

**PREVALENCE AND CORRELATES OF DEPRESSION AND ANXIETY AMONG  
PATIENTS WITH CERVICAL CANCER AT CANCER TREATMENT CENTRE,  
KENYATTA NATIONAL HOSPITAL**

RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF A DEGREE OF MASTER OF MEDICINE IN  
PSYCHIATRY

BY

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## DECLARATION

I declare that this thesis is my original work carried out in partial fulfillment of my requirement of the award of a master`s degree in medicine in psychiatry at the University of Nairobi. I have not submitted the same to any other university for the award of a degree.

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Signed .....  .....

Date October 4, 2021

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## **ACKNOWLEDGMENT**

I wish to acknowledge my supervisors for their unending support during this period of my thesis.  
May God bless you.

## **DEDICATION**

I want to dedicate this thesis to my children Bilal, Bassam, and Sherry, thank you for loving me unconditionally. Special dedication to my parents and siblings. I also want to dedicate this to Halima and Ilham for supporting me through this project.

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## **List of abbreviations**

APA- American psychiatric association

CTC- cancer treatment center

HADS- Hospital anxiety and depression scale

HIV- Human immunodeficiency virus

HPV- Human papillomavirus

KNH- Kenyatta national hospital

SPSS- Statistical package for the social sciences

UNAIDS- Joint United Nations Programme on HIV/AIDS

WHO- World health organization

## **OPERATIONAL DEFINITIONS**

**Anxiety:** Anxiety is a feeling of excessive worry, tension, restlessness, avoiding a certain situation, and reminders of triggers, also associated with physical symptoms.

**Depression:** Depression is a mood condition that can cause a feeling of remorse and/or lack of interest in things once enjoyed.

**Psychological distress:** This is a state of unpleasant feelings associated with stress and emotions that impact your level of functioning.

**Adjustment disorder:** This is a group of conditions or symptoms such as stress, feeling sad, and hopelessness that occur as a result of stressful life events such as the death of a loved one.

## ABSTRACT

### Introduction

Cancer of the cervix is one of the second and leading causes of cancer among women in Kenya

According to previous study cervical cancer patients have an unusually high rate of depressive symptoms, and according to retrospective observational research, the rate of depression in these patients is 33%-71.3%. Depression also negatively impacts the quality of life of these patients. (Shyu et al., 2019).

**Aim:** The study sought to find out the prevalence of depression and anxiety among cervical cancer patients. The study also identified the relationship between socio-

demographic characteristics, depression, anxiety, and cervical cancer. **Method:** it was a cross-sectional descriptive study at the cancer treatment center, Kenyatta National Hospital in which

120 participants with cervical cancer were interviewed. Respondents were chosen using

purposive sampling. HADS tool for assessing depression and anxiety and a socio-demographic questionnaire were used. **Results:** The mean age was 49.6, with the majority of the respondents

were Christians, farmers, had primary and below the level of education with an income of less than 5000 ksh, and more than a half were married. According to clinical factors, most of the respondents were at stage II and III cervical cancer and were mainly on combined treatment.

Most of the participants rated themselves as having poor quality of life and more than half were not satisfied with their health. The prevalence of both depression and anxiety was at 88%. For depression 15.8% mild, 45.8% moderate, and 25.8% severe, while anxiety 14.2% mild, 46.7%

moderate, and 26.7% severe. **Conclusion:** Patients with cervical cancer, need early diagnosis and early treatment, and most importantly they need psychological and emotional support after diagnosis and during treatment.

## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background

Depression is a mood condition that can cause a feeling of remorse and/or lack of interest in things once enjoyed according to APA (*Let's Talk Facts About Depression What Is Depression? How Depression and Sadness Are Different*, 2005). Anxiety and depression are a response to perceive threat and loss consecutively. Anxiety is a feeling of excessive worry, tension, restlessness, avoiding a certain situation, and reminders of triggers, also associated with physical symptoms. Patients can overestimate the therapy-related risks and hence the probability of a negative outcome. Physical symptoms such as stress (with repetitive thinking and avoiding cancer reminders) can also be intensified or worsened by anxiety. Severe and chronic depressive condition is popular in cancer patients than in the general population, at 10-20% during the illness (White & Macleod, 2002). Cervical cancer patients have a high rate of depression and anxiety compared with healthy individuals. (Zhao et al., 2020).

Cancer of the cervix is the fourth common cancer in women. Around 570 000 women globally were confirmed with cervical cancer in 2018, and approximately 311 000 died from the disease. Most cervical cancer cases can be avoided by successful vaccination and prevention methods (screening and treating precancerous lesions). Once diagnosed, as long as it is treated early and controlled efficiently, cervical cancer is one of the most curable forms of cancer. It can also be managed with proper treatment and symptomatic care when diagnosed in late stages (*Cervical cancer | WHO | Regional Office for Africa, 2018*). Cervical cancer may be a disease, just like HIV, which can be fueled by economic, social, and political disparities. With almost 80% of all cervical cancers and 90% of deaths, low-income countries face the greatest burden.

Experts predict that by 2040 there could well be a 50% rise in deaths if cervical cancer detection, screening, and care do not appear to be scaled up urgently (Unaid, 2019)

In Kenya, there is scanty literature on the incidence of cancers in general. It has also been noted that cervical cancer ranked second among women with cancer at 21.1% of all reported cancers in females in Nairobi (Korir et al., 2015)

Psychological distress can occur in cancer patients as a consequence of the disease or associated socio-economic factors. Healthcare workers tend to treat cancer and forget the psychological aspect of patients. Cancer patients can suffer from psychological distress due to many factors, such as the diagnosis of the disease itself, lack of available drugs, lack of social support, lack of finance, and many others.

It is against this background that this research seeks to find out the prevalence and correlates of depression and anxiety in cervical cancer patients at Kenyatta national hospital.



## 1.2 Statement Problem

Cervical cancer is major life stress that can decrease the quality of life and cause life symptoms. Studies have shown that cervical cancer patients have a high incidence of depression and anxiety compared with controls (Zhao et al., 2020).

In psychological and social settings, patients with cervical cancer have some significant differences. They appear to have issues with their image, identity, fertility, and sexual dysfunction due to the cancer location and treatment. In addition to cervical cancer, which is predominantly caused by the STI of HPV, cervical cancer patients can feel public stigma, and patients themselves show guilt, fear of social exclusion, and self-blame (Yi-Long Yang, Li Liu, Xiao-Xi Wang, Yang Wang, 2014).

Around 25% of hospitalized cancer patients have depressive symptoms that meet the requirements for depressive disorder or an adjustment disorder with depression (*National Institutes of Health Consensus Conference on Cervical Cancer ... - Google Books*, 1996) Besides, depression can be fatal because it may aggravate their diseases and may result in suicidal ideas and attempts. Unfortunately, it is commonly underdiagnosed and receives inadequate medical attention.

Studies are done regionally focused on associated factors influencing cervical cancer screening (Njuguna, 2017) other studies focused on caregivers of cancer patients( Adol, 2014), and also psychosocial aspects among patients who attend oncology clinics (angachi Milcah O, 2014). None of them focused on depression and anxiety among patients with cervical cancer.

This research seeks to find out the prevalence and correlates of depression and anxiety among patients with cervical cancer at Kenyatta National Hospital.

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1 Global Burden of the Disease

Cancer of the cervix is the fourth frequent cancer in women, ranked after breast, colorectal, and lung cancer. Its median age-standardized incidence is 13.1 per 100 000 women in the entire world and it is distributed across nations (Arbyn et al., 2020b). The global burden is estimated to rise to nearly 700,000 cases and 400,000 deaths by 2030, and the greater account of these cases are from developing countries(*Draft Global Strategy towards Eliminating Cervical Cancer as a Public Health Problem*, 2020)

#### 2.2 Global Studies

Globally, most of the studies carried out in patients with cervical cancer on the prevalence of anxiety and depression are cross-sectional, which has the advantage of studying the impacts of various demographic variables on the individual. Most of these studies were done in Asia.

A cross-sectional study in china, on the prevalence and related supportive psychological variables of depression and anxiety found that depression and anxiety were 52.2 percent and 65.6 percent consecutively. Anxiety was higher than depression, and it had been significantly high in stage 2 and after diagnosis, at 4-6 months(Y.-L. Yang et al., 2014). A cohort study, done in China which used the HADS score on the incidence, risk factors, and prognostic importance of anxiety and depression in patients with cervical cancer undergoing resection found that anxiety was at 44.9% compared with controls at 16% while depression was at 36.1% compared with controls at 12.7% (Zhao et al., 2020).

A Seoul descriptive correlational cross-sectional study on depression, sexual function, and quality of life in patients with cervical cancer found moderate to extreme depression, and also patients

who had high levels of depression tended to have a low sexual function and decrease quality of life (Bae & Park, 2016).

In India in 2016, research done on depression and anxiety disorders in cancer patients, found that 37.5% had depression and 35.7% had a general anxiety disorder, and also the majority of the patients were from low socio-economic status(Shankar et al., 2016).

Research conducted in Ethiopia on the prevalence and associations of depression and anxiety in cancer patients found that anxiety and depression were 51% and 58.44% respectively (Berihun, 2017).

### **2.3 Regional Studies**

According to the literature review, not much research has been done in Africa except for south and West Africa. Approximately 80% of patients were reported with depressive symptoms in which 78% were moderate, 18% mild, and 4% severe in descriptive research at cancer disease hospital in Lusaka, Zambia on depression among patients with cervical cancer seeking care (Paul et al., 2016).

A randomized controlled study in west Africa, in an oncology clinic on the prevalence of depression among the attendees found that depression in cancer patients was 27.5% and 9.5% in controls in which 65.5% had moderate, 27.3% mild and 7.2% had severe depression. Also, a great number of cancer patients with acute medical conditions had depression compared with the controls (Olagunju & Aina, 2011).

## **2.5 Social-Demographic Characteristic of Patients with Cervical Cancer**

Social-demographic characteristics affecting women with cervical cancer include age, ethnicity, religious background, level of education, marital status, employment, and others. Most social-demographic studies on gynecological cancer especially cervical cancer were done regionally.

Ghanaian cross-sectional research to determine women's information of risk factors, prevention, and treatment of cancer of the cervix, found that respondents' level of knowledge was very low. The respondents had insufficient data on cervical cancer risk factors, signs, diagnosis, and therapy. 9.7% of the women had a significant amount of data on cervical cancer, 20.6% had moderate and 69.7% had low data of it (Gyamfua et al., 2019)

A study was done in Ethiopia on social demographic features and related factors affecting cervical cancer screening among women found that the adoption of screening was poor. Also, rural residency, low wages, and absence of awareness were significant factors of low cervical cancer screening practice use (Woldetsadik et al., 2020).

