Mental Health and Psychosocial Support (MHPSS) of Women with Reproductive Cancers in Nigeria

A LITERATURE REVIEW

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MENTAL HEALTH AND PSYCHOSOCIAL SUPPORT (MHPSS) OF WOMEN WITH REPRODUCTIVE CANCERS IN NIGERIA: A LITERATURE REVIEW

A thesis submitted in partial fulfilment of the requirement for the degree of

Master of Science in Public Health

BY

IZUNDU, CHIOMA CHINENYE

Nigeria.

DECLARATION

Where other people's work has been used (from either a printed source, internet or any other source), this has been carefully acknowledged and referenced following departmental requirements.

The thesis, "**Mental Health and Psychosocial Support (MHPSS) of Women with Reproductive Cancers in Nigeria: A Literature Review"** is my work.

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LIST OF TABLES AND FIGURES

LIST OF ABBREVIATIONS

ABBREVIATIONS	FULL DESCRIPTION
CMDS	Common Mental Health Disorders
DALY	Disability Adjusted Life Years
FCT	Federal Capital Territory
GAD	General Anxiety Disorder
GCBT	Group Cognitive Behavioural Therapy
GPE	Group Psychoeducation
IBCR	Ibadan Population Based Cancer Registry
ICPD	International Conference of Population and Development
KATH	Komfo Anokye Teaching Hospital
LGAs	Local Government Areas
LMICs	Low-Middle-Income Countries
LPM	Love and Peace Mental Health Foundation
MANI	Mentally Aware Nigeria Initiatives
MhGAP	Mental health gap action programme
MHPPS	Mental Health and Psychosocial Support
MoF	Ministry of Finance
MoH	Ministry of Health
NCDS	Non-Communicable Diseases
NHIS	National Health Insurance Scheme
OCD	Obsessive Compulsive Disorder
OOP	Out-of-Pocket
PTSD	Post Traumatic Stress Disorder
REHCT	Rational- Emotive Hospice Care Therapy
SDG	Sustainable Development Goal
TCAM	Traditional Complementary and Alternative Medicine
UN	United Nations
WHO	World Health Organization

DEFINITION OF KEY TERMS

Anxiety Disorder- An ongoing occurrence of brief but strong bursts of fear, terror, and anxiety that reaches its peak within minutes (1).

Chemotherapy- A type of cancer treatment that involves the use of drugs to destroy cancer cell (2).

Depression- A persistent feeling of sadness and loss of interest that interferes with an individual's daily life (3).

Mastectomy- The partial or complete removal of one or both breast of breast cancer patients (4).

MHPSS- Any form of support given to people to protect and promote their mental and psychosocial well-being (5).

Psychoeducation- An approach that aims at providing individuals or groups with information about management of mental health challenges (6).

Psychosocial- The impact of social factors on a person's thinking and behaviour (7).

Psychotherapy- A form of psychological treatment that involves the combined use of communication and therapeutic methods to help persons address emotional and mental health challenges (8).

Radiotherapy- A type of cancer treatment that involves the use of high energy beams on cancer cells (4).

ABSTRACT

Introduction

The diagnosis of reproductive cancers among women generates fear in patients and their loved ones, which predisposes them to mental health challenges and psychological distress reducing their quality of life. It is crucial to focus on preserving and improving the mental health and wellbeing of women with reproductive cancers because women play important roles in the family with significant influence on other family members and the society. Hence, this study aims to explore the factors that influence the mental health outcome of women with reproductive cancers in Nigeria.

Methods

A literature review was conducted. Electronic peer-reviewed and non-peer reviewed literature was used. A conceptual framework adapted from the stress process model was used in accounting for variations in depressive symptoms and psychological distress typical among women with reproductive cancers in Nigeria.

Results

This study showed that depression and anxiety are common among women with reproductive cancers in Nigeria and may manifest immediately after cancer diagnosis and last for years. Factors such as health seeking behaviour, gender, pain, decreased income, educational status, social support, health education, psychotherapy and faith-based interventions was identified as major influence on the mental health outcome of these women. Poverty, stigmatization, lack of adequate information, was seen to influence attitudes towards treatment.

Conclusion

To improve the mental and psychosocial wellbeing of women with reproductive cancers in Nigeria, much more support from health and non-health actors that considers their educational, socioeconomic, and cultural contexts is required for a better health outcome.

Keywords*: Mental Health, Reproductive Cancer, Psychosocial, Women, Nigeria.*

Word Count: 12 339.

1. Introduction and Background

1.1 Introduction

According to the World Health Organisation (WHO), mental health refers to the capability of an individual to handle stress, relate to others, and make healthy choices. It includes human's emotional, psychological, and social well-being (9). Report shows that individuals' mental health is a function of the interaction of factors such as individual, social and structural stressors and vulnerabilities (10). The WHO estimates that worldwide, 450 million people have a mental disorder and 25% of the global population will suffer from mental illness at some times in their lives (11).

Mental health is an integral part of health and well-being, and yet it's been heavily neglected in Low-middle-income countries (LMICs) like Nigeria. It is recorded that one in four Nigerians are suffering from some sort of mental disorders (11). In Nigeria, Women are more likely to experience things that trigger disorders such as biological and hormonal changes, environment and society pressure personal behaviours, starting a new job or a family (12).

Non-Communicable Diseases (NCDs), like other stressors, have the potential to cause depression, post-traumatic stress disorder, and other prevalent mental health challenges. Mental problems may also be influenced by the same pathways that cause cardiovascular disease, diabetes, cancer, and respiratory illnesses (13) . Also, epidemiological studies have found significant associations between chronic diseases and mental health challenges (14). Previous studies reported prevalent psychological and mental health challenges among cancer patients in Nigeria. A study reported that in outpatient settings, about one-third of people with cancer have high levels of mental disorders with this frequency doubling among inpatients in Nigeria (15).

The diagnosis of reproductive cancers among women (shown in Table 1 below) generates fear in patients and their loved ones, which predisposes them to psychosocial responses. These responses can range along a continuum from emotions of vulnerability, fear, sadness, and loneliness to depression, anxiety, and spiritual distress (7), as well as an intensified state of acute discomfort during treatment (16). Aside from the physical changes brought on by cancer, changes in mental state, body image, family role, and adjusting to treatment side effects have been identified as some of the psychosocial challenges (7). On the other hand, women with mental health challenges have a higher risk of developing reproductive cancer because they are less likely to be concerned about their health, losing the opportunity for early detection and treatment. As a result, depression and anxiety may occur before reproductive cancer and discourage a woman from seeking treatment early (17).

***Table 1**: Types of Female Reproductive Cancers*

Cancers	Place of occurrence in the Body
Breast Cancer	In the tissue of the breast.
Cervical Cancer	In the lower end of the vagina that extends to the uterus.
Ovarian Cancer	In the ovaries, the organ that produces the woman's eggs.
Uterine Cancer	In the uterus(womb), the organ where the baby grows during pregnancy.
Vaginal Cancer	In the vagina, the hollow channel that leads from the uterus to the cervix to the outside of the body.
Vulvar Cancer	In the vulva, the area around the opening of the vagina.

Source: (18).

1.2 Common Mental Health Disorders and Psychological Distresses

WHO defines "Common Mental Health disorders (CMDs) as a group of state of distresses typically encountered in health care settings mainly associated with lower socio-economic status, poor reproductive health, gender disadvantages and physical ill-health (19). This research study will focus more on CMDs such as depression, generalised anxiety disorder (GAD), obsessive-compulsive disorder (OCD) panic disorder, phobias, social anxiety disorder and post-traumatic stress disorder (PTSD) because of its prevalent co-existence with non-communicable diseases such as cancer contributing to disability among Nigerian women with reproductive cancer. Depression, anxieties and somatoform disorders are far more prevalent in general practice and twice more common in women and its burden in the society is relatively large (1).

Additionally, focus will also be given to psychological distress which refers to a general term used to describe emotional and mental experiences that deviate from a person's usual state of well-being. It ranges from feelings of sadness, irritability, sleep disturbance, difficulty in concentrating among others (20). Considering both CMDs and Psychological distress will aid a better understanding of the mental health challenges among women with reproductive cancer in Nigeria.

1.3 Background Information on Nigeria

1.3.1 Demographic and geographic context

Nigeria is a country in the West Africa that consists of 36 states and a Federal Capital Territory (FCT), with an estimated population of 202, 000,000, the largest population in Africa (21), grouped under six geopolitical zones namely North-central, North-east, North-west, South-east, South-south, South-west. Under the states, there are 774 local Government Areas (LGAs) and 9,565 political wards derived from these LGAs (21). It is surrounded by countries like Benin Republic, Niger, Cameroon and Chad as shown in Figure 1 below (22). Approximately 49.3% of the population are women and the country has a youthful population with national medium age of 17.9 years. Nigeria is a culturally diverse nation with about 250 ethnic groups with three major tribes which are Igbo, Hausa and Yoruba with their leaders being Chiefs, Emirs and Obas respectively. Among the different spoken languages from the various tribes, Nigeria's official Language is the English Language (21).

***Figure 1**: Map of Nigeria showing states and geopolitical zones.*

Source: (22).

