidentiality

We will protect information about you to the best of our ability. You will not be named in any reports or journal or magazine,

Compensation

There will be no compensation package either in cash or kind available for participants.

Voluntary Participation and Right to Leave the Research

Your participation in this research is voluntary and participant can withdraw without any penalty at any time.

Contacts for Additional Information

The following people can be contacted for further information about the research. Innocent Asiwome Funu: 0234729304/0203516110, Dr. Lebaeus Asamani: 0242122281 and Dr. Kenneth Asamoah-Gyimah: 0244753330

VOLUNTEER AGREEMENT

The above document describing the benefits, risk and procedures for the research title: Relationship between psychological distress, cognitive coping and sexual self-efficacy of cervical cancer survivors in Korle Bu Teaching Hospital, Accra, Ghana has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

_____ _____

Date Name and signature or mark of volunteer

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.

_____ _____

Date Name and signature of witness

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.

_____ _____

Date Name /Signature of Person Who Obtained Consent