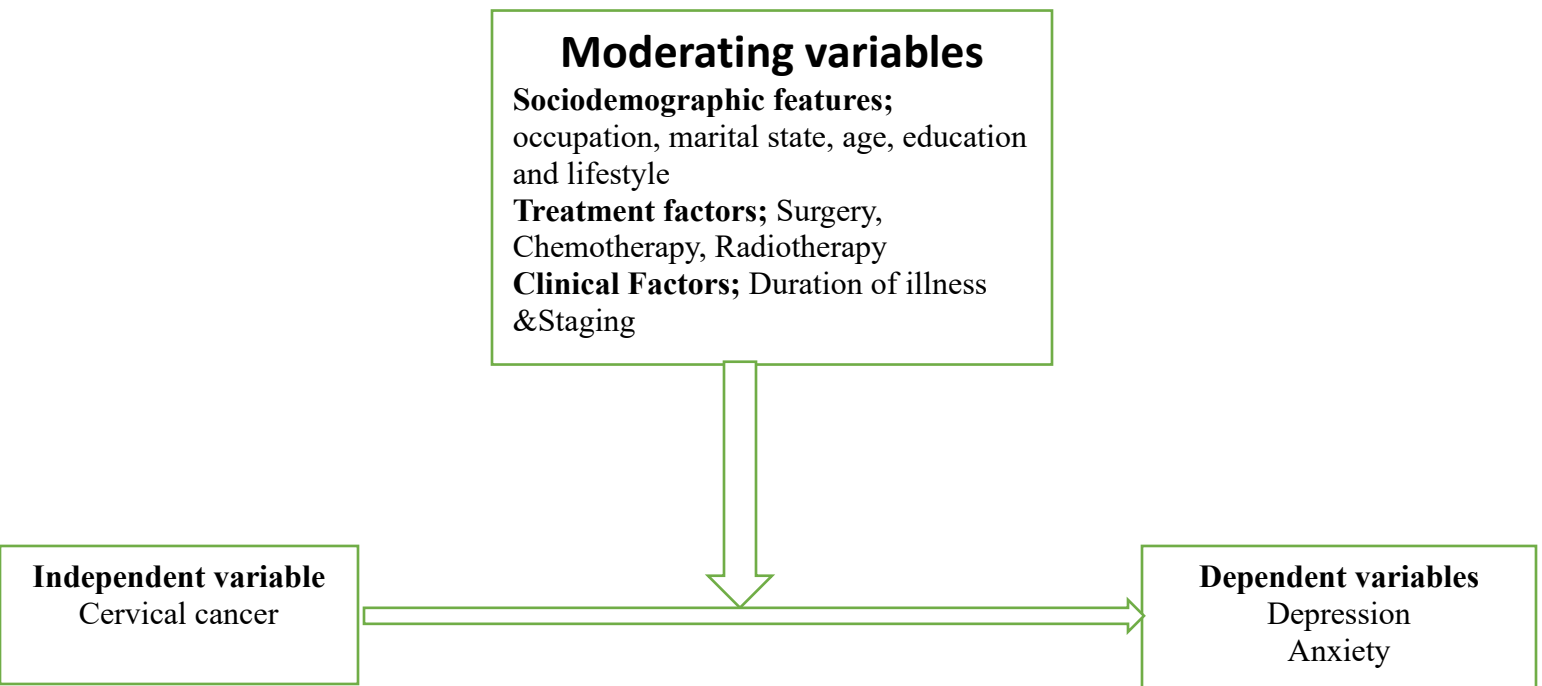
## **2.6 Risk Factors Associated With Depression and Anxiety in Cervical Cancer**

There are lots of risk factors related to psychological distress in patients with cervical cancer such as the diagnosis of cancer itself, length of illness, type, and duration of treatment. In Indonesia, a study of factors influencing the prevalence of depression in patients with cervical cancer found that extreme depression is increased directly by the incidence of chemotherapy, late-stage, and the period of disease from diagnosis  $\geq 11$  months. Also, severe depression is indirectly affected by social, family health personnel support, family income, occupation, level of education, and marital status (Shinta et al., 2019).

## 2.7 Conceptual Framework

The figure below shows how the relationship between dependent variables, independent variables, and moderating variables. It also shows how the social-demographic factors, lifestyle, and environment are the determinants of cervical cancer, also the staging of the disease and treatment factors have an influence on the dependent variables, and how they all contribute to the occurrence of depression and anxiety.

**Figure 1: conceptual framework**



## **2.8 Justification**

In Africa, Central America, and Asia, Cervical cancer is one of the frequent cancers affecting women. Also, it was the most dominating agent of cancer death in women (Arbyn et al., 2020a). Kenya also ranks 16 out of 20 countries burdened with high cervical cancer with an age-standardized ratio of 40.1 per 100,000 globally (Ngutu & Nyamongo, 2015).

Cervical cancer has many adverse effects on the psychological and physical health of the patient, it may lead to a decline in these patients' quality of life. Cancer diagnosis and treatment are known to be significant life stressors that may contribute to or worsened the psychological distress associated with it. Some systematic reports have shown that anxiety and depression are the most common psychiatric disorders in cancer patients (Y. L. Yang et al., 2014).

Patients who come from rural experience a lot of difficulties such as economic burden, a place to stay while undergoing radiotherapy, and lack of social support, as most of their family members are not in the urban areas. All of this may contribute to psychological distress.

Very little psychosocial management is provided to these cancer patients. Health workers must provide psychological support and assess the mental health of the patient.

Few if any studies have been done to look at the psychosocial aspect among cervical cancer patients at KNH. The purpose of this research is to answer this question and contribute to the body of knowledge.

For other related studies to be done among these cancer patients, the research will also serve as a springboard.

This research will also provide knowledge to the clinical staff, administration of the hospital, and policymakers on the importance of psychosocial interventions among patients with cancer.

## **2.9 Study Question**

The research questions were

- 1) What are the prevalence and correlates of depression and anxiety among patients with cervical cancer at CTC-KNH?
- 2) What are the socio-demographic characteristic associated with cervical cancer patients at CTC- KNH?

## **2.10 Broad Objective**

The broad objective was to assess the prevalence and correlates of depression and anxiety among patients with cervical cancer at CTC, KNH.

## **2.11 Specific Objectives**

- 1) To determine the prevalence of depression among cervical cancer patients.
- 2) To determine the prevalence of anxiety among cervical cancer patients.
- 3) To determine the socio-demographic characteristic of cervical cancer patients.
- 4) To determine the association between socio-demographic features, cervical cancer, and depression and anxiety

## CHAPTER THREE

### 3.0 Methodology

#### 3.1 Study Design

This research was a cross-sectional descriptive study to assess the prevalence and Correlates of depression and anxiety among patients with cervical cancer.

#### 3.2 Study Site

This research was carried out at the Kenyatta National Hospital (KNH) Cancer Treatment Center in Nairobi, Kenya. KNH is a public, Teaching and Referral Hospital in Kenya. The clinic is Kenya's only public health facility where the poor can get advanced, intensive cancer care. The clinic attends to over 50 patients, both new and those already on treatment every day (*Oncology Clinic: Kenyatta National Hospital*, 2014). Most cervical cancer patients who attend CTC are usually a referral from peripheral facilities within Kenya after receiving initial intervention of either surgery and/or chemotherapy depending on the stage of cancer. The main form of treatment provided in CTC is concomitant chemoradiotherapy with an external beam for 8-9 weeks, after which they are given brachytherapy.

#### 3.3 Study Population

The study respondents consisted of patients with a histological diagnosis of cervical cancer, that are already on treatment, and those who are on follow-up at KNH-CTC. KNH was chosen as the research area because CTC runs daily from Monday through Friday for both new and old patients. This made it an ideal place to get an adequate random number of eligible participants.

#### 3.4 Inclusion Criteria

- i. All patients who had consented, with a histological diagnosis of cervical cancer above and the age of 18 years and above.
- ii. It included Patients undergoing treatment and who are on follow-up in the clinic.

#### 3.5 Exclusion criteria

- i. Patients who did not consent were excluded.



### 3.6 Sampling

#### 3.6.1 Sampling Procedure

Purposive sampling was used to recruit respondents in this research. All respondents who had histological results of cervical cancer, those undergoing treatment, and those who are on follow-up in the clinic for treatment, were included in the study. It was done consecutively until the minimum sample size required was reached.

#### 3.6.2 Sample Size determination

The sample size for this study was derived using Fisher's formula with a precision /absolute error of 5% and a type 1 error of 5% (Rosner, Bernard, 2010).

$$n = \frac{Z_{1-\alpha/2}^2 p(1-p)}{d^2}$$

Where;

n = the desired sample size.

$Z_{1-\alpha/2}$  = the standard normal variate (at 5% type 1 error,  $P < 0.05$ ) = 1.96

p = is the estimated proportion (52.2%) of patients with depression among cancer patients in a hospital-based population based on previous research (Y.-L. Yang et al., 2014).

d = is the absolute error or precision-decided by researchers usually 5%.

$$\text{Sample size} = \frac{(1.96^2 \times 0.52 \times 0.48)}{0.05^2} = 377$$

The sample size for finite population

$$n' = \frac{n}{1+(n-1)/N}$$

Where;

n' = adjusted sample size

n = sample size

N = population size

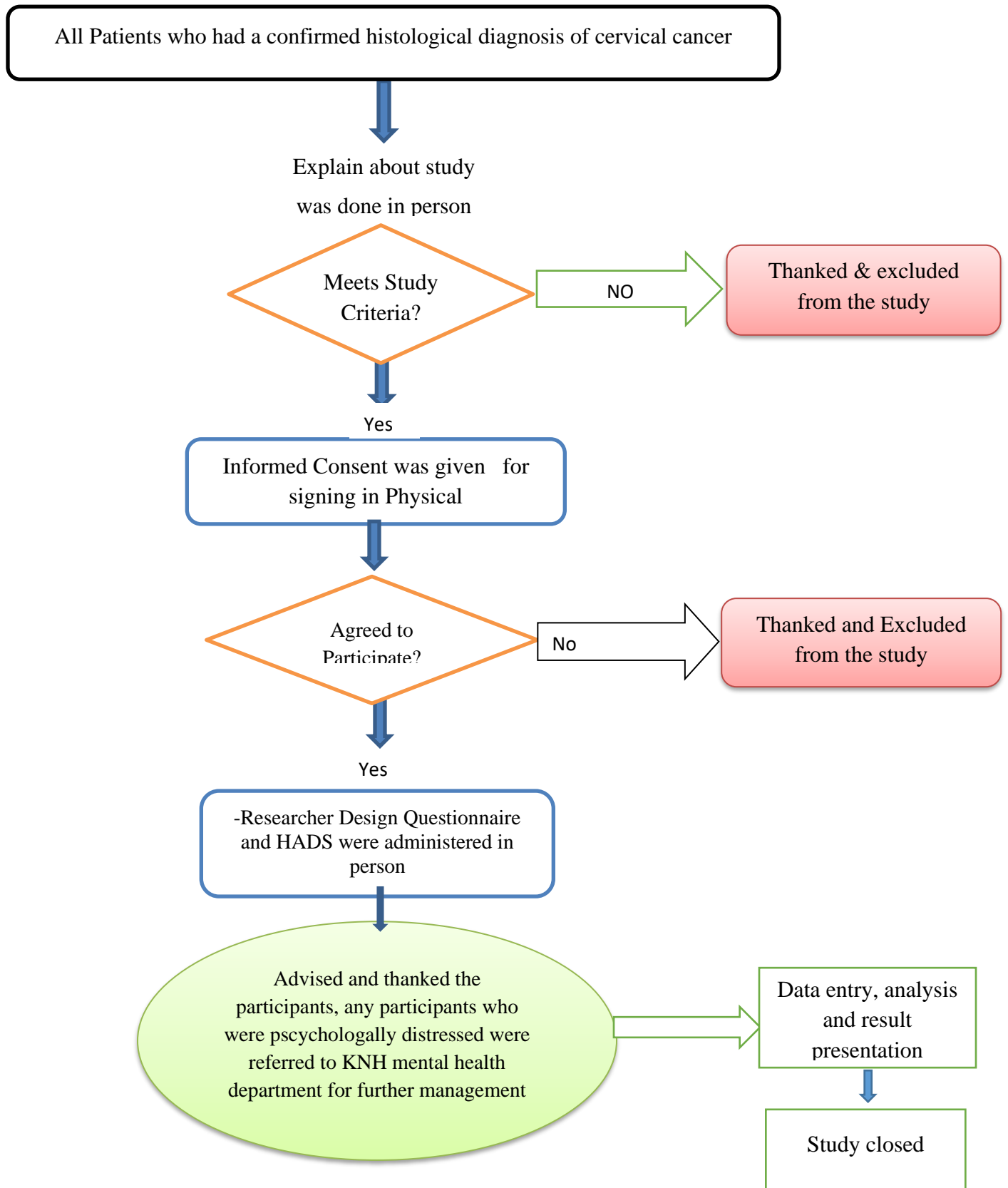
Based on the average number of 35 cervical cancer patients who are undergoing treatment and those who are on follow-up treatment per month at the KNH clinic translating to 140 patients over four months of the data collection period. Finite population correction was applied to achieve a minimum sample size required of 103 participants. The minimum sample size required was 112 participants, allowing for a 10% non-response rate.