1.3.2 Socio- economic context

Nigeria is classified as a LMIC based on its income level (21). The country is recognised as the sixth-largest oil producer in the world and the largest in Africa. The economy of the nation is highly dependent on its abundant crude oil reserves, despite this, the nation faces

developmental issues and is ranked 152 out of 157 countries on the World Bank Human Capital index of 2018 (23).

Social indicators show gender disparity with only 49.7% of adult females being literate compared to 69.2% of males. Only 36% of adult women in Nigeria work, which is a low percentage for women's employment in the formal sector. Nigeria's overall placement on the gender-related development index is 152 out of 188 nations (24).

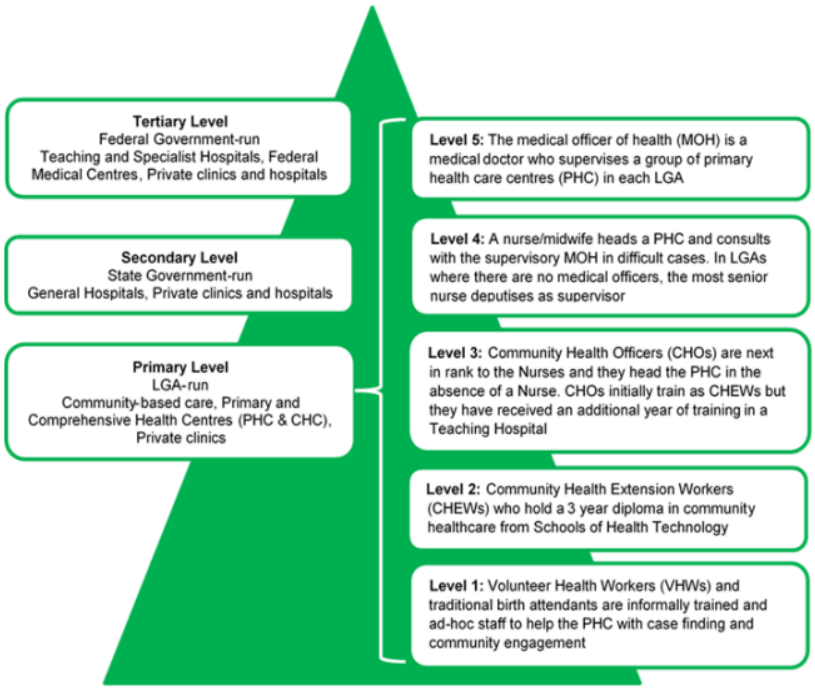
Inequality remains a huge challenge in accessing basic health care service with many of the population paying Out-of-Pocket (OOP) leading to high poverty rate in the country. Due to overreliance on the allocation from the Federal Government, lack of political will, political instability, growing insecurity within the country, there is a set-back in economic progress (21).

1.3.3 Nigerian's Health System

The Nigerian health system is based on the National Health Policy. The policy was established in 1998 as the first comprehensive national health policy. Health is on the concurrent list of the Nigerian constitution meaning all tiers of government (Federal, State and local governments are responsible for the provision of health to its citizens as seen in figure 2 below. The country's health care system is composed of three tiers; the primary health system mostly accessible in rural areas and every ward of local government which is run by the local governments authorities in collaboration with state governments and international donor organizations, and cases being referred to secondary and tertiary care when needed. The secondary health care which mainly comprises the comprehensive health centres and general hospitals is run by states governments. While the tertiary health systems which consist of the federal medical centres, specialist hospitals and teaching hospitals is run by the federal government of Nigeria and in few cases by the state governments (24)

At every level of the healthcare system, there is a sizable degree of financial and healthcare service autonomy under the direction of the Federal Ministry of Health. In addition to a few primary healthcare facilities, every state in the nation has at least one public tertiary healthcare facility. The primary health facilities which include, health posts, dispensaries and health centres are closest to the populace, serving as entry point into the health system. The range of non-communicable diseases which largely constitute the disease burden in Nigeria such as cancer leads to mental health challenges among the populace.

***Figure 2**: The Nigerian Health System.*



Source: (24).

1.3.4 Mental Health Landscape of Nigeria

In Nigeria, the burden of Mental health challenges is very high with limited access to availability, acceptability, affordability and quality mental health services (25) (11). Mental health challenges collectively contribute to 25% years of potential life lost due to premature mortality and productive life lost due to ill health and disability (DALY) in the country. The quality of life, the social and economic viability of families and communities within the country are hugely impacted by the mental health of the populace. A community study carried out in Nigeria, revealed that among the mental health challenges, depression alone accounted for 4.3% of the general population and is among the largest single causes of disability globally particularly for women (26). Evidence shows that depression and anxiety is particularly common among the women in reproductive age with over 7% reporting major depressive disorder in a year and over 25% reporting same during a lifetime, which runs a chronic course and are responsible for high morbidity (24).

The mental health budget mainly financed through the central government health budget is about 3.3–4%, with over 90 % going to the few neuropsychiatric hospitals available in Nigeria (27) leading to greater barriers in accessing health care for the poor and vulnerable groups.

The mental health specialists are mainly available at tertiary healthcare centres to review and treat complex cases. The country with its teeming population has less than 300 psychiatrists accounting for a ratio of about 700, 000 of the population per psychiatrist, most of whom are urban based, and in relation to the poor knowledge of mental health challenges at the primary health-care level, people who suffer a range of mental health challenges are left in the care of family members (28). Resulting to high patronage of religious clerics and traditional care attendants by the populace especially in rural communities (29).

Access to care is limited to the most severe cases, typically in the form of inpatient care due to a lack of community-based and primary health-care providers. There is a chronic underfunding of the mental health system that serves the needs of the estimated one in eight mentally challenged Nigerians as well as a lack of knowledge about the causes of mental health challenges, widespread stigma and discrimination, inadequately equipped services, and abuse of those who have mental health issues. There is a call by the WHO for mental health services to be essentially covered in the National Health Insurance Scheme (NHIS) of the country to ensure accessibility and affordability of care and integration of psychoeducation, training and responses to mental health challenges from various stressors like cancer (28).

Following a 20-year battle to replace the archaic, colonial mental health laws, Nigeria's National Mental Health Act 2021 was officially enacted on January 5, 2023. With this accomplishment, Nigeria joins the exclusive group of African nations that have updated or adopted new mental health legislation in response to the WHO's appeal on member nations to employ legislative reforms to stop violations of the human rights of people with mental health disorders. This development occurs at a crucial time, when support and promotion of the rights of those who struggle with mental health disorders are at an all-time high (30). These developments strengthen the collaboration of NGOs like Mentally Aware Nigeria Initiatives (MANI), Mental Health Foundation, Neem Foundation, Love, Peace and Mental Health Foundation (LPM), She Writes Woman to provide support programmes and activities involved in assisting individuals such as housing, counselling, awareness to improve the quality of life of mental health challenges in Nigeria (29).

The key elements of mental health packages of services and strategic interventions for the service delivery from 2018- 2022 are summarised in table 2 below. This provides a guide in relevant programmatic strategic plans, guidelines and treatment protocol in Nigeria.

***Table 2**: Package of Key Mental Health Care at all levels in Nigeria.*

Mental Health (Including substance abuse)	Community	primary	Referral
Health education and promotion on mental health	✓	✓	
Promote mental health literacy (in collaboration with other sectors)	✓	✓	
Provide community-based youth and women mental health care services that combines mental health, alcohol and other substances	✓		
Community-based mental health care services by lay workers	✓		
Provision of primary mental health care services - identifying mental illness, provision of basic medication and psychosocial interventions, educating families on mental health issues, referrals to specialist mental health services		✓	
Rehabilitative services for drug and substance abuse addicts	✓		✓
Psychiatric treatment services in general hospitals			✓
Provision of long stay facilities and specialist psychiatric services			✓

Source: (24).

1.3.5 Mental and Reproductive Health of Women in Nigeria

Mental health is a component of reproductive health. According to the International Conference on Population and Development (ICPD), "*reproductive health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity, in all matters relating to reproductive system and to its functions and processes*" (31). Studies showed that women in the reproductive age period (15-49years) which starts with onset of menstruation and ends when menstruation stops, experience chronic illnesses such as reproductive cancers and the resultant mental health challenges on women has a negative impact on women's sexual and reproductive health (32). Certain cancers especially those associated with the reproductive system of women like breast, cervical, vaginal, ovarian, uterine, vulvar combined with the effects of the often-radical treatment involved, can hugely affect a person's sense of their sexuality and sexual functioning leading to varying degrees of mental health challenges (33).

1.3.6 Reproductive Cancer in Nigeria

There has been an evident epidemiologic shift to chronic diseases like cancer as people in Nigeria are beginning to survive from infectious diseases. Cancer prevention and care have increasingly become a public health concern in resource-limited country like Nigeria (16). Cancer, a chronic, non-communicable disease occurs when body cells grow abnormally and uncontrollably to occupy other parts of the body and in 2018, it was documented as the second leading cause of death worldwide (34), accounting for an estimated 9.6 million deaths

contributing to over 29% of global mortality (35) . Also, a report revealed that approximately 17.5 million cases of cancer were diagnosed worldwide with more than two-thirds seen in the LMICs like Nigeria in 2017 (36).

In Nigeria, cancer data showed the number of new cases in 2020 for both sexes of all ages, with breast cancer having 22.7%, Prostate cancer having 12.3% and cervix uteri 9.7% incidence rate of all cancer cases. Also, the number of new cases for women is reported to be 73 417 among the 206 139 590 estimated population in Nigeria higher than that of men indicating that among the top five most frequent cancers, reproductive cancers top the list and women are mostly affected (9). Also, in 2021 according to the Global cancer observatory, the most common types of cancer among Nigerian Women are breast and cervical cancer accounting for 50.3% of all cancers (9).

In Nigeria, breast cancer and cervical cancer among other female reproductive cancers are given more attention because of their prevalence among the women populace. The key elements of breast and cervical cancer packages and strategic interventions in Nigeria are summarized in the table 3 below.

***Table 3**: Package of Key Cervical and Breast Cancer Health Care at all Levels in Nigeria*

Cancers	Community	Primary	Referral
Health education on lifestyle modification for all cancers	✓	✓	
Radio, chemotherapy and surgical cancer services for all cancers		✓	✓
Cervical Cancer			
Human Papilloma Vaccine for cervical cancer		✓	
PAP smears for pre-cervix cancer screening		✓	✓
Diagnosis and treatment services			✓
Breast Cancer			
Breast self-examination	✓		
Clinical breast examination		✓	✓
Mammography to screen for breast cancer			✓
Mastectomy and radiotherapy			✓

Source: (24)**.**

2. Problem Statement, Justification, and Objectives

2.1 Problem Statement

Psychological problems are significantly associated with a diseased state, especially chronic disease like cancer. At least one-third of people suffering from cancer also suffer from mental health challenges such as depression, anxiety, and psychotic symptoms, which if left untreated results in decreased treatment adherence, decreased survival rate, increased health cost, diminished quality of life and increased mortality rate (37). Studies showed that 78% of cancer patients in Nigeria are psychologically distressed (38) with about 37% reporting moderate to severe anxiety, and 14% to 25% were diagnosed with depression (39,40). These mental health challenges were positively associated with high-risk factors such as single marital status, poor social support, stigma, severe pain, advanced cancer stage, and use of chemotherapy especially among women (41,42).

Despite available evidence of mental health challenges among cancer patients, there is high unmet need for mental health services among them (43) and factors limiting these service provision include over- reliance on clinical diagnosis rather than use of standardized methods of identifying stress, inadequate specialists, time constraint and denial by patients (44). Furthermore, due to the patriarchy system in Nigeria, women suffer from wide health inequalities. They have limited access to healthcare, often lack financial capability and are also unable to make independent decisions relating to their health (45). Women with reproductive cancer suffer a higher risk of psychological problems especially due to poverty, stigmatization and discrimination, lack of adequate information, fear of infertility and societal acceptance (46).

2.2 Justification

The increasing report of mental health challenges among women with reproductive cancers made it a double morbidity with a growing health priority in Nigeria (35). As part of the Sustainable Development Goal (SDG) 3.4, the United Nations (UN) recognizes the need for lessening the burden of cancer with the target to reduce one-third of premature mortality from NCDs through prevention, treatment, and promotion of mental health and well-being by 2030 (47,48).

Studies from two major population-based cancer registries in Nigeria, the Ibadan Population Based Cancer Registry (IBCR) and the Abuja Population Based Cancer Registry (ABCR) showed that more women than men develop invasive cancers in Nigeria. While 66% of the total 3 393 reported in IBCR are women, 66.5% of the total 1 128 reported cancers in ABCR are in women. These reports revealed a disproportionate incidence of cancer in women with reproductive cancers accounting for more cases, indicating the need to promote the quality of life of women with reproductive cancers in Nigeria. Hence, focus in this study is given to women with reproductive cancers leaving out the reproductive cancers in men (49).

Also, management of reproductive cancers in patients are mostly directed to the physical symptoms while the psychological issues are overlooked, and this may have a significant impact on their attitude towards treatment (17). Therefore, exploring the influencing factors

that have implications on the mental health of women with reproductive cancers will be useful in identifying patients in need of psychosocial support particularly in nations like Nigeria where healthcare is poorly accessible and health care cost are mostly covered out-of-pocket (50)

Additionally, it is crucial to focus on preserving and improving the quality of life of women with reproductive cancers because women play important roles in the family with significant influence on other family members and the society. Therefore, reviewing the mental health of these women is very important (51). Understanding the mental health contributory factors of women with reproductive cancers is key in formulating pragmatic policies and interventions to improve the mental wellbeing of cancer patients and hence the focus of this study.

2.3. Research objectives

2.3.1 Overall Objective:

To explore the factors that influence the mental health outcome of women with reproductive cancers in Nigeria in order to propose recommendations to Ministry of Health (MoH) and relevant stakeholders on interventions to improve their mental and psychosocial well-being.

2.3.2 Specific Objectives:

1. To identify the types of mental health challenges among women with reproductive cancers in Nigeria.

2. To identify the socio-demographic/cultural factors associated with mental health challenges of women with reproductive cancer in Nigeria.

3. To explore how reproductive cancers on women in Nigeria affect their mental health outcome.

4. To explore the availability of mental health interventions and psychosocial support programs for women with reproductive cancer in Nigeria.

5. To use findings in recommending interventions to MoH and relevant stakeholders in improving the mental and psychosocial well-being of women with reproductive cancers in Nigeria.

3. Methodology

3.1 Research Design

This research employed a review of relevant literature containing insights into the mental health and psychosocial support of women with reproductive cancer in Nigeria, the types of mental health issues among these women, the socio-demographic factors associated with the mental health of women with reproductive cancers and a review of interventions planned and implemented to improve the mental and psychosocial well-being of women with reproductive cancer in Nigeria.

3.2 Search Strategy

This study searched for electronic peer-reviewed and non-peer reviewed literature from databases like Google Scholar, PubMed, Science direct, Hinari. Relevant reports were retrieved from the websites of health organizations working on mental health including WHO, UN, MoH, Mental Health Foundation, Nigeria. The reference list of identified articles and reports were also searched for more relevant articles using the snowball technique. Articles related to the objectives from other neighbouring countries or with similar context to Nigeria were also searched.

Literatures associated with reproductive cancer and mental health outcome among women in Nigeria were searched using search strings derived from key words of the Stress Process Model, as well as variations of some of the terminologies to broaden the search. Boolean operators were used to form search strings and the sub-selection of keywords that will yield relevant literature include *Mental Health, Nigeria, Reproductive Cancer, Breast Cancer, Cervical Cancer, Women, Gender, Ethnicity, Marital Status, Family Care, Socio- Demographic Factors, Depression, Anxiety, Quality of Life, Psychological Distress, Psychosocial Support, Psychotherapy.* The table showing the detailed search word combination is seen in the annex.

3.3 Inclusion and Exclusion Criteria

The Mental Health Atlas document which provided the state of mental health in Nigeria was included in this review. Articles from all study designs describing mental health outcomes among women with reproductive cancers in Nigeria and other neighbouring countries or African with similar setting were included in the review. Only articles written in the English language and published within a time frame of 15years (2008-2023) were reviewed with exception made for the original source of the framework adapted in this study. This is to yield relatively recent articles.
Articles describing mental health outcomes among women with non-reproductive cancers and other diseases were excluded as this was not the focus of the study.
Articles describing mental health illnesses were excluded as this study was not focused on a clinical perspective but on a public health perspective.

3.4 Conceptual Framework

This study used a conceptual framework originally adapted from the stress process model by Leonard I. Pearlin. For more than a quarter century, Pearlin's stress process model represented the dominant perspective of researchers attempting to identify potentially modifiable social contingencies in Mental health. Stressors are defined as threatening situations that evokes a negative impact known as stress on the well-being of an individual (52).The model argued that stressors can be divided into two (primary and secondary) where the primary stressor is a result of a life event which has a fixed identifiable time point while the secondary stressors occurs more subtly and persistently (53). According to the framework, primary stressors lead to secondary stressors, through stress proliferation resulting to increased risk of negative mental health outcomes among study targets (53).The high degree of the success of the model in accounting for variations in depressive symptoms and psychological distress suggests its potential power for advancing our understanding of mental and the psychosocial support of people (54).

The Stress Process Model which was adapted by (55) has proven useful in mental health studies and it was selected for this study because it more clearly applies to the specific stressors-outcomes experienced by women with reproductive cancers in Nigeria.

The model by Acala is more suitable for this study than the model originally from Pearlin because Pearlin focused more on how stressors interrelate with social factors that influence the mental health of people in general while Alcala focused on how these factors influences the mental health of women with a diseased condition in this case, reproductive cancers.
Alcala specifically examined the extent to which a cancer diagnosis is related to poorer mental health outcomes because it affects finances, and the extent to which the mental health impact of cancer varies across racial/ethnic groups.

Although, Alcala's study was conducted in America and focused on Latin Americans and African Americans, as they were more prone to having cancer and mental depression. In the adapted framework used for this study, race was not included as it was included in Alcala's study because in Nigeria the people are all from African race, but ethnicity was included because of the many ethnic groups in Nigeria. Marital status of these women was also included as a social status, as this is key in the social standing of women in Nigeria.