### **3.7 Recruitment and data collection procedure**

Study participants were recruited at KNH-CTC. The researcher figured out who was qualified to be in the research by using the inclusion and exclusion criteria. The participants who were not qualified were thanked and excluded. For those who qualified, the researcher explained to each one of them the details of the study and also answered any questions or clarifications. A consent form was given to those who consent, after signing the consent sheet they were thanked and directed to a room that had the data collection tools.

Data were collected by the principal researcher and a trained assistant. The HADS scale, a socio-demographic questionnaire were given to the participants who had consented and were also assured of confidentiality. Then the researcher read the questions one by one just the way they were written. Their answers were recorded as they were responding. Once the participant was done with the questionnaires the researcher collected them and thanked the participants who then continue with the normal clinic process.

**Figure 2: study flow chart**



### **3.8 Data collection instruments**

For the study, the researcher used the following tools

#### **3.8.1 HADS scale**

It is a scale of fourteen items containing 7 items for anxiety and 7 items for depression. It was developed in 1983 by Zigmond and Snaith and it is widely used by physicians to classify a patient's levels of anxiety and depression. Each questionnaire item is graded from 0-3 and this implies that for either anxiety or depression, a person will score between 0 and 21. Scores below 7 are average, 8-10 mild, 11-14 moderate, and above 15 are extreme, as well as different scores for anxiety and depression (Zigmond & Snaith, 1983).

According to studies, the optimal cut off for anxiety is  $\geq 8$  (sensitivity 0.89, specificity 0.75) and for depression is  $\geq 8$  (sensitivity 0.80 and specificity 0.88) (Olsson et al., 2005)

#### **3.8.2 Socio-demographic questionnaire**

It was a researcher-designed questionnaire, which included information on the participant's age, marital state, education, religion, monthly income, and occupation. It also included questions on clinical, treatment factors, and quality of life.

### **3.9 Data management**

#### **3.9.1 Data entry**

All filled questionnaires were kept in a cabinet under lock and key. The process happened everyday from Monday to Friday until the required sample size was achieved. The researcher was the only person who had the key to the cabinet. After completion of data collection, all data was entered into MS-Access using only the numeric identification code to identify participants. After completing the data entry, the data was checked for errors before the commencement of data analysis using SPSS v23. Software.

### **3.9.2 Statistical Analysis**

Descriptive statistics, frequency tables, pie- or bar charts were provided to demonstrate the distribution of data in the case of discrete variables. In the case of continuous variables, means and standard deviations were provided. For inferential statistics, bivariate and multivariate analysis was conducted. Pearson's Chi-square was used at the level of bi-variate analysis to investigate the relationships between the study variables and provide unadjusted odds ratios. A multivariate analysis, adjusted odds ratios were provided after controlling for factors that were found to be significantly associated with outcome variables at a bivariate level. The statistical significance level was set at an alpha level of  $p < 0.005$ .

### **3.9.3 Quality assurance procedure**

A research assistant was adequately trained on data collection and the procedure of handling data before the study. It involved piloting data collection tools. Any questionnaires filled during the study were checked by the principal investigator to ensure completeness and accuracy of information. A standard operating procedure for data collection was developed to ensure the data is collected uniformly. A qualified biostatistician was involved to ensure that data is entered, managed, and analyzed appropriately. Data collection tools were kept under lock and key and the computer used to enter and analyze data were password protected. The tools were only available to the PI, supervisors, and biostatisticians. The study assistant and biostatisticians signed a confidentiality agreement to enhance the protection of participants' identities and information as handled the identifiable data.

### **3.10 Ethical Consideration**

1. The researcher sought approval from the Kenyatta National Hospital and the University of Nairobi Ethics and Research Committee (KNH – UON ERC)
2. Confidentiality was observed by ensuring that there were no names or outpatient numbers used during the study. Serial numbers were used. The collected hard copy data was kept under lock and key while soft copies were stored in a password-protected device.
3. All participants in the study were provided with the details of the research before their consent was obtained. They were informed that their involvement in the study was voluntary and very important. The ethical consideration and consent forms were explained to all respondents.
4. Approval was sought from the head of CTC.

### **3.11 Study Results Dissemination Plan**

Results from this study would be developed into a thesis for a degree in Medicine (Psychiatry) and also disseminated through presentations at the KNH cancer treatment center, cancer workshops, and scientific publications in peer-reviewed journals.

### **3.12 Limitations of the Study**

This study was carried out at the KNH's cancer treatment center which is a public clinic and therefore the study and the results cannot be generalized to private clinics and the general population. It also did not involve inpatients. It was done during a covid-19 pandemic, hence the low turnout number of the patients.

**Table 1: Work plan**

Number	Activity	Estimated time
1.	Proposal writing and presentation	March to November 2019
2.	Submission of the final copy of the proposal and ethical review	December 2020
3.	Data collection and entry	March to April 2021
4.	Data analysis	April 2021
5.	Thesis write up	May 2021
6	Submission of the final thesis	June 2021

**Table 2: Budget estimates**

	Quantity/ People	Days	Unit (Ksh.)	Cost (Ksh.)	Total Cost (Ksh.)
<b>Stationery</b>	20	N/A	500		10,000
<b>Ethics Payment</b>	1	1	2500		2,500
<b>Pens</b>	30	N/A	20		600
<b>Transport</b>	2	30	400		24000
<b>Airtime</b>	2	30	300		18000
<b>Data Entry</b>	1	5	1000		5,000
<b>Data Analysis</b>	1	5	3000		15,000
<b>TOTAL</b>					45,600
<b>Contingency (10%)</b>					4,560
<b>GRAND TOTAL</b>					<b>79660</b>

## CHAPTER FOUR: RESULTS AND ANALYSIS

### 4.0 Results and Data Analysis

#### 4.1 Introduction

This chapter contains the description of data collection as well as the objectives, the prevalence of depression and anxiety, sociodemographic characteristics of the respondents, and association between depression, anxiety, and socio-demographic characteristic of the respondent. The results are presented in tables, graphs, and pie charts.

#### 4.2 Descriptive statistics

##### 4.2.1 socio-demographic and other characteristics of the respondents

According to the age of the respondents, the mean age was 49.6 and ranged from 26-73 years. In terms of religion, the majority were Christians at 95% and Muslims at 5%. In terms of educational level, more than half (51.7%) had primary and below the level of education, 40% had secondary education and 8.3% had college/tertiary education respectively.

**Occupation:** The majority of the participants were farmers at 58.8%, traders/ businesspersons were at 26.9% and the rest at 14.3% were either unemployed, housewives or retired.

**Monthly income:** More than three quarters at 77% had an income of <5,000 Ksh per month. And 23% had an income of more than 5000ksh.

**Marital status:** The majority of the participants 56.7% were married, 15% were separated/divorced and 17.5% were widowed 10.8% and 15.5% were single.

**HIV and HPV status:** The majority of the patients were negative for HIV at 84.5% and 15.5% had been diagnosed with HIV while were diagnosed with HPV.

**Family history of cancer:** 38.3% of the participants reported having a positive family history of cancer and 61.7% non.

**Multiple sexual partners:** 46.7% had multiple sexual partners and 53.3 % had a single partner.

**Quality of life and health satisfaction:** With regards to the quality of life assessed via WHOQoL more than 70% rated themselves as having poor quality of life while 5% rated themselves as having



a good quality of life. More than half (55%) indicated that their health satisfaction was poor, while only 10% said it was good.

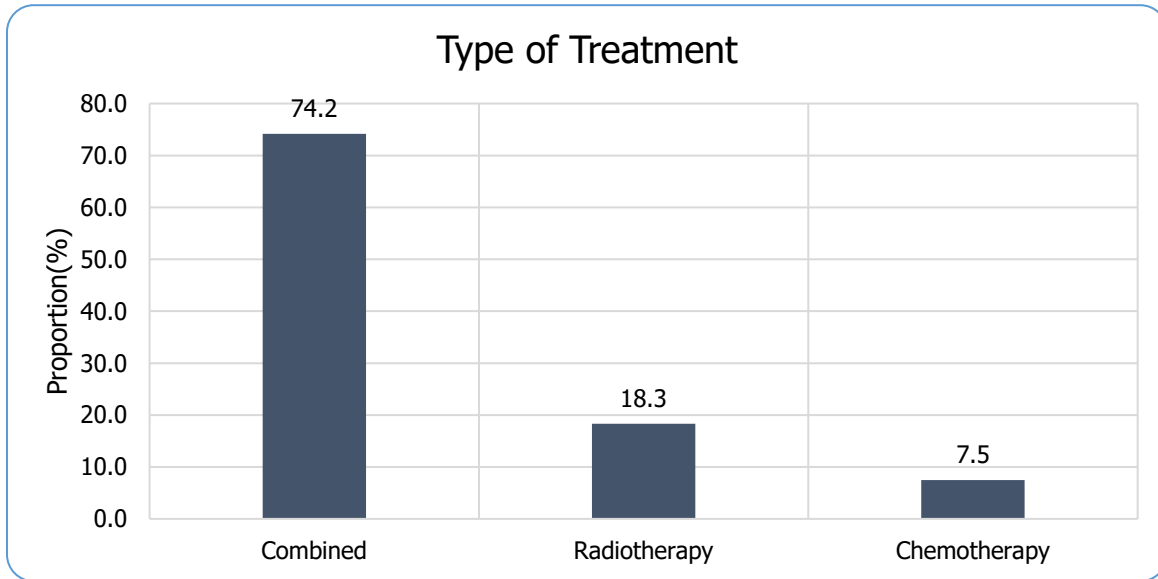
**Time since diagnosis and type of treatment:** The mean time since diagnosis of cancer was 8.7 months and ranged from 1 to 17 months. With regards to cancer treatment 74.2% received combined treatment of chemotherapy and radiotherapy, 18.3% were receiving radiotherapy alone and 7.5% were receiving chemotherapy alone. The majority of the participants were at stage II (43%), stage III (37.5%), Stage IV (7.5%), and stage I (6.7%).

**Table 3:** The socio-demographic and other characteristics of the respondents

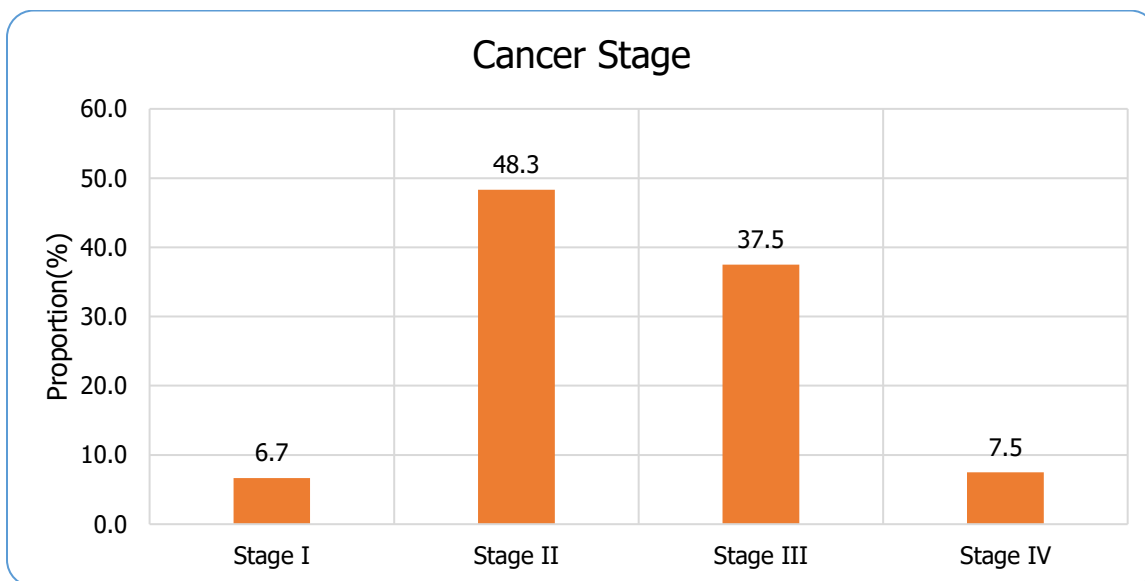
<b>Variable</b>	<b>Category</b>	<b>Frequency (N=120)</b>	<b>Percentage (%)</b>
Age in Years	Mean; Median; Range	49.6; 48; 26-73	
Religion	Christian	114	95.0
	Muslim	6	5.0
Education Level	Primary and Below	62	51.7
	Secondary	48	40.0
	College/University	10	8.3
Occupation	Farmer	70	58.8
	Trader/Business	32	26.9
	Others	17	14.3
	<i>Non-Response</i>	<i>1</i>	
Marital Status	Never Married	13	10.8
	Married	68	56.7
	Separated/ Divorced	18	15.0
	Widowed	21	17.5
Income per Month	Below 5,000 Ksh	87	77.0
	Above 5,000 Ksh	26	23.0
	<i>Non-Response</i>	<i>7</i>	
Ever been diagnosed with HIV	No	98	84.5

	Yes	18	15.5
	<i>Non-Response</i>	4	
Ever been diagnosed with HPV	No	103	87.3
	Yes	15	12.7
	<i>Non-Response</i>	2	
Family History of cancer	No	74	61.7
	Yes	46	38.3
Has Multiple sexual partners	No	64	53.3
	Yes	56	46.7
Self-rated quality of life	Very Poor	46	38.3
	Poor	39	32.5
	Neither Poor nor good	29	24.2
	Good	6	5.0
Self-rated Health satisfaction	Very Poor	24	20.0
	Poor	42	35.0
	Neither Poor nor good	42	35.0
	Good	12	10.0
Time Since Diagnosis Months	Mean; Median; Range	8.7; 5.0; 1-48	
Type of Treatment	Chemotherapy	9	7.5
	Radiotherapy	22	18.3
	Combined	89	74.2
Cancer Stage	Stage I	8	6.7
	Stage II	58	48.3
	Stage III	45	37.5
	Stage IV	9	7.5

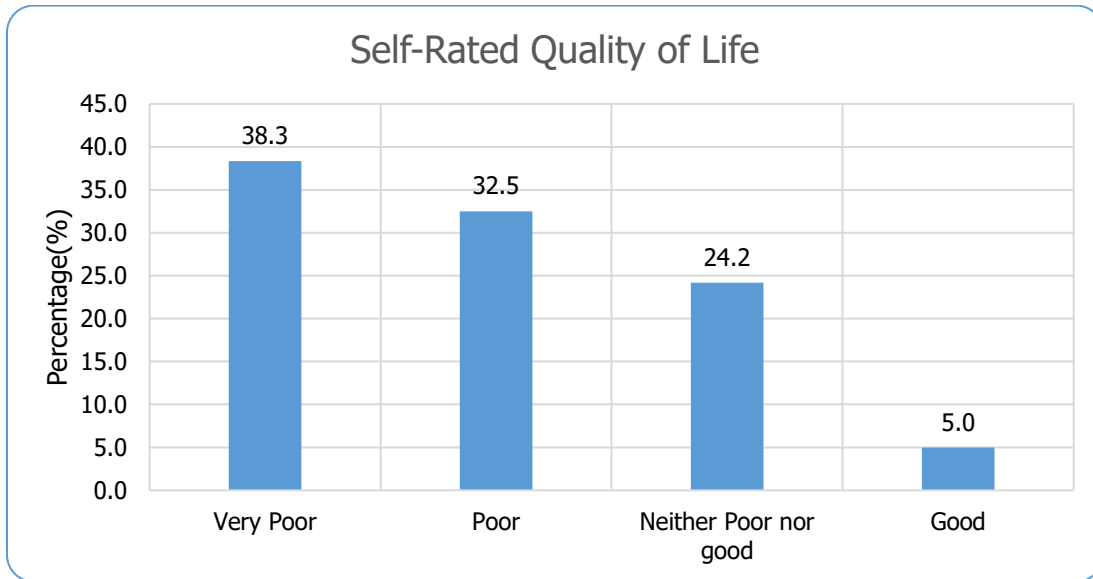
**Figure 3:** Type of treatment



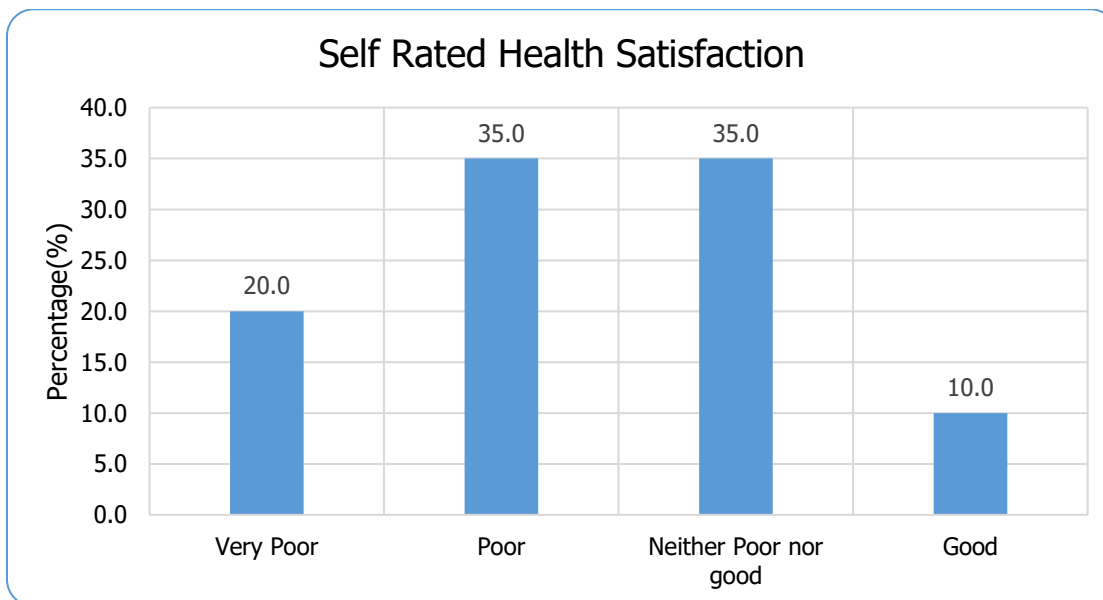
**Figure 4:** Cancer staging



**Figure 5:** Self-rated quality of life



**Figure 6:** Self-rated health satisfaction



#### 4.2.2 Prevalence of Anxiety and Depression

A total of 103 participants screened positive for both depression and Anxiety (Scores  $\geq 8$ ) giving a prevalence rate of 87.5% 95% C.I. 80.8% to 93.3%. (Table 4.5 and Figure XX). The Mean Median, SD, Min. Max and interquartile range are presented in Table 4.2

As shown in Table 4.2, the prevalence of mild depression was 15.8%, Moderate 45.8%, and severe depression 25.8%, likewise the prevalence of mild anxiety was 14.2%, moderate 46.7%, and severe 26.7%.

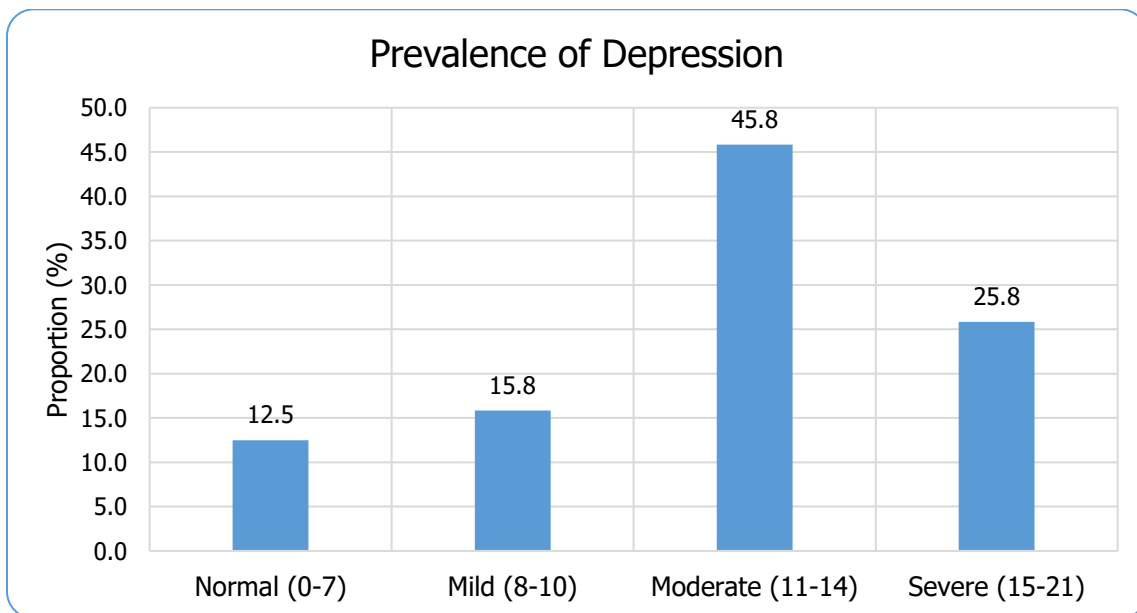
**Table 4:** Prevalence of Anxiety, Depression and Comorbid Anxiety and Depression

Measure	Category	Frequency (N=131)	Percentage (%)	95% C.I.	
				Lower	Upper
Depression	Normal (0-7)	15	12.5	6.7	19.2
	Mild (8-10)	19	15.8	10.0	22.5
	Moderate (11-14)	55	45.8	36.7	55.0
	Severe (15-21)	31	25.8	17.5	33.3
Anxiety	Normal (0-7)	15	12.5	6.7	19.2
	Mild (8-10)	17	14.2	8.3	20.0
	Moderate (11-14)	56	46.7	38.3	55.8
	Severe (15-21)	32	26.7	19.2	34.2
Prevalence of Anxiety		105	87.5	80.8	93.3
Prevalence of Depression		105	87.5	80.8	93.3
Prevalence of Comorbid Depression & Anxiety		97	80.8	73.3	87.5

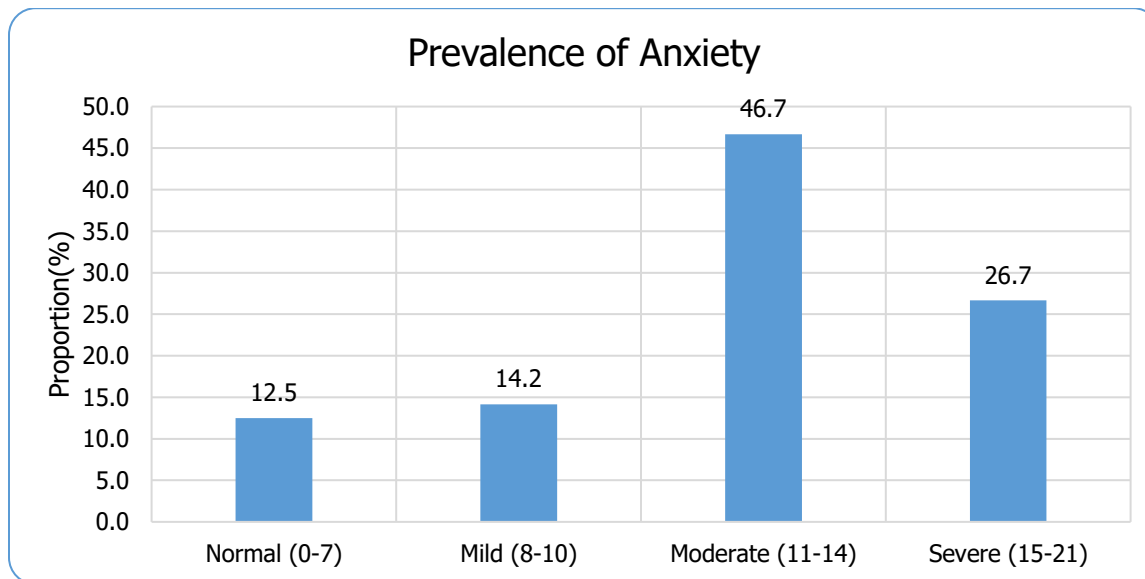
**Table 5:** Descriptive Statistics of Anxiety and Depression

Measure	Depression Scores	Anxiety Scores
▪ Mean	12.1	12.1
▪ Median	12.0	13.0
▪ Minimum	0.0	3.0
▪ Maximum	21.0	18.0
▪ Interquartile Range	5.0	5.0

**Figure 7:** Prevalence of depression



**Figure 8:** Prevalence of anxiety



#### **4.2.3: Factors associated with anxiety**

Table 4.4 presents the bivariate analysis for socio-demographic and other factors associated with anxiety. Older participants had significantly lower anxiety scores as compared to those who were younger. Respondents who had a family history of cancer had significantly higher anxiety scores as compared to those who did not ( $p=0.041$ ), likewise, participants who had multiple sexual partners had significantly higher anxiety scores as compared to those who did not ( $p=0.016$ ).