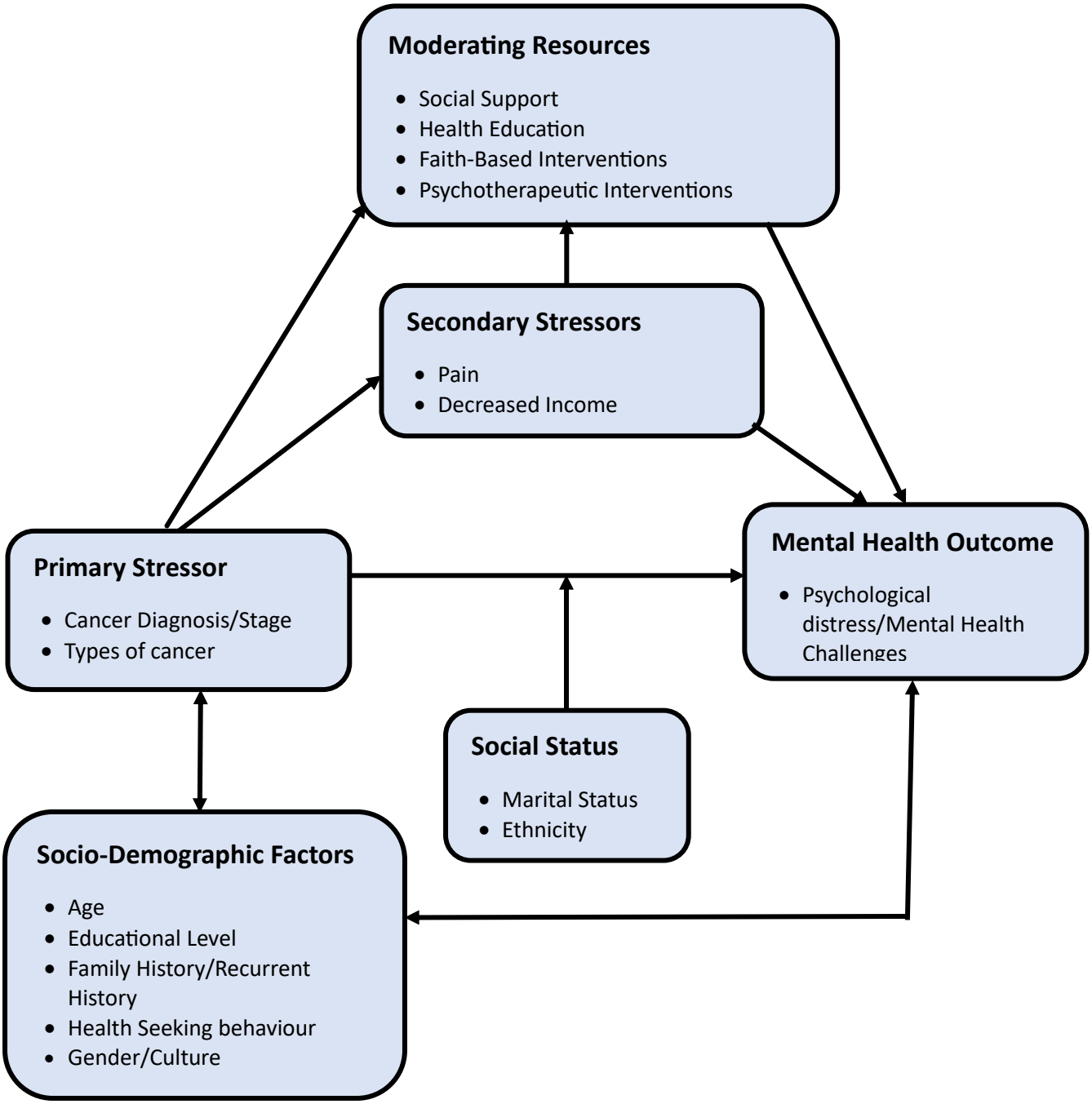
Included also in this study, are the moderating resources which is key in the stress process, used to mitigate the effects of stress and reduce the risk of mental health challenges through stress proliferation for promoting the mental and psychosocial wellbeing of women with reproductive cancers in Nigeria. The researcher acknowledges that even the presence of moderating resources would not eliminate completely, the severity of the negative effect of cancer on the mental health of cancer patients but could increase their chances at survival. This is because, chronic disease conditions largely influence the mental health of patients negatively.

Family history and recurrent history was included among the socio demographic factors because the researcher found it crucial in addressing the psychological needs and concerns

and overall wellbeing of cancer patients. Lastly, health seeking behaviours were included as it has major consequences on the other sections of the model in understanding the complexities involved in the cancer journey of women with reproductive cancers in Nigeria.

Elements of the framework as shown in Figure 3 and used in this study are described below. The model by Pearlin and Alcala for reference are seen in the annex section.

Figure 3: *An Adapted framework from the Stress Process Model*



Source : (53,55)**.**

Primary Stressor : In this study reproductive cancer diagnosis in women is referred to as a primary stressor. Cancer staging, types of cancer and its effect on the mental health outcome of women with reproductive cancer is reviewed under this section.

Secondary Stressors: This study identifies secondary stressors such as pain, decreased income, stigma and discrimination. The interplay between the primary stressor (female reproductive cancers) and secondary stressors on the mental health outcome of women is reviewed under this section.

Sociodemographic Factors: Variables relevant to this study such as age, educational status, family history/recurrent history, gender and health seeking behaviour and how they impact the stress process and mental health outcome of women with reproductive cancer is reviewed under this section.

Social Status: The marital status of women with reproductive cancers will provide a broader societal perspective between stress and the mental health of these women. This is reviewed under this section.

Moderating Resources: These are factors that mediate or influence the relationship between stressors and mental health outcomes of women with reproductive cancers. Factors related to the availability and utilization of social support from friends, family, partners, women support groups and psychosocial interventions are reviewed in this section. The psychosocial interventions include health education, faith-based intervention and psychotherapeutic interventions.

Mental Health Outcome: In this section, the common mental health challenges and psychological distress and their severity among women with reproductive cancers such as anxiety and depression will be reviewed.

Based on the stress process model, four specific objectives of this study were explored; the mental health influencing factors among women with reproductive cancer in Nigeria, the socio-demographic factors associated with mental health challenges of women with reproductive cancer, the effect of cancer as a primary stressor on the mental health outcome of these women and the availability of mental health interventions and psychosocial support for these women resulting to the fifth specific objective of this study which is using findings to recommend interventions to the MoH and relevant stakeholders in improving the mental and psychosocial well-being of cancer patients in Nigeria.

4. STUDY FINDINGS/RESULTS

In this section, the results will be reported according to the framework identified above (Figure 3).

4.1 Primary Stressor

4.1.2 Stage of Cancer:

Studies included in this thesis show that cancer stage is associated with mental health challenges among women with reproductive cancer in Nigeria. As stated earlier, many peculiar factors come to play from the early diagnosis of cancer, during treatment and recovery of cancer in Nigeria (40,56).

A study conducted in Northern Nigeria to determine the prevalence of major depressive disorders in outpatient with cancers showed that the different stages of cancer could lead to major depressive disorder implying that the more the cancer progresses, the severe the depression gets (57). Similarly, a univariate analysis conducted to assess the correlate of depressive disorder among breast cancer outpatients in Southwest Nigeria reported a significant association of breast cancer staging and diagnosis of depression with (*P*=0.013) as shown in table 4 below (58).

***Table 4**: A Study Showing the Association between Depression and Staging of Breast Cancer among Breast Cancer Patients in Nigeria.*

Staging of Breast Cancer	Total (%) (n=124)	Depression (%) (n=50)	Non-Depression (%) (n=74)	X^2	DF	*P*-value
Stage I	11(8.9%)	3(27.3%)	8	10.769	3	**0.013**
Stage II	32(25.8%)	6(18.8%)	26			
Stage III	63(50.8%)	31(49.2%)	32			
Stage IV	18(14.5%)	10(55.6%)	8			

Source: (58).

A multi-centre study conducted in Southwest Nigeria to examine the pattern and predictors of depressive symptom among breast cancer patients receiving chemotherapy reported that cancer stage predicted patients' level of depression, further revealing that advanced disease is a risk factor for depression (59).

4.1.3 Types of cancer:

The different types of female reproductive cancers can have varying effects on the mental health outcomes of women in Nigeria. Each type of cancer has its own difficulties and emotional distresses that might have varying effects on a woman's mental health (40).

A study conducted in Nigeria among breast and cervical cancer patients showed that cervical cancer patients had more psychosocial concerns about how people see them, the inability to enjoy sex, foul odour, sleep problems, fear of death than breast cancer patients which was majorly due to the young age of the participants apart from the site of the cancer in the body. However, the study showed that both breast and cervical cancer patients had worries about

their femineity (60). Another study conducted in Southwest Nigeria, showed that depression was more among women with cervical and vaginal cancers compared to women with uterine and ovarian cancers. Women with cervical and vagina cancer was shown to feel more shame because the affected organs were associated with visible and intimate part of the body (40).

While another study IN LMICs showed that among women with reproductive cancers, breast cancer patients face higher chance of dying compared to the ovarian cancer patients which increases the level of anxiety and depression in them. Implying that the chance of survival, influences the mental health of women with reproductive cancers in Nigeria (61).