In terms of self-rated quality of life participants who rated themselves as having poor quality of life had significantly higher anxiety scores as compared to those who rated themselves as having a good quality of life ( $p<0.001$ ). Participants who rated their satisfaction with their health as poor had significantly higher anxiety scores as compared to those who rated as good ( $p<0.001$ ). Participants who were diagnosed earlier had significantly higher anxiety scores as compared to those who had been diagnosed recently ( $p=0.012$ ).

Participants who were receiving chemotherapy alone had significantly lower anxiety scores as compared to those who were receiving radiotherapy alone and those receiving combined chemotherapy and radiotherapy ( $p= 0.044$ ). Participants who had higher depression scores had significantly higher anxiety scores ( $p<0.001$ ).

**Table 6:** Factors associated with Anxiety (Bivariate analysis)

Variable	Category	N	Mean±SD	p-Value
Age <sup>&amp;</sup>	β(s.e)	119	-0.05(0.03)	0.056
Religion <sup>†</sup>	Christian	114	12.2±3.6	0.315
	Muslim	6	10.7±3.2	
Education Level <sup>‡</sup>	Primary and Below	62	11.8±4.2	0.450
	Secondary	48	12.3±3.0	
	College/University	10	13.3±2.0	
Occupation <sup>‡</sup>	Farmer	70	12.0±3.5	0.659
	Trader/Business	32	12.0±3.6	
	Others	17	12.9±4.0	
Marital Status <sup>‡</sup>	Never Married	13	13.5±2.8	0.553
	Married	68	11.9±3.1	
	Separated/ Divorced	18	12.1±4.9	
	Widowed	21	11.9±4.1	
Income er Month <sup>†</sup>	Below 5,000 Ksh	87	12.7±3.5	0.098
	Above 5,000 Ksh	26	11.4±3.3	
Ever been diagnosed with HIV <sup>†</sup>	No	98	11.9±3.9	0.639
	Yes	18	12.4±5.2	
Family History of cancer <sup>†</sup>	No	74	11.6±4.0	<b>0.041</b>
	Yes	46	13.0±2.7	



Ever been diagnosed with HPV <sup>†</sup>	No	103	12.2±3.5	0.989
	Yes	15	12.2±4.0	
Has Multiple sexual partners <sup>†</sup>	No	64	11.4±3.8	<b>0.016</b>
	Yes	56	12.9±3.1	
Self-rated quality of life <sup>‡</sup>	Very Poor	46	14.2±2.3	<b>&lt;0.001</b>
	Poor	39	12.4±3.3	
	Neither Poor nor good	29	9.6±3.1	
	Good	6	6.3±2.1	
Self-rated Health satisfaction <sup>‡</sup>	Very Poor	24	14.9±1.7	<b>&lt;0.001</b>
	Poor	42	13.0±2.9	
	Neither Poor nor good	42	11.1±3.3	
	Good	12	6.8±2.5	
Time Since Diagnosis <sup>&amp;</sup>	β(s.e)	110	0.06(0.06)	<b>0.012</b>
Type of Treatment <sup>‡</sup>	Chemotherapy	9	9.3±3.5	<b>0.044</b>
	Radiotherapy	22	11.9±4.1	
	Combined	89	12.4±3.4	
Cancer Stage <sup>‡</sup>	Stage I	8	12.5±3.1	0.696
	Stage II	58	11.8±3.7	
	Stage III	45	12.3±3.4	
	Stage IV	9	13.1±4.0	
Depression Scores <sup>&amp;</sup>	B(s.e)	120	0.50(0.07)	<b>&lt;0.001</b>

Note: †-Independent samples t-test; ‡-One way analysis of variance-ANOVA; &-Simple linear regression

#### 4.2.5 Independent predictors of anxiety

Table 4.5 below presents the independent predictors of anxiety after adjusting for all other variables that were associated with anxiety at the bivariate level. Participants who were receiving chemotherapy had significantly lower anxiety scores as compared to those who were receiving radiotherapy alone ( $\beta=2.834$ ; 95% C.I. 0.626 to 5.043;  $p=0.012$ ) and those receiving combined concomitant chemoradiotherapy ( $\beta=3.195$ ; 95% C.I. 1.248 to 5.143;  $p=0.001$ ). Participants who had higher scores on self-rated quality of life and health satisfaction had significantly lower anxiety scores ( $\beta=-0.934$ ; 95% C.I. -1.678 to -0.187;  $p=0.014$ ) and ( $\beta=-1.38$ ; 95% C.I. -2.146 to -0.621;  $p<0.001$ ) respectively. Participants who had higher depression scores had significantly higher anxiety scores ( $\beta=0.183$ ; 95% C.I. 0.040 to 0.324;  $p=0.012$ ).

**Table 7:** Independent Predictors of Anxiety (Multivariate Analysis)

Parameter	Category	$\beta$	S.E.	95% Confidence Interval		Sig.
				Lower	Upper	
Family History of cancer	Yes	0.787	0.478	-0.149	1.723	0.100
	No	Ref.				
Has Multiple sexual partners	Yes	-0.435	0.534	-1.482	0.611	0.415
	No	Ref.				
Type of Treatment	Combined	3.195	0.994	1.248	5.143	<b>0.001</b>
	Radiotherapy	2.834	1.127	0.626	5.043	<b>0.012</b>
	Chemotherapy	Ref.				
Age in Years		0.005	0.023	-0.040	0.050	0.830
Self-rated quality of quality of life		-0.932	0.380	-1.678	-0.187	<b>0.014</b>
Self-rated Health satisfaction		-1.383	0.389	-2.146	-0.621	<b>&lt;0.001</b>
Time Since Diagnosis Months		0.035	0.018	0.000	0.071	0.051
Depression Scores		0.183	0.073	0.040	0.327	<b>0.012</b>

#### 4.2.6 Factors associated with depression

Table 4.6 below presents the socio-demographic and other factors associated with depression (Bivariate analysis). Older participants had significant depression scores as compared to those who were younger ( $p=0.004$ ). Respondents who had multiple sexual partners had significantly higher depression scores as compared to those who did not ( $p=0.002$ ). In terms of self-rated quality of life participants who rated themselves as having poor quality of life had significantly higher depression scores as compared to those who rated themselves as having a good quality of life ( $p<0.001$ ). Participants who rated their satisfaction with their health as poor had significantly higher depression scores as compared to those who rated them as good ( $p<0.001$ ). Participants who were diagnosed earlier had significantly higher depression as compared to those who had been diagnosed recently ( $p=0.005$ ).

Participants who were receiving chemotherapy alone had significantly lower anxiety scores as compared to those who were receiving radiotherapy alone and those receiving combined chemotherapy and radiotherapy ( $p= 0.044$ ). Participants who had higher anxiety scores had significantly higher depression scores ( $p<0.001$ ).

**Table 8:** Factors associated with Depression (Bivariate Analysis)

Variable	Category	N	Mean±SD	p-Value
Age <sup>&amp;</sup>	β(s.e)	119	-0.09(0.03)	<b>0.004</b>
Religion <sup>†</sup>	Christian	114	12.2±4.1	0.145
	Muslim	6	9.7±2.0	
Education Level <sup>‡</sup>	Primary and Below	62	11.9±4.7	0.919
	Secondary	48	12.2±3.5	
	College/University	10	12.3±3.1	
Occupation <sup>‡</sup>	Farmer	70	11.9±4.0	0.837
	Trader/Business	32	11.9±4.0	
	Others	17	12.5±4.6	

Marital Status <sup>‡</sup>	Never Married	13	13.2±3.2	0.130
	Married	68	11.9±3.8	
	Separated/ Divorced	18	13.4±3.7	
	Widowed	21	10.6±5.5	
Income per Month <sup>†</sup>	Below 5,000 Ksh	87	12.5±4.0	0.063
	Above 5,000 Ksh	26	10.8±3.5	
Ever been diagnosed with HIV <sup>†</sup>	No	98	11.9±3.9	0.639
	Yes	18	12.4±5.2	
Family History of cancer <sup>†</sup>	No	74	11.8±4.5	0.322
	Yes	46	12.5±3.4	
Ever been diagnosed with HPV <sup>†</sup>	No	103	12.3±3.9	0.482
	Yes	15	11.5±4.8	
Has Multiple sexual partners <sup>†</sup>	No	64	11.0±4.2	<b>0.002</b>
	Yes	56	13.3±3.7	
Self-rated quality of life <sup>‡</sup>	Very Poor	46	14.1±2.8	<b>&lt;0.001</b>
	Poor	39	12.6±3.1	
	Neither Poor nor good	29	8.9±3.7	
	Good	6	7.8±7.5	
Self-rated Health satisfaction <sup>‡</sup>	Very Poor	24	14.3±2.2	<b>&lt;0.001</b>
	Poor	42	13.9±2.9	
	Neither Poor nor good	42	10.5±4.0	
	Good	12	6.3±3.3	
Time Since Diagnosis <sup>&amp;</sup>	β(s.e)	110	0.08(0.03)	<b>0.005</b>
Type of Treatment <sup>‡</sup>	Chemotherapy	9	10.0±4.6	0.279

	Radiotherapy	22	12.5±5.0	
	Combined	89	12.1±3.8	
Cancer Stage <sup>‡</sup>	Stage I	8	11.4±2.1	0.709
	Stage II	58	12.1±4.4	
	Stage III	45	11.8±4.0	
	Stage IV	9	13.4±4.2	
Anxiety Scores <sup>&amp;</sup>	$\beta$ (s.e)	120	0.65(0.09)	<0.001

Note: †-Independent samples t-test; ‡-One way analysis of variance-ANOVA; &-Simple linear regression

#### 4.2.7 Independent predictors for depression

Table 4.7 below presents the independent predictors of depression after adjusting for all other variables that were associated with depression at the bivariate level. Participants who had higher scores on self-rated health satisfaction had significantly lower depression scores ( $\beta=-1.535$ ; 95% C.I. -2.512 to -0.558;  $p=0.002$ ). Participants who have cancer for a longer period had significantly higher depression scores as compared to those who had been diagnosed recently ( $\beta=0.058$ ; 95% C.I. 0.013 to 0.103;  $p=0.011$ ).

Participants who had higher anxiety scores had significantly higher depression scores ( $\beta=0.243$ ; 95% C.I. 0.028 to 0.458;  $p=0.027$ ).

**Table 9:** Independent Predictors of Depression (Multivariate analysis)

Parameter	Category	B	S.E.	95% Confidence Interval		Sig.
				Lower	Upper	
Age		-0.040	0.027	-0.093	0.014	0.145
Multiple sexual partners	No	-0.359	0.648	-1.629	0.912	0.580
	Yes	Ref.				
Self-rated quality of quality of life		-0.202	0.499	-1.180	0.777	0.686
Self-rated Health satisfaction		-1.535	0.498	-2.512	-0.558	<b>0.002</b>
Time Since Diagnosis Months		0.058	0.023	0.013	0.103	<b>0.011</b>
Anxiety Scores		0.243	0.110	0.028	0.458	<b>0.027</b>

#### 4.2.8 Factors associated with comorbid depression and anxiety

Table 4.8 below presents the factors that are associated with comorbid anxiety and depression at the bivariate level. Participants who had a family history of cancer, had multiple partners, younger age, lower quality of life, lower health satisfaction, and receiving either radiotherapy or combined therapy were at higher risk of comorbid anxiety and depression ( $p < 0.005$ )

**Table 10:** Factors associated with Co-morbid Depression and Anxiety

Variable	Category	Comorbid Anxiety and Depression		$\chi^2$	Df	p-value
		No	Yes			
Religion	Christian	22(19.3%)	92(80.7%)	0.03	1	0.873
	Muslim	1(16.7%)	5(83.3%)			
Education Level	Primary and Below	15(24.2%)	47(75.8%)	2.20	2	0.332

	Secondary	7(14.6%)	41(85.4%)			
	College/University	1(10.0%)	9(90.0%)			
Occupation	Farmer	12(17.1%)	58(82.9%)	0.54	2	0.763
	Trader/Business	7(21.9%)	25(78.1%)			
	Others	4(23.5%)	13(76.5%)			
Marital Status	Never Married	1(7.7%)	12(92.3%)	2.51	3	0.473
	Married	12(17.6%)	56(82.4%)			
	Separated/ Divorced	4(22.2%)	14(77.8%)			
	Widowed	6(28.6%)	15(71.4%)			
Income per Month	Below 5,000 Ksh	12(13.8%)	75(86.2%)	1.29	1	0.256
	Above 5,000 Ksh	6(23.1%)	20(76.9%)			
Ever been diagnosed with HIV	No	20(20.4%)	78(79.6%)	0.13	1	0.714
	Yes	3(16.7%)	15(83.3%)			
Ever been diagnosed with HPV	No	18(17.5%)	85(82.5%)	0.57	1	0.811
	Yes	3(20.0%)	12(80.0%)			
Family History of cancer	No	19(25.7%)	55(74.3%)	5.28	1	<b>0.022</b>
	Yes	4(8.7%)	42(91.3%)			
Has Multiple sexual partners	No	19(29.7%)	45(70.3%)	9.80	1	<b>0.002</b>
	Yes	4(7.1%)	52(92.9%)			
Self-rated quality of quality of life	Very Poor	1(2.2%)	45(97.8%)	30.65	3	<b>&lt;0.001</b>
	Poor	5(12.8%)	34(87.2%)			
	Neither Poor nor good	13(44.8%)	16(55.2%)			
	Good	4(66.7%)	2(33.3%)			
Self-rated Health satisfaction	Very Poor	0(0.0%)	24(100.0%)	37.86	3	<b>&lt;0.001</b>
	Poor	2(4.8%)	40(95.2%)			
	Neither Poor nor good	12(28.6%)	30(71.4%)			
	Good	9(75.0%)	3(25.0%)			

Type of Treatment	Chemotherapy	5(55.6%)	4(44.4%)	8.43	2	<b>0.015</b>
	Radiotherapy	3(13.6%)	19(86.4%)			
	Combined	15(16.9%)	74(83.1%)			
Cancer Stage	Stage I	1(12.5%)	7(87.5%)	0.69	3	0.875
	Stage II	10(17.2%)	48(82.8%)			
	Stage III	10(22.2%)	35(77.8%)			
	Stage IV	2(22.2%)	7(77.8%)			
Age in Years	Mean (SD)	55.7(10.7)	48.1(11.5)	2.88	117	<b>0.005</b>
Time since diagnosis	Mean (SD)	6.3(5.3)	9.2(14.5)	-0.89	108	0.375
Quality of Life	Mean (SD)	2.9(0.8)	1.7(0.8)	6.09	118	<b>&lt;0.001</b>
Health Satisfaction	Mean (SD)	3.3(0.6)	2.1(0.8)	6.46	118	<b>&lt;0.001</b>

#### **4.2.9 Independent Predictors of comorbid anxiety and Depression (Multivariate analysis)**

Table 4.9 below presents the independent predictors of comorbid anxiety and depression after adjusting for all other variables that were associated with anxiety and depression at the bivariate level. There was a significant association between health satisfaction scores and comorbid depression and anxiety (A.O. R=0.17; 95% C.I. 0.05 to 0.54; p=0.003). i.e., for every unit increase in health satisfaction score the risk of comorbid depression and anxiety reduces by 17%.



**Table 11:** Independent Predictors of comorbid anxiety and Depression (Multivariate analysis)

Variable	Category	Comorbid Anxiety and Depression		A.O.R (95% C.I.)	Sig.
		No	Yes		
Family History of cancer	No	19(25.7%)	55(74.3%)	Ref.	0.339
	Yes	4(8.7%)	42(91.3%)	2.03(0.47-8.70)	
Has Multiple sexual partners	No	19(29.7%)	45(70.3%)	Ref.	0.190
	Yes	4(7.1%)	52(92.9%)	2.74(0.61-12.39)	
Type of Treatment	Chemotherapy	5(55.6%)	4(44.4%)	0.08(0.01-1.22)	0.070
	Radiotherapy	3(13.6%)	19(86.4%)	2.40(0.43-13.56)	0.320
	Combined	15(16.9%)	74(83.1%)	Ref.	
Age in Years	Mean (SD)	55.7(10.7)	48.1(11.5)	0.96(0.90-1.03)	0.223
How would you rate your quality of life	Mean (SD)	2.9(0.8)	1.7(0.8)	0.55(0.22-1.40)	0.210
How satisfied are you with your health	Mean (SD)	3.3(0.6)	2.1(0.8)	0.17(0.05-0.54)	<b>0.003</b>

## **CHAPTER FIVE: DISCUSSION**

### **5.1 Introduction**

This chapter contains a discussion on the results of this study, study conclusion, and recommendations according to the findings.

### **5.2 Discussion**

#### **5.2.1 Socio-demographic characteristics of the respondents**

Most of the respondents in this study were aged between 26-73 years with a mean age of 49.6. majority of them were Christians at 95%, more than a half had a primary and below level of education at 51.7%, farmers at 58.8%, 56.7% were married and 77% had an income of less than 5000 ksh respectively. According to statistics in Kenya women aged 15-44 years are at risk of developing cervical cancer. A case study done in Kenya on biopsychosocial risk factors and knowledge of cervical cancer among young women have shown that lack of education, poverty, living further from the facility, and never having taken an HIV test was associated with lack of awareness of cervical cancer (Ngune et al., 2020)

The majority of the respondents were negative for HIV at 84.5% while positive at 15.5% and the majority at 87.3% were negative for HPV, though studies in Kenya have shown that women living with HIV have an increased risk to be co-infected with HPV and also persistent high risk of developing cervical dysplasia (Menon et al., 2017). Another study done in Nairobi, Kenya on HPV infection and cervical abnormalities in an area with a high prevalence of HIV has shown that HIV and HPV infection are were associated with each other and cervical lesion was significantly associated with high-risk HPVs and HIV infection (Yamada et al., 2008)

According to family history of cancer, 61.7% had a negative history while 38.3% had a positive family history, this shows that genetics plays an important factor in cancer patients. Most of the respondents had a single partner at 53,3% and 46.7% had multiple partners, this shows that the history of multiple partners has a risk of developing STDs and HIV infection which in turn has a high risk of developing cervical cancer.

The results according to time since diagnosis of cervical cancer have shown a mean of 8.7 months ranged from 1-48 months, this showed that most of the respondents were at the first few months

since diagnosis. The majority of the participants were at stage II (43%) and stage III (37.5%) and with regards to the type of treatment majority of the respondents received combined treatment of chemotherapy and radiotherapy at 74.6%, while others were either chemotherapy or radiotherapy. This is in correspondent to the fact that at stage II and above there is no indication for surgery, just chemotherapy, radiotherapy, or combined since cancer has already spread.

With regards to the quality of life, most of the respondents at 70% rated themselves as having poor quality of life, and more than 55% rated that their health satisfaction was poor, most of the participants felt that their life has changed economically, physically, socially and psychologically. As the burden of the disease had a toll on their day-to-day activities, some had even to leave their job because of the severity of the symptoms, side effects of the treatments, and the follow-up in the clinic.

### **5.2.2 Prevalence of depression and anxiety**

The study found that the majority of the respondents screened positive for both depression and anxiety at 87.5%. The prevalence of depression was mild 15.8%, Moderate 45.8%, and severe depression 25.8%, likewise the prevalence of mild anxiety was 14.2%, moderate 46.7%, and severe 26.7%. And the prevalence of co-morbidity was 80.8% indicating that most cervical cancer patients suffer from depression and anxiety. The majority of the respondents scored moderate for both depression and anxiety.

Comparing my study with other studies on the prevalence of depression and anxiety among cervical cancer patients. These reviews were the following; (Y. Yang et al., 2014.) did a study in China that found a prevalence of depression among cervical cancer patients at 52.2%, anxiety at 65.6%, and co-morbidity at 45.5%. This might have differed with my study findings due to the different country set up, and also my study was done during the covid-19 pandemic which might have made the patients more anxious and depressed.

Another study done in Lusaka, Zambia on depression among cervical cancer patients found that 80% of patients were depressed, with 78% scored moderate, 18% mild and 4% severe (Dr. Ravi Paul<sup>1</sup>, Dr. Gerald Musa<sup>2</sup>, 2016) the results of this study are similar to my findings, hence the need for further studies in this topic.

A study in Ethiopia on the prevalence and prediction of anxiety and depression on cervical cancer patients found depression at 71.8% and anxiety at 61%, this is similar to my study (Kinfu, 2019)

### **5.2.3 Factors associated with anxiety**

The main socio-demographic factors associated with anxiety were younger respondents, those who had a positive family history of cancer, and those who had a history of multiple sexual partners. Also, participants who rated themselves as having poor quality of life and those who were not satisfied with their health had high anxiety scores. According to clinical factors, respondents who were receiving chemotherapy alone had significantly low anxiety scores than radiotherapy and combined, the respondents who had been in cancer for a longer period had more anxiety than those who were diagnosed recently.

Independent factors associated with anxiety were the type of treatment, quality of life, and health satisfaction, this was after adjusting for all other variables that were associated with anxiety at the bivariate level.

### **5.2.4 Factors associated with depression**

The main socio-demographic factors associated with depression were older respondents, who had a history of multiple sexual partners, also those who rated themselves as having poor quality of life, and those who were not satisfied with their health had significantly high depression scores. According to clinical factors, those who had cancer for a longer period were more depressed than those diagnosed recently. This is similar to a study in Indonesia which found that duration of illness was associated with depression.

As for depression, the independent predictors were the health satisfaction of the respondents, and time since diagnosis played a major factor in depression.

### **5.3 Covid-19 and its implications on this research**

This research has yielded a high prevalence rate of depression and anxiety, as it was conducted during the covid-19 pandemic. During this period a lot of the participants were affected by the pandemic, which had a lot of physical and psychological symptoms. Covid-19 had negative impacts on these patients due to the measures that were put such as quarantine, social distance, and total lock-down of the country. These measures caused stress, anxiety, depression, and other psychological distress to the patients, on top of the disease their suffering from. Some of the participants had to come from other counties for treatment, due to the lock-down it was difficult for them to assess quality healthcare. It has also lead to the loss of jobs in many people, which causes more distress on their social and economic life. According to my study findings, the prevalence of depression and anxiety was high because of all the factors mentioned above, and covid-19 contributed to the high scores.

### **5.4 Clinical implications of this research**

According to the study findings, this research implies that it has shown that many patients with cancer suffer from psychological distress, in the case of our research they suffer from depression and anxiety. It has shown that these patients may have suffered depression and anxiety due to many reasons, not only the diagnosis of the disease itself, most of the respondents did not have enough finance to undergo treatment as we have seen majority were on the combined form of treatment.

Depression and anxiety itself can be difficult to diagnose in these patients due to the physical symptoms of cancer which can mimick physical symptoms of depression.

The respondents need psychological support, which would help in dealing with the primary diagnosis, and also it might help with the symptoms as the coexistence of physical and psychological symptoms worsens the situations.

## **5.5 Conclusion**

The study based on the findings concluded that the mean age for patients with cervical cancer was 49, most of the patients were Christians, and the majority were married. More than half of the patients were farmers and had received a primary and below level of education with an estimated income of less than 5000 ksh. In addition, the study concluded that most of the patients were HIV negative and that most patients were not going for HPV screening. The study also concluded that there was a significant number of patients with a family history of cancer, though the majority had none. Also almost half of the respondents had a positive history of having multiple partners in their life, while more than a half had a single partner.