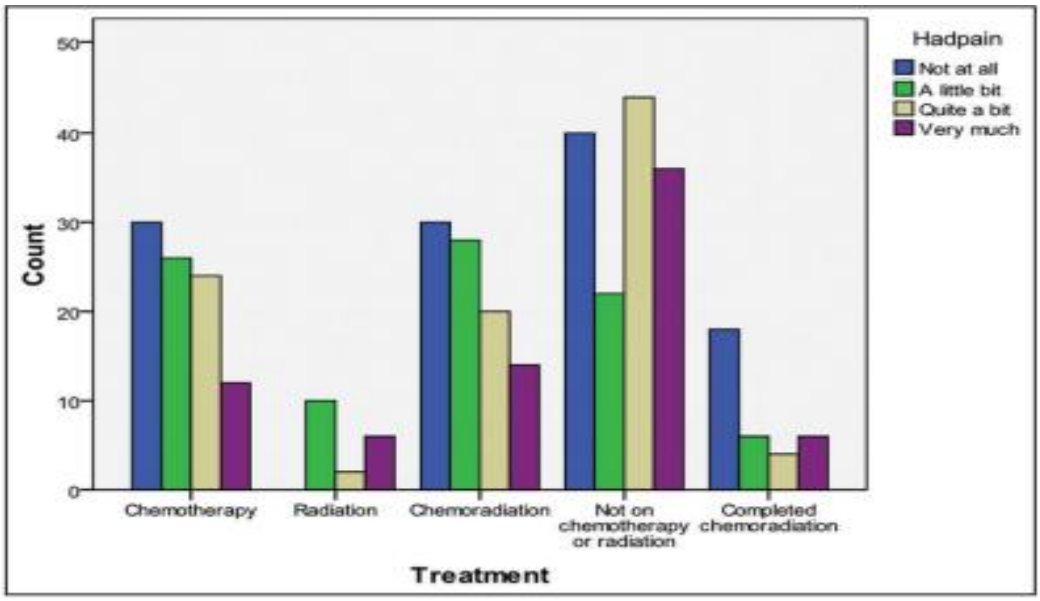
4.2 Secondary Stressors

4.2.1 Pain:

This literature review identifies cancer as a primary stressor to the mental health outcome of patients which results to other stressors like pain. Studies showed that pain from cancer is a multi-dimensional secondary stressor that causes high degree of mental health challenges and morbidity (40,62). A cross- sectional descriptive study carried out to assess the quality of life of cervical cancer patients in Northern Nigeria showed that there was a direct relationship of pain and the stage of cancer as 52% of patients not on treatment reported intense pain more than those on chemotherapy and radiotherapy as shown in Figure 4 below (63). This is similar to 93.8% of 80 patients reported by (33) and 73% by (43) from Ibadan, Nigeria to have pain that require control at initial presentation.

Another descriptive study showed that pain which is secondary to cancer diagnosis and treatment is significantly associated with increased vulnerability of mental health challenges among women with reproductive cancer and vice versa (12). Consistent with several studies, pain can be considered a sign of severity of cancer, so patients may believe their condition is getting worse and loose hope, which increases the number of patients who are depressed. Alternatively, depression may make patients more sensitive to pain, which may increase the number of depressed patients in those who have a pain complaint (43). The figures in the bracket in table 5 below are the percentages of cancer patients with pain showing various mental health challenges. Depression, anxiety and suicidal ideation was more likely to be found in patients who had pain. Sleep problems was also found to come directly from cancer and indirectly from depression and anxiety both which are significantly associated with pain (43).

***Figure 4**: Clustered Bar Chart Showing the Relationship Between Cancer Pain and Treatment in Northern Nigeria.*



SOURCE: (63).

***Table 5**: A Study Showing the Psychological Effects of Cancer Pain on Breast and Cervical Cancer Patients in Ibadan, Nigeria.*

S/N Variables	Presence of pains	No pains n=155	X^2 n=155	*df*	*P*-value
1.Depressive Symptom					
Present	64(41.3)	14(25.5)	11.292	1	0.004
Absent	91(58.7)	41(74.5)			
2.Anxiety Symptom					
Present	39(25.2)	6(10.9)	4.898	1	0.027
Absent	116(74.8)	49(89.1)			
3.Suicidal Ideation					
Present	101(65.2)	20(36.4)	15.713	1	<0.001
Absent	54(34.8)	35(62.6)			
4.Sleep					
Good	76(49.0)	38(69.1)	14.855	2	0.005
Poor	79(51.0)	17(30.9)			
5.Concentration					
Normal	128(82.6)	50(90.9)	11.090	2	0.050
Impaired	27(17.4)	5(9.1)			

Source: (43).

4.2.2 Decreased Income:

Financing cancer treatment is a big challenge in poor-resource setting like Nigeria where NHIS does not cover all cancer treatments (64). Several studies found in this study and included in this thesis, showed that cancer has a significant negative impact as the treatments are very expensive and most patients belong to poor socioeconomic class and pay out of pocket (65).

Evidence suggest that breast cancer patients face the risk of unemployment, as full-time employment is demanding when coupled with a chronic disease like cancer. Also, perception of financial difficulty related to reduction in income generation to afford a basic standard living, purchasing of drugs was reported to occur in more than three quarters of the patients (50).

A multi-centre clinical study conducted in Southern Nigeria showed that average monthly income of breast cancer patients significantly predicted depression (59). Another study in South-west, Nigeria reported that monthly income is inversely associated with anxiety, implying that the lower the income, the higher the risk of anxiety among women with reproductive cancer (40). This is supported by the study of Muhammed et al, 2020 which showed that psychological distress of breast cancer patients is often associated with catastrophic spending due to high cost of treatment and having to travel long distances to receive quality treatment (50).

However, a multivariate logistic regression analysis conducted in Nigeria to evaluate for independent relationship between anxiety disorders and domains of quality of life among breast cancer patients, showed that financial difficulty was not independently related with anxiety disorders, which explains the inter-play of other factors like social support, pain, and belief (62).

4.3 Socio-Demographic Factors

4.3.1 Age:

Studies show that reproductive-aged women are at a high risk of getting gynaecological disorders such as cancer leading to various degrees of mental health challenges among these women (66,67).

A study conducted in Southwest Nigeria aimed at identifying the variables affecting the prevalence of depression and anxiety among reproductive cancer patients with majority being women, reported that cancer patients above 40 years showed more symptom of anxiety than those below 40 years. This is due to the presence of physical-aging related disabilities like reduced vision and hearing which heightens the sensitivity of older patients to mental distresses (68). Another study conducted to determine the correlates of unmet supportive needs of Nigeria patients living with cancer with majority being women, reported that younger cancer patients had more fear and worry about dying, uncertainty about the future, persistent anxiety and depression about their illness (69).

A study from Ghana reported a distribution of depression and anxiety among women with reproductive cancers according to age. In both anxiety and depression, women in the age bracket 35-45 had the highest prevalence which was more than 1.25 times that in aged 24-35 years and over 5 times lower? That was reported among aged 18-24 years old as shown in table 6 below (67).

***Table 6**: Anxiety and Depression across Age Groupings among Women with Reproductive Cancers in Ghana.*

Age (years)	Anxiety (%)	Depression (%)
18-24	5.61	2.68
25-34	19.80	18.13
35-45	24.58	29.18

Source: (67)**.**

A study in Nigeria also reported that although women in the reproductive ages are prone to experience reproductive cancers, social stressors such as marital stress, unemployment, lack of social support could contribute to high prevalence of mental health challenges among them (63). However, there are relatively few data showing the association between age and mental health outcome among women with reproductive cancers in Nigeria.

4.3.2 Educational Level:

Several studies reported socio-economic disadvantages as a risk factor for the development of mental health challenges in female cancer patients in LMICs (70). Specifically, higher rate of depression and anxiety was shown among women with reproductive cancer with a lower educational level (59). A study conducted in Southern Nigeria to explore the predictors of mental health challenges among female reproductive cancer patients showed that women with secondary education or below were more likely to be depressed in association with other co-factors like fewer children and duration of diagnosis less than a year (71).

Evidence also showed that partner education level is a predictor of anxiety and depression among women with reproductive cancer. A descriptive prospective study reported that partners whose husband have secondary education or below have 6.2 increased odds of experiencing anxiety and 27.3 more likely to be depressed when compared to those with higher education (71). This is similar to the report from Ethiopia on the determinant factor of anxiety and depression among cancer patients, a country in the sub-Saharan region of Africa as Nigeria (72).

Moreso, evidence suggest that educational level influences the early detection of reproductive cancers among women in Nigeria. A study conducted in Southwest Nigeria to determine the effect of educational status on the knowledge and perception of cervical cancer among patients showed that women with a higher level of knowledge adhered to early presentation for prompt treatment. This in turn reduced fear of dying which has implication on their mental well-being (73). The studies on the impact of educational status on the mental health outcome of women with reproductive cancer in Nigeria included in this literature review, suggest that women with low educational level are more vulnerable to develop mental health challenges in association with less positive social interaction, poor health awareness, lack of emotional support (71).

4.3.3 Family History/Recurrence History of Cancer:

Evidence showed that family and recurrence history of women with reproductive cancer predicts mental health challenges among these women. Cancer patients may be more or less afraid and worried if they know someone in their family who had cancer or if they had a previous history of cancer (74).