The study further concluded that the majority of the respondents rated themselves as having poor quality of life after a diagnosis of cancer and that more than a half were unsatisfied with their life. It also concluded that the meantime since diagnosis for most of the respondents was at 8 months, and the majority of the respondents were at stage II and III, also most of the respondents based on the staging of the cancer were receiving a combined form of treatment, that is there were on radiotherapy and chemotherapy.

Based on the HADS score the study concluded that the majority of the respondents suffered from depression and anxiety, and also co-morbid depression and anxiety were high. While most of them were moderate and severe.

Socio-demographic factors and clinical factors such as a positive family history of cancer, multiple sexual partners, quality of life, health satisfaction, time since diagnosis, and type of treatment were associated with anxiety. While age, multiple sexual partners, quality of life, health satisfaction, and time since diagnosis were significantly associated with depression.

## **5.6 Recommendations**

1. Screening for depression and anxiety must be routinely done in cervical cancer patients.
2. Psychological interventions must be administered to these patients.
3. To provide emotional support during treatment.
4. Explore the role of the community in helping sick patients and their families in coping with the disease.
5. Cervical cancer support groups should be created to help these patients.
6. Further studies must be carried out to explore more on this topic.

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## APPENDICES

# APPENDIX 1: PARTICIPANT INFORMATION AND CONSENT FORM

**Title of Study:** Prevalence and correlates of depression and anxiety among patients with cervical cancer at CTC, Kenyatta National Hospital.

**Investigator:** Dr. Husna Salim Ali, University of Nairobi.

### Introduction:

I would like to tell you about a study being conducted by **Dr. Husna Salim**, a Masters of Medicine (Psychiatry) student at the School of Medicine, University of Nairobi. The purpose of this consent form is to give you the information you will need to help you decide whether or not to be a participant in the study. Feel free to ask any questions about the purpose of the research, what happens if you participate in the study, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When we have answered all your questions to your satisfaction, you may decide to be in the study or not. This process is called 'informed consent. Once you understand and agree to be in the study, I will request you to sign your name on this form. You should understand the general principles which apply to all participants in medical research: i) Your decision to participate is entirely voluntary ii) You may withdraw from the study at any time without necessarily giving a reason for your withdrawal iii) Refusal to participate in the research will not affect the services you are entitled to in this health facility or other facilities. We will give you a copy of this form for your records.

**May I continue? YES /NO**

This study has approval by The Kenyatta National Hospital-University of Nairobi Ethics and Research Committee protocol No. \_\_\_\_\_

### **WHAT IS THIS STUDY ABOUT**

The purpose of this study is to determine the **prevalence and correlates of depression and anxiety among patients with cervical cancer at CTC, KNH**. Participants in this study will include patients who have a histological diagnosis of cervical cancer. Participants will be asked questions about their socio-demographic characteristics, depression, and anxiety. There will be approximately 112 participants who will be purposively selected.

### **WHAT WILL HAPPEN IF YOU DECIDE TO BE IN THIS RESEARCH STUDY?**

If you agree to participate in this study, the following things will happen: You will be interviewed by the investigator in a private area where you feel comfortable answering questions. The interview will last approximately 20 Minutes.

### **ARE THERE ANY RISKS, HARMS DISCOMFORTS ASSOCIATED WITH THIS STUDY?**

Medical research has the potential to introduce psychological, social, emotional, and physical risks. One potential risk of being in the study is the loss of privacy. We will keep everything you tell us as confidential as possible. We will use a code number to identify you in a password-protected computer database and will keep all of our paper records in a locked file cabinet. However, no system of protecting your confidentiality can be secure, so it is still possible that someone could find out you were in this study and could find out information about you. Also, answering questions in the interview may be uncomfortable for you. If there are any questions you do not want to answer, you can skip them. You have the right to refuse the interview or any questions asked during the interview.

We will do everything we can to ensure that this is done in private.

### **ARE THERE ANY BENEFITS BEING IN THIS STUDY?**

There is no direct benefit to you from participating in the study. However, we hope that, in the future, other people might benefit from this study because it will allow us to learn more about the prevalence and correlates of depression and anxiety among cervical cancer patients.

## **WILL BEING IN THIS STUDY COST YOU ANYTHING?**

Participating in this study will not cost you anything apart from the 20 minutes or so of your time.

## **WILL YOU GET A REFUND FOR ANY MONEY SPENT AS PART OF THIS STUDY?**

We shall not provide any monetary refund for participating in the study.

## **CONFIDENTIALITY AND PRIVACY**

The information you provide will be treated confidentially and only authorized members of the research team will have access to it. You will be assigned a unique study ID and no names will be written on the interview forms. Your name or other personal information will not be used in any reports or shared with anyone else. We will use the information for research purposes only.

## **WHAT IF YOU HAVE QUESTIONS IN THE FUTURE?**

If you have further questions or concerns about participating in this study, please call or send a text message to the principal investigator at the phone **or email 0716435530/**

[husnasalim2@gmail.com](mailto:husnasalim2@gmail.com)

For more information about your rights as a research participant, you may contact the Secretary/Chairperson, Kenyatta National Hospital-University of Nairobi Ethics and Research Committee Telephone No. **2726300 Ext. 44102 email: [uonknherc@uonbi.ac.ke](mailto:uonknherc@uonbi.ac.ke)**.

## **WHAT ARE YOUR OTHER CHOICES?**

Your decision to participate in research is voluntary. You are free to decline participation in the study and you can withdraw from the study at any time without injustice or loss of any benefits.

## **CONSENT FORM (STATEMENT OF CONSENT)**

### **Participant's statement**

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I

understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw at any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my identity confidential.

---

(Signature/ Thumb Print of Participant)

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(Date)

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(Participant's name – printed)

### **Statement of Person Who Obtained Consent**

The information in this document has been discussed with the participant or, where appropriate, with the participant's legally authorized representative. The participant has indicated that he or she understands the risks, benefits, and procedures involved with participation in this research study.

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(Signature of Person who Obtained Consent)

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(Date)

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(Name of Person who Obtained Consent – printed)



## **APPENDIX 2: HABARI YA MSHIRIKI NA FOMU YA RIDHARA**

Kichwa cha Utafiti: Kuenea na uhusiano wa huzuni na wasiwasi kati ya wagonjwa walio na saratani ya kizazi katika CTC, Hospitali ya Kitaifa ya Kenyatta.

Mchunguzi: Dk Husna Salim Ali, Chuo Kikuu cha Nairobi.

Utangulizi:

Ningependa kukuambia juu ya utafiti uliofanywa na Daktari Husna Salim, mwanafunzi wa Maswala ya Dawa (Psychiatry) katika Shule ya Tiba, Chuo Kikuu cha Nairobi. Madhumuni ya fomu hii ya idhini ni kukupa habari utakayohitaji kukusaidia kuamua ikiwa ni mshiriki wa utafiti huo au la. Jisikie huru kuuliza maswali yoyote juu ya madhumuni ya utafiti, nini kinatokea ikiwa unashiriki katika utafiti, hatari na faida zinazowezekana, haki zako kama kujitolea, na chochote kingine juu ya utafiti au fomu hii ambayo haijulikani wazi. Wakati tumejibu maswali yako yote kukuridhisha, unaweza kuamua kuwa kwenye somo au la. Utaratibu huu unaitwa 'ridhaa inayofahamishwa'. Mara tu utakapoelewa na kukubali kuwa kwenye utafiti, nitakuomba utie sahihi jina lako kwenye fomu hii. Unapaswa kuelewa kanuni za jumla ambazo zinatumiwa kwa washiriki wote katika utafiti wa matibabu: i) Uamuzi wako wa kushiriki ni wa hiari kabisa ii) Unaweza kujiondoa kutoka kwa utafiti wakati wowote bila kutoa sababu ya kujiondoa kwako iii) Kukataa kushiriki katika utafiti hautaathiri huduma unazostahiki katika kituo hiki cha afya au vituo vingine. Tutakupa nakala ya fomu hii kwa kumbukumbu zako.

Naweza kuendelea? NDIO/LA

Utafiti huu umeidhinishwa na Itifaki ya Kamati ya Maadili na Utafiti ya Hospitali ya Kitaifa ya Kenyatta-Chuo Kikuu cha Nairobi nambari \_\_\_\_\_

### **UTAFITI HUU NI KUHUSU NINI**

Kusudi la utafiti huu ni kuamua kuenea na uhusiano wa huzuni na wasiwasi kati ya wagonjwa walio na saratani ya kizazi huko CTC, KNH. Washiriki katika utafiti huu watajumuisha wagonjwa ambao wana utambuzi wa kihistologia wa saratani ya kizazi. Washiriki wataulizwa maswali juu ya tabia zao za kijamii na idadi ya watu, unyogovu, na wasiwasi. Kutakuwa na washiriki takriban 112 ambao watachaguliwa kwa makusudi.

## NINI KITATOKEA UKIAMUA KUWA KWENYE UTAFFITI HUU WA UTAFFITI?

Ikiwa unakubali kushiriki katika utafiti huu, mambo yafuatayo yatatokea: Utahojiwa na mchunguzi katika eneo la faragha ambapo unahisi raha kujibu maswali. Mahojiano hayo yatachukua takriban Dakika 20.

## KUNA ATHARI ZOZOTE, ZINAZIDHARAU HASARA ZINAZOHUSIANA NA UTAFFITI HUU?

Utafiti wa kimatibabu una uwezo wa kuanzisha hatari za kisaikolojia, kijamii, kihemko, na kiafya. Hatari moja ya kuwa katika utafiti ni kupoteza faragha. Tutaweka kila kitu unatuambia kama siri iwezekanavyo. Tutatumia nambari ya nambari kukutambulisha kwenye hifadhidata ya kompyuta inayolindwa na nywila na tutaweka rekodi zetu zote za karatasi kwenye kabati la faili lililofungwa. Walakini, hakuna mfumo wowote wa kulinda usiri wako ambao unaweza kuwa salama, kwa hivyo bado inawezekana mtu anaweza kugundua kuwa ulikuwa kwenye utafiti huu na angeweza kupata habari kukuhusu. Pia, kujibu maswali kwenye mahojiano inaweza kuwa mbaya kwako. Ikiwa kuna maswali ambayo hautaki kujibu, unaweza kuyaruka. Una haki ya kukataa mahojiano au maswali yoyote yanayoulizwa wakati wa mahojiano.

Tutafanya kila tuwezalo kuhakikisha kuwa hii inafanywa kwa faragha.

## KUNA FAIDA ZOZOTE ZINAKUWA KATIKA UTAFFITI HUU?

Hakuna faida ya moja kwa moja kwako kwa kushiriki katika utafiti. Walakini, tunatumahi kuwa, katika siku zijazo, watu wengine wanaweza kufaidika na utafiti huu kwa sababu itaturuhusu kujifunza zaidi juu ya kuenea na uhusiano wa unyogovu na wasiwasi kati ya wagonjwa wa saratani ya kizazi.

## JE, KUWA KWENYE UTAFFITI HUU KUTAKUGHARAMIA CHOCHOTE?

Kushiriki katika utafiti huu hakutakugharimu chochote isipokuwa dakika 20 au zaidi ya wakati wako.

JE, UTARUDISHA KWA PESA YOYOTE ILIYOTUMIWA KWA SEHEMU YA UTAFITI HUU?

Hatutatoa marejesho yoyote ya pesa kwa kushiriki katika utafiti.

USIRI NA USIRI

Habari unayotoa itashughulikiwa kwa usiri na ni washiriki walioidhinishwa tu wa timu ya utafiti ndio wataipata. Utapewa kitambulisho cha kipekee cha kusoma na hakuna majina yataandikwa kwenye fomu za mahojiano. Jina lako au habari nyingine ya kibinafsi haitatumika katika ripoti zozote au kushirikiwa na mtu mwingine yeyote. Tutatumia habari hiyo kwa madhumuni ya utafiti tu.

KAMA UTAKUWA NA MASWALI BAADAYE?