A study conducted in Southwest Nigeria to investigate the determinants of anxiety disorder among breast cancer patients, reported that participants with more anxiety disorder had no family history compared to those who had family history of breast cancer. The study also reported that participants with no previous history of cancer were more likely to have anxiety than those with previous history, this could be due to patients with previous history are more informed about the best ways of managing distresses from cancer. (74).

However, there are lack of substantial studies showing the association of family and previous history of cancer on the mental health of women with reproductive cancers in Nigeria and its neighbouring countries.

4.3.4 Gender and Culture:

Qualitative studies conducted in LMICs among breast cancer patients reported that gender roles in a patriarchal society like Nigeria influences the psychosocial outcome in women with reproductive cancers (75). Studies among breast cancer patients, showed that competing responsibilities such as housework or childcare that women carry out in Nigeria can hinder them from prioritizing their health needs consequently leading to persistent worries, embarrassment and hopelessness among these women (76,77).

A people's way of life has an impact about the general perception towards vital aspects such as health. Studies showed that cultural norms had a significant impact on the medical care and psychological evaluations of breast cancer patients in Nigeria (45). Many Nigeria women with reproductive cancers perceive their illness as a spiritual cause so prefer traditional or spiritual treatments which account for majority of delayed diagnoses in breast and cervical cancer care in Nigeria, negatively affecting their mental health (78).

A baseline survey conducted to assess the psychosocial effect of mastectomy in Northern Nigerian women Zaria, showed that 67.9% of the 81 patients within the first six months after surgery felt a low self-esteem about their femininity. This loss of femininity was attributed to reduction of affection from their husbands leading to a perceived feeling of sadness, social phobia, anxiety and depression, only few women felt adequate and indifferent about their femininity. However, this study was limited by the lack of resources concerning standardized psychosocial assessments particularly the absence of instruments for use in the culture (45).

Stigma and discrimination, a typical occurrence experienced by cancer patients in Nigeria especially women with reproductive cancers is a consequence of culture. It is described as a social process characterized by neglect, discrimination and blame against a person or group. Evidence shows a widespread misconception about cancer in Nigeria, such as cancer is a disease of witches or the cursed, this leads to the diagnosis of cancer especially in women to

be hidden from family members to avoid being stigmatised. This is associated with a feeling of worthlessness and depression among these women (79)

4.3.5 Health Seeking Behaviour:

A person's actions and choices to maintain or enhance their health, avoid disease, and seek medical attention, when necessary, plays an important role in the individual's overall wellbeing. Evidence suggests that the mental health outcome of women with reproductive cancers in Nigeria largely depends on their health seeking behaviour. These behaviours are influenced by various factors, including individual beliefs, cultural norms, access to healthcare, and socioeconomic status (75).

A study conducted in Nigeria showed that breast cancer patients who believed that breast cancer is a curse which does not have a medical cure showed more symptom of anxiety compared to those who did not hold on to such belief. This makes them unwilling to adhere to medical treatment, increasing the severity of their condition and vulnerability to fear and anxiety due to the stigma and condemnation heavily attached to their condition (80).

Another study showed that financial and access barriers associated with travel and appointment for treatment has a psychosocial influence on the health seeking behaviours of women with reproductive cancers in Nigeria. The study further revealed that the financial barriers lead to postponement or refusal of treatment which increases severity of their disease state. The delay in treatment was the effect of no insurance health coverage for the affected women which increased their feeling of pain and in turn, their mental health challenges (81).

Qualitative studies conducted in LMICs such as Nigeria, showed that the use of traditional, complementary and alternative (TCAM) medicine was a key barrier in the medical health seeking attitudes of women with cancers and was influenced by cultural norms, beliefs and mistrust for biomedical treatment (75). An observed study conducted in Ghana showed that breast cancer patients only seek biomedical cancer treatment when symptoms have worsened. This leads to increased psychological distress in them as a result of severe pain typical in advanced cancer stage (82).

The studies found in this review, show that the earlier the diagnosis and treatment of cancer, the better the reduction of pain and mental health challenges among women with reproductive cancers in Nigeria (75).

4.4 Social Status

4.4.1 Marital Status:

Studies found in the literature review and included in this thesis shows that, in the context of illness and intimate-relationship, partners are the primary source of support considered vital in the mental and psychosocial well-being of women with reproductive cancer in Nigeria (83). Despite the provision of medical treatment for cancer patients, marital status especially the presence of a partner and support for these women could affect their treatment, healing time and mental well-being as reproductive cancers are reported to be a life and relationship threatening trauma (40).

A qualitative study conducted in Nigeria to analyse the effect of spousal dissertation among women with cervical cancer showed that married women coped better in their mental well-being than unmarried women because of the presence of a supporting husband (83). However, the study also reported that married women showed signs of intense fear, worry and anxiety towards the thought that their husband may leave them soon for lack of opportunity for sex (83). Another study reported that after six months of breast surgery on women, there was a high rate of separation and divorce, their husbands and family perceived them as not worthy of being women indicating a significant deterioration of the social fabric and support system of these patients (45).

Another study in South-west Nigeria also showed that female cancer patients were more likely to report depression if they were unmarried, divorced or widowed (58). Since, Nigeria culture encourages marriage and frowns upon separation and singlehood of adult women, both married and non-married women showed varying degrees of psychological distresses (46).

4.4.2 Ethnicity:

There are no studies found on ethnicity and mental health outcome of women with reproductive cancers in Nigeria. A study on the influence of ethnicity on differences in detecting clinical and pathological features of prostate cancer in Southern Nigeria was found but this is not the focus of this study (84).

4.5 Moderating Resources

4.5.1 Social Support:

Studies shows that exploring possible social factors influencing reproductive cancer management among women in Nigeria has become necessary because the extent to which the journey through therapy can be bearable to patients depends on the nature of support available to them (38,85). Availability and accessibility of social support has been found to be correlated with positive treatment outcomes of chronic conditions like cancer, and it significantly reduces the stress brought on by cancer diagnosis as well as improves emotional and mental well-being of cancer patients (86). Social support is described as assistance received in the form of emotional support, information, financial support and tangible items from sources like families, friends which improves the recipients self-esteem and reduces the risk of mental health challenges (86).

For instance, a cross-sectional study carried out to examine the effects of perceived social support from family and significant others for women undergoing breast reconstruction, revealed that perceived social support was reported to reduce stress level and improve mental and emotional well-being (62). In a related study carried out in Lagos Teaching Hospital, Nigeria showed that social support in the form of sharing mutual experiences among women in a breast cancer group helped in the reduction of stress, negative thoughts and anxiety and increased overall knowledge of breast cancer among women on breast cancer treatment options (40).

A qualitative study carried out to assess the availability of social support for breast cancer patients receiving treatment at Komfo Anokye Teaching Hospital (KATH) in the Ashanti Region

of Ghana, a country in West Africa sharing similar socio-demographic characteristics as Nigeria revealed that among the social support available, informational support top the list. This was reported to be mainly from healthcare providers and was deemed by the women as helpful with regards to healthy nutrition and increase in the right knowledge resulting to reduced anxiety, fear and depression (85). Another qualitative study carried out in Nigeria reported that poor social support was found to have an independent association with depression among women with reproductive cancer because the absence of adequate social support makes life more stressful, thereby increasing the risk of depression among these women (7).

4.5.2 Health Education:

Health education is found to be an important psychosocial intervention for women with reproductive cancers as it provides knowledge on how to manage the challenges, they face during illness which improves their wellbeing. Information can be gotten through; women support groups, health professionals, social workers, family and friends, internet (87).

A study conducted in the Southwest Nigeria showed that health education received from the health professionals especially from the cancer nurses and doctors is more beneficial to the women living with breast cancer, consequently increasing their capacity to cope with the disease and reduces their level of worries, fear and anxiety (69).

A study conducted in Ghana to examine the influence of health literacy among breast cancer patients, showed that increased health literacy in relation with access to information is associated with decreased depression and anxiety in patients with breast cancer (88).

4.5.3 Faith Based Interventions:

Women with reproductive cancers in Nigeria face many challenges and highly rely on the support of faith communities which have a strong presence in Nigeria for their survival and mental wellbeing. Evidence suggest that hope gained from faith communities are associated with lower levels of fear, worries, anxiety and depression in cancer patients (89).

A study conducted in Nigeria to explore hope in women with advanced breast cancer, showed the importance of engaging with the parish nurses to create hope in reducing psychological distresses among these women. The study further reported that hopeful women with breast cancer showed more commitment towards their mental health, satisfaction with life and higher adaptation (89). Another study conducted in Ghana showed that both Muslims and Christian breast cancer patients are more receptive to the guidance of faith-based health personnels during the treatment process which reduced their level of anxiety (90).

However, there is lack of available evidence to show the association between faith-based interventions and mental health outcome among women with reproductive cancer in Nigeria.