Ikiwa una maswali zaidi au wasiwasi juu ya kushiriki katika utafiti huu, tafadhali piga simu au tuma ujumbe mfupi kwa mpelelezi mkuu kwa simu au barua pepe 0716435530 / husnasalim2@gmail.com

Kwa habari zaidi juu ya haki zako kama mshiriki wa utafiti, unaweza kuwasiliana na Katibu / Mwenyekiti, Hospitali ya Kitaifa ya Kenyatta-Chuo Kikuu cha Maadili na Kamati ya Utafiti ya Nairobi Simu Namba 2726300 Ext. Barua pepe ya 44102: uonknherc@uonbi.ac.ke.

CHAGUO ZAKO ZINGINE NI NINI?

Uamuzi wako wa kushiriki katika utafiti ni wa hiari. Uko huru kukataa kushiriki katika utafiti na unaweza kujiondoa kutoka kwa utafiti wakati wowote bila udhalimu au kupoteza faida yoyote.

FOMU YA MAJALIZO (TAARIFA YA MAJIBU)

Taarifa ya mshiriki

Nimesoma fomu hii ya idhini au habari hiyo imesomwa kwangu. Nimekuwa na nafasi ya kujadili utafiti huu wa utafiti na mshauri wa utafiti. Nimejibiwa maswali yangu kwa lugha ambayo ninaelewa. Hatari na faida zimeelezwa kwangu. Ninaelewa kuwa ushiriki wangu katika utafiti

huu ni wa hiari na kwamba ninaweza kuchagua kujiondoa wakati wowote. Ninakubali kwa hiari kushiriki katika utafiti huu wa utafiti.

Ninaelewa kuwa juhudi zote zitafanywa kutunza habari kuhusu kitambulisho changu kuwa siri.

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(Saini / Uchapaji gumba wa mshiriki) (Tarehe)

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(Jina la mshiriki - limechapishwa)

Taarifa ya Mtu Aliyepata Idhini

Habari katika hati hii imejadiliwa na mshiriki au, inapofaa, na mwakilishi aliyeidhinishwa kisheria wa mshiriki. Mshiriki ameonyesha kuwa anaelewa hatari, faida, na taratibu zinazohusika na kushiriki katika utafiti huu.

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(Saini ya Mtu Aliyepata Idhini) (Tarehe)

(Jina la Mtu aliyepata Idhini – imechapishwa)

## DATA COLLECTION INSTRUMENTS

### SOCIODEMOGRAPHIC QUESTIONNAIRE

<b>SECTION 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS</b>			
<b>NO</b>	<b>Question</b>	<b>Response</b>	<b>Code</b>
<b>2</b>	AGE ( <b>AGE</b> )	Number	[   ]
<b>3</b>	Religion ( <b>RELIG</b> )	1. Christian 2. Hindu 3. Muslim 4. Other (specify)	[   ]
<b>4</b>	Education level ( <b>EDULEV</b> )	1. None 2. Primary 3. Secondary 4. College 5. University 6. Other (specify)	[   ]
<b>5</b>	Occupation ( <b>OCCUP</b> )	1. Farmer 2. Trader/Business 3. Casual laborer 4. Professional 5. Student 6. Other (specify)	[   ]
<b>6</b>	Marital status ( <b>MARST</b> )	1. Never married 2. Married 3. Separated 4. Divorced 5. Widowed	[   ]
<b>8</b>	Average income/pocket money per month ( <b>INCM</b> )	Number	[   ]
<b>9</b>	Ever been diagnosed with HIV	1. No	[   ]
		2. Yes	

<b>10</b>	Ever been Diagnosed with HPV	1 No				[ ]
		2 Yes				
<b>11</b>	Family History of Cancer	1 No				[ ]
		2 Yes				
<b>12</b>	Multiple Sexual Partners	1 No				[ ]
		2 Yes				
		Very poor	Poor	Neither poor nor good	Good	Very good
<b>13</b>	How would you rate your quality of life?	1	2	3	4	<b>5</b>
<b>14</b>	How satisfied are you with your health?	1	2	3	4	<b>5</b>

HISTORY OF ILLNESS:

Time since diagnosis in Months	Months	
Type of Treatment	a) Chemotherapy	[ ]
	b) Radiotherapy	[ ]
	c) Surgical	[ ]
	d) Combined	[ ]
Stage	Stage I	[ ]
	Stage II	[ ]
	Stage III	[ ]
	Stage IV	[ ]

**SEHEMU YA 1: TABIA ZA KIJAMII NA DAMOGRAFIA**

<b>NO</b>	<b>Maswali</b>	<b>jawabu</b>	<b>nambari</b>
<b>2</b>	Umri	Nambari	[ ]
<b>3</b>	Dini	1. Mkristo 2. Mhindu 3. Muislamu 4.nyengine (taja)	[ ]
<b>4</b>	Kiwango cha elimu	1. Hamna 2. Msingi 3. Sekondari 4. Chuo 5. Chuo Kikuu 6. Nyingine (taja) []	[ ]
<b>5</b>	Kazi	1. Mkulima 2. Mfanyabiashara / Biashara 3. Mfanyakazi wa kawaida 4. Mtaalamu 5. Mwanafunzi 6. Nyingine (taja)	[ ]
<b>6</b>	Hali ya ndoa	1. Hajaoa kamwe	[ ]

		2. Kuolewa 3. Kutengwa 4. Talaka 5. Mjane []				
<b>8</b>	Wastani wa mapato/ pesa ya mfukoni kwa mwezi	Nambari				[ ]
<b>9</b>	Umewahi kugundulika na virus vya ukwimwi	1. Hapana				[ ]
		2. Ndio				
<b>10</b>	Umewahi kugundulika na HPV	1 Hapana				[ ]
		2 Ndio				
<b>11</b>	Historia ya saratani kwa familia	1 Hapana				[ ]
		2 Ndio				
<b>12</b>	Washirika tofauti wa ngono	1 Hapana				[ ]
		2 Ndio				
		Maskini sana	maskini	Sio maskini wala sio mzuri	mzuri	Mzuri sana
<b>13</b>	Je unaweza kupima kiwango cha maisha yako?	1	2	3	4	<b>5</b>
<b>14</b>	Je umeridhika na afya yako?	1	2	3	4	<b>5</b>



### Historia ya ugonjwa

Wakati tangu utambuzi kwa miezi	Miezi	
Aina ya tiba	a) Tiba ya chemo	[ ]
	b) Tiba ya radeo	[ ]
	c) upasuaji	[ ]
	d) pamoja	[ ]
Stage	Hatua ya I	[ ]
	Hatua ya II	[ ]
	Hatua ya III	[ ]
	Hatua ya IV	[ ]

**HOSPITAL ANXIETY AND DEPRESSION  
SCALE (HADS)**

STUDY ID \_\_\_\_\_

**Tick the box beside the reply that is closest to how you have been feeling in the past week.**

**Don't take too long over your replies: Your immediate is best.**

D	A		D	A	
		<b>I feel tense or 'wound up':</b>			<b>I feel as if I am slowed down:</b>
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		<b>I still enjoy the things I used to enjoy:</b>			<b>I get a sort of frightened feeling like 'butterflies' in the stomach:</b>
0		As much	0		Not at all
1		Not quite so much	1		Occasionally
2		Only a little	2		Quite Often
3		Hardly at all	3		Very Often
		<b>I get a sort of frightened feeling as if something awful is about to</b>			<b>I have lost interest in my appearance:</b>
3		Very definitely and quite badly	3		Definitely
2		Yes, but not too badly	2		I don't take as much care as I should
1		A little, but it doesn't worry me	1		I may not take quite as much care
0		Not at all	0		I take just as much care as ever
		<b>I can laugh and see the funny side of things:</b>			<b>I feel restless as I have to be on the move:</b>
0		As much as I always could	3		Very much indeed
1		Not quite so much now	2		Quite a lot
2		Not so much now	1		Not very much
3		Not at all	0		Not at all
		<b>Worrying thoughts go through my mind:</b>			<b>I look forward with enjoyment to things:</b>
3		A great deal of the time	0		As much as I ever did
2		A lot of the time	1		Rather less than I used to
1		From time to time, but not too often	2		Less than I used to
0		Only occasionally	3		Hardly at all
		<b>I feel cheerful:</b>			<b>I get sudden feelings of panic:</b>
3		Not at all	3		Very often indeed
2		Not often	2		Quite often
1		Sometimes	1		Not very often
0		Most of the time	0		Not at all
		<b>I can sit at ease and feel relaxed:</b>			<b>I can enjoy a good book or radio or TV program:</b>
0		Definitely	0		Often
1		Usually	1		Sometimes
2		Not Often	2		Not often
3		Not at all	3		Very seldom

## SWAHILI HADS-D

Punga kisanduku kando na jibu ambalo ni karibu na jinsi umekuwa ukisikia katika wiki iliyopita.

Usichukue muda mrefu juu ya majibu yako, ya haraka ni bora.

<b>Bado ninafurahiya vitu ambavyo nilikuwa nikifurahia</b>		
Dhahiri sana	0	
Sio kabisa	1	
Kidogo tu	2	
Hapana kabisa	3	
<b>Ninaweza kucheka na kuona upande wa mambo wa kuchekesha</b>		
Kwa kadiri nilivyoweza siku zote	0	
Sio kabisa sasa	1	
Kwa kweli sio sana sasa	2	
Hapana kabisa	3	
<b>Ninajisikia mwenye furaha</b>		
Hapana kabisa	3	
Si mara nyingi	2	
Wakati mwingine	1	
Wakati mwingi	0	
<b>Ninahisi kama nimepunguzwa mwendo</b>		

Karibu wakati wote	3	
Mara kwa mara	2	
Wakati mwingine	1	
Hapana kabisa	0	
<b>Nimepoteza hamu na sura yangu</b>		
Kwa kweli	3	
Sijjali sana kama ninavyopaswa	2	
Naeza kosa kujiangalia vizuri	1	
Mimi hujitunza vizuri tu kama zamani	0	
<b>Natarajia vitu kwa furaha na uchangamfu</b>		
Kama vile ninavyofanya kwa kawaida	0	
Chini kuliko kawaida	1	
Dhahiri kidogo kuliko nilivyokuwa	2	
Hapana kabisa	3	
<b>Naweza kufurahia kitabu kizuri, redio au kipindi cha runinga</b>		
Mara nyingi	0	
Mara nyingine	1	
Si mara nyingi	2	
Mara chache sana	3	

## SWAHILI HADS-A

Punga kisanduku kando na jibu ambalo ni karibu na jinsi umekuwa ukisikia katika wiki iliyopita. Usichukue muda mrefu juu ya majibu yako, ya haraka ni bora.

<b>Ninahisi mchovu au mzito</b>		
Kila wakati	3	
Wakati mwingi	2	
Mara kwa mara	1	
Hapana kabisa	0	
<b>Ninapata aina ya kuhisi kana kwamba kuna kitu kibaya kinakaribia kutokea</b>		
Hakika na mbaya kabisa	3	
Ndio, lakini sio mbaya sana	2	
Kidogo, lakini hainisumbui	1	
Hapana kabisa	0	
<b>Mawazo ya wasiwasi hupitia akili yangu</b>		
Kwa wakati mwingi sana	3	
Wakati mwingi	2	
Mara kwa mara, lakini sio mara nyingi sana	1	
Hapana kabisa	0	
<b>Naweza kukaa kwa raha na nahisi nimetulia</b>		
Kwa kweli	0	

Kawaida	1	
Si mara nyingi	2	
Hapana kabisa	3	
<b>Napata aina ya hisia za kutisha kama vipepeo kwenye tumbo</b>		
Hapana kabisa	0	
Wakati mwingine	1	
Mara kwa mara	2	
Mara nyingi sana	3	
<b>Ninahisi kutokuwa na utulivu kana kwamba lazima niwe safarini</b>		
Mara nyingi sana	3	
Sana sana	2	
Sio sana	1	
Hapana kabisa	0	
<b>Napata hisia za ghafla za hofu</b>		
Mara nyingi sana kweli	3	
Mara kwa mara	2	
Sio sana	1	
Hapana kabisa	0	