4.5.4 Psychotherapeutic Interventions:

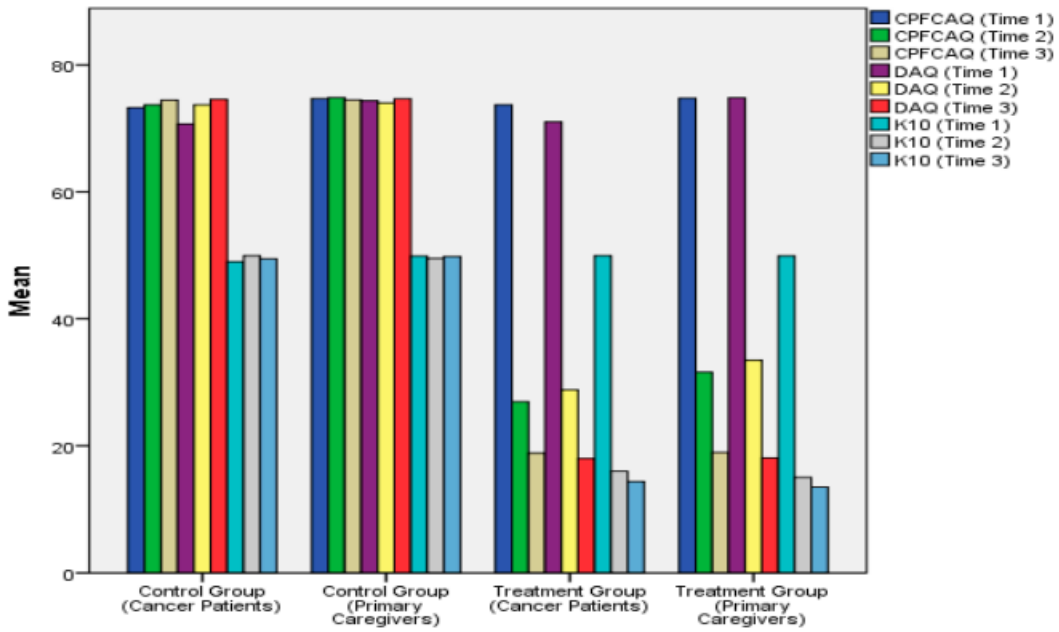
The availability of health service provision such as psychotherapy in the management of psychological distress is an important factor in exploring the mental health and psychosocial well-being of women with reproductive cancer. A study conducted in South-east Nigeria to investigate the effectiveness of group cognitive behavioural therapy (GCBT) on anxiety and depression among Nigeria breast cancer patients showed that GCBT was effective in reducing anxiety and depression among patients (91).

A study on the effect of group psychoeducation (GPE) in the form of teaching breast cancer patients about their illness and ways to cope with it which included participants from both the South-east and South-west Nigeria, reported that GPE was effective in reducing anxiety among patients in the treatment group compared to those in the control group (6). Another study conducted in South-east Nigeria to examine the effects of Rational-Emotive Hospice Care Therapy (REHCT) in cancer patients and their family caregivers compared to the control group showed a significant decline on problematic assumptions, death anxiety and psychological distress over time as shown in figure 5 (92).

Another study conducted in Southwest Nigeria to determine the correlates of unmet supportive needs among cancer patients, showed that not having access to professional counselling by psychiatrist, psychologist, counsellors increases the burden of mental health challenges and psychological distresses among women with reproductive cancers especially the educated ones (69).

These findings confirm earlier observations that GCBT are effective approaches in helping women with reproductive cancers in Nigeria to manage their mental health as a result of worries, fear, psychological pain and distresses associated with their diseased state (93,94). However, the findings are conducted mostly in one region and cannot be generalised to all parts of Nigeria.

***Figure 5**: Bar Chart Showing the Effect of REHCT Intervention on Problematic Assumptions, Death Anxiety, and Psychological Distress in Cancer Patients and Their Family Care Givers Over Time in Nigeria.*



Source: (92).

4.6 Mental Health Outcomes

4.6.1 Mental Health Challenges/Psychological Distresses:

Studies included in this study have shown that mental health challenges such as depression and anxiety are common among women with reproductive cancers in Nigeria and may manifest immediately after cancer diagnosis and last for years of post-treatment (15). This is as a result of the inter-play between different risk factors such as poor social support, severe pain, stigma, poverty, marital status, gender disadvantage typical in a society like Nigeria (40)**.** Also, study showed that these mental health challenges are known to evoke a negative effect on functioning, treatment adherence and treatment outcome of cancer patients (15).

A comparative cross-sectional study between women with breast cancer and women without breast cancer in South-West Nigeria reported that the prevalence of major depressive disorder among women with breast cancer is higher compared to women without breast cancer indicating that mental health challenges are prevalent among women with breast cancer in Nigeria (17). In agreement, another study conducted in Southwest Nigeria among outpatients with breast cancer, reported a high prevalence of both major and minor depressive disorder among outpatients with breast cancer, although focus on early or late cancer stages which may have different psychosocial outcomes were not considered (58).

A descriptive cross-sectional study conducted at oncology out-patient clinics in Southern-Nigeria reported that among 91 women with reproductive cancers, 53.8% had psychological distress. Furthermore, 25.3% and 8.8% of these women met the diagnostic criteria for major depression and anxiety disorder (40). The findings are clearly stated in Table 7 below showing

that generalised anxiety disorder (GAD) accounted for half of the anxiety disorder, panic and social phobia accounted for the more common psychological distress seen with reproductive cancer patients. Another Nigeria study reported by (63) showed a higher prevalent rate of 53. 5% depression among female patients with cervical cancer in Kogi Northern Nigeria, it further revealed that the degree of depression is related to the stage of the cancer. The studies are in consistent agreement that one in three women diagnosed with reproductive cancer in Nigeria will experience some form of mental health challenge (33).

***Table 7**: Findings Showing the Mental Health Profile of Women with Reproductive Cancer in Oncological Outpatients Clinics, Lagos Nigeria.*

VARIABLE	VALUES
Anxiety -n(%)	**8(8.8)**
Panic with Agrophobia	1(1.1)
Panic without Agrophobia	2(2.2)
GAD	1(1.1)
Social Phobia	1(1.1)
Depression -n(%)	**23(25.3)**

SOURCE: (40).

5. DISCUSSION:

5.1 Introduction

This research focused on the influencing factors that inter-play with female reproductive cancers on the mental and psychosocial well-being of women with reproductive cancers in Nigeria.

After an extensive search based on the specific objectives of this study, the types of mental health challenges and psychological distresses among women with reproductive cancers in Nigeria were identified as depression, anxiety, feelings of sadness, worries, suicidal ideation, social phobia, lack of sleep and concentration.

The socio-demographic/ cultural factors associated with mental health challenges of women with reproductive cancers in Nigeria identified in this study were age, educational level, family history/recurrence history, gender, health seeking behaviour, marital status and ethnicity. This study identified how the primary stressor which is cancer characterized by the presence of secondary stressors like decreased income and pain influence the mental health outcome of women with reproductive cancers in Nigeria. Moderating resources like social support, health education, faith-based intervention and psychotherapeutic interventions were identified as the MHPSS programs of women with reproductive cancers in Nigeria.

Findings indicated more focus on breast and cervical cancer in Nigerian women. As earlier stated in the introduction, breast and cervical cancers are given more attention because of its prevalence among women populace in Nigeria (24). Also, findings included the mental health challenges and psychological distresses of women with reproductive cancers.

Major factors from the result and their interlink with other factors as well as the impact on the mental health outcome of women with reproductive cancers in Nigeria is discussed below.

5.2 Most influential factors to the mental health of women with reproductive cancer in Nigeria

5.2.1 Decreased income a vital stressor:

Findings in this review identified that income reduction is a vital stressor on the mental health of women with reproductive cancer leading to a high risk of anxiety and depression among the patients. The findings are in agreement with a study in Kenya, where participants established that most households cannot afford the financial demand of cancer treatment with their current income; as a result, they typically turn to borrowing and property sales once all their savings have been exhausted (95). Contrarily, a different study done on Danish breast cancer patients found that treatment had little or no impact on family income even three years after diagnosis, hence depression and anxiety among patients was not associated with decrease in income (96). This may be due to Denmark's government health insurance programme and an inclusive cancer patient welfare payment which is lacking in Nigeria health sector. Though Denmark and Nigeria do not have the same context, NHIS is a necessity in reaching Universal Health Coverage in every country.

5.2.2 Pain and Mental Health Outcome of Women with Reproductive Cancers in Nigeria:

A notable finding is that pain is considered as a sign of severity of cancer strongly associated with feeling of hopelessness, depression and anxiety among cancer patients. This could be as a result of not having affordable access to analgesics by most of these women, a case of inequality, indicating the huge gap of achieving Universal Health Coverage in Nigeria. Also advanced cancer was reported to be associated with pain; therefore, it could be possible that the cancer stage is associated with both pain and depression. The result of this study is similar to the findings of previous studies conducted in Rwanda and Ethiopia showing that anxiety and depression is associated with pain, type of treatment and cancer progression (12,97,98).

According to these studies, pain leads to depression and again, the presence of pain can make it more difficult to identify and treat depression, creating a vicious cycle where both conditions coexist. Therefore, there is need for better pain management, early diagnosis and treatment of cancer, routine screening to reduce the prevalence of mental health challenges among affected women.

5.2.3 Low health literacy influence mental health outcomes:

In the findings of this study, patients with lower education and patients whose partners had a lower educational level were more affected with anxiety and depression. This is similar to a previous study conducted in Northwest Ethiopia aimed at assessing the associated factors of anxiety and depression among cancer patients which reported a significant association of anxiety and depression with educational status (99). This could be due to an interaction of factors such as low health literacy which results to lack of understanding about the cancer diagnosis, treatment options and potential outcomes. These women and their partners may have more responsibilities and caregiving duties without adequate support, which can lead to increased mental health challenges. Women with lower education levels might also feel less empowered to make informed decisions about their treatment and overall well-being, experience communication barriers with health professionals leading to increased feeling of helplessness, stress and anxiety.

5.2.4 Health-seeking behaviour and its profound impact:

Being interconnected with other factors identified in the findings of this study, health seeking behaviours of women with reproductive cancers in Nigeria has shown to have a huge impact on their mental health. How promptly a woman seeks medical attention after noticing symptoms or abnormalities related to reproductive cancers is influenced by factors such as belief, finance and access associated with appointment and preference of treatment.

Findings show that women may delay seeking medical help due to fear of a cancer diagnosis or cultural beliefs surrounding cancer. This delay can make mental health challenges such as anxiety and depression worse as affected women deal with uncertainty and emotional turmoil. This is consistent with similar studies conducted in Kenya and Ghana were women viewed cancer as a form of punishment, out of one's control or the patient's destiny (100,101). These beliefs could lead to fear of disownment from family and the community among the affected women.

Also, preference for traditional, complementary and alternative medicine (TCAM) among the women was found to be a key barrier in seeking medical treatment. This could be due to biomedical treatment being perceived as invasive, disfiguring, painful, ineffective and expensive, and in some contexts medically trained doctors were perceived as untrustworthy and corrupt. Fear, shame and stigma associated with cancer could also be a barrier to health seeking among affected women that prompts refusal of treatment due to fear of social rejection. This is similar to two studies conducted in Uganda about the psychosocial concerns that influence the health seeking behaviours of breast cancer patients in relation to their preference to TCAM (102,103). Women were only found to seek medical help only when cancer stage has progressed to a late stage leading to severe pain, catastrophic spending as the treatment becomes more expensive which makes them more vulnerable to mental health challenge.

5.2.5 Gender effect:

Findings from this study suggest that the loss of femininity among breast cancer patients in Nigeria lead to partner's neglect. This could be due to the believe that these women have lost their reproductive roles and as a result they are deemed no longer useful in satisfying their husbands. These emboldens the men to seek for new wives, abandoning their wives to their fate. This also could affect how people perceive the women thereby the women diagnosed with reproductive cancer could lose their family and social support.

Also, gender role was shown to affect the health seeking behaviours of women with reproductive cancers in Nigeria. This could be because most women in Nigeria lack the autonomy to make decisions concerning their health and must seek permission from their family, usually their husbands. Similar to this finding is a study conducted in Rwanda, where husbands' refusal or acceptance determines if the women would get a medical treatment (104). Findings from this study, showed that women do not have time for themselves, prioritizing their health over domestic chores consequently leading to not regularly receiving treatment. This worsens the health and mental wellbeing of female cancer patients as the suffer in silence and their health relegated to the background.

5.2.6 Social Support one of the most positive contributors to Mental Health Outcomes

From the findings of this study, social support is one of the foremost positive contributors to the mental health of women with reproductive cancers in Nigeria and plays an important role in cancer care. Availability of social support is shown to have a positive effect on the psychosocial well-being and family relationship amongst other relationships play a vital role. This could be due to cancer being a relationship threatening illness whereby neglect from family increases the rate of feeling of loneliness, self-doubt, suicidal ideation, social phobia, low self-esteem among women with reproductive cancers in Nigeria. This is also interlinked with the marital status of these women. Findings also show that married or non-married women show varying degree of psychological distresses which depends on neglect on the part of the husbands or the non-married being afraid of not being wanted by any man. This could also lead to perceived self-stigmatization among the women due to their feeling of loss of femineity, inability to breast feed their children and sexually satisfy their husbands. These findings agree with previous studies conducted in Uganda (105).

Additionally, age was shown to be associated with social support. In agreement to this finding, a study conducted among breast cancer patients in Addis Ababa Ethiopia showed that women who were above 30 years of age were less likely to have depression compared to women below 30 years (106). This could be due to younger women being less likely to have bigger social support system and being perceived as women punished for a reckless sexual involvement consequently resulting to a more prevalence of mental health challenges among them.

5.2.7 Psychotherapeutic Interventions a vital MHPPS for Women with Reproductive Cancers in Nigeria:

Considering the effect of cancer on the psychosocial need of patients, findings from this study showed that psychotherapy approaches such as GCBT, GPE and REHCT was effective in reducing negative emotions, anxiety and depression among women with reproductive cancer in Nigeria. This implies that affected women will have a safe and supportive space to express their feelings and emotions related to cancer diagnosis and its impact on their reproductive health. This helps in promoting positive and more adaptive thinking hence, affected women can experience reduction in anxiety and depression which majorly comes from fear of infertility, the loss of feeling of sexuality and the stigma that comes with it.

This study also showed that lack of mental health professionals is detrimental to the quality of life of women with reproductive cancers. To ensure coverage and quality of mental health services, the primary health care should integrate the intervention of faith-based communities. Faith-based health professionals such as parish nurses was shown in this study to be widely accepted by affected women. This could be because Nigeria is a country with a strong religious influence over the lives of her people. Women with reproductive cancers may be more familiar with faith-based health professionals through regular attendance at religious gatherings and this can lead to a sense of trust and confidence when seeking medical advice from these professionals.

Additionally, since there are stigma and discrimination surrounding cancer and reproductive health issues in Nigeria, Faith-based health professionals may offer a more discreet and private environment for women to discuss these sensitive topics without fear of judgment.

However, care should be taken in proper training and monitoring of these health professionals to ensure that the information given out to the affected women does not plunge them more to self-stigmatization because of perceived high moral standing associated with the practice of religion in Nigeria.

5.3 The Relevance of the Adapted Stress Process Framework

The framework used was very relevant to this study as it emphasized more on the relationship between stressors, socio-demographic factors and psychosocial interventions (moderating resources) on the mental health outcome of women with reproductive cancers in Nigeria. It proved to give a systematic guide on the search strategy used for this study and the structure of the result section. The researcher found the adapted framework useful in differentiating

the factors identified in this study. The influential factors magnified the psychosocial concerns of women with reproductive cancers in Nigeria making it more a public health topic rather than a clinical topic.

The researcher proposes the use of the adapted stress process model in a future qualitative study on mental health and psychosocial support of women with reproductive cancers in Nigeria or other LMICs, since it proves to be suitable to the context under study. The health outcomes focused more on mental health challenges because a disease condition as cancer affects the mental health of patients negatively. However, health outcomes can improve, when health literacy, health seeking behaviour, income does not decrease and there is availability of psychosocial support which would all have positive implications for the health outcome.

5.4 Study Limitations:

As a literature review conducted by a single researcher, the study has some limitations which are listed below:

Access Barriers: Access to databases and publications behind paywalls restricted the inclusion of relevant studies especially studies focused on Income level and health behaviours of women with reproductive cancers and the impact on their mental health.

Literature Search Bias: There was lack of substantial articles on factors such as age, family/recurrent history, health education in Nigeria. This led to selecting publications from other LMICs. Also, in factors like age the search mostly yielded resources on cancer patients including both male and female reproductive cancer patients as study participants. Though in such cases, the number of women with reproductive cancers were more than the male participants. This may have interfered with the accuracy of the reported findings in this study.

Evidence gap: The gap in evidence for family history/recurrent history of women with reproductive cancers in both Nigeria and other LMICs shows that there is high underreporting of sensitive information by patients. This suggests trust issues and recall bias in the part of the participants. There is also a gap in evidence for influence of ethnicity on women with reproductive cancers in Nigeria, this limits generalizability of findings relating to gender and cultural norms.

6. CONCLUSION and RECOMMENDATIONS

6.1 Conclusion

This study shows that mental health challenges and psychological distresses are common among women with reproductive cancers in Nigeria with emphasis on breast and cervical. For women, the breast is an organ of beauty and femininity hence anything less of such may affect their self-esteem. Their reproductive organs are seen by these women and the Nigerian society as a sign of womanhood. Also, coming to terms with the diagnosis of reproductive cancers could be traumatic and most women are initially in a state of denial. The stigma, chronic nature of the disease, and the probability of survival depending on type of cancers, stage of cancers are major concerns. Treatment of reproductive cancers is capital intensive, especially in settings where the Health Insurance Scheme does not cover cancer treatment. The financial demands, debilitating physical symptoms like severe pain, and side effects of some of the medications might increase their stress making them more vulnerable to depression and anxiety. Health literacy, moderating resources like psychoeducation of cancer patients and health seeking behaviours was shown to mediate the severity of mental health challenges, if rightly applied. Therefore, the active involvement of relevant stakeholders such as the Federal Government of Nigeria, Ministry of Health, mental health experts, cancer survivors, family, friends, community leaders, NGOs and women rights and empowerment groups in implementing more effective and tailored mental health and psychosocial support for women with reproductive cancers cannot be overemphasized.

6.2 Recommendations

To Health Professionals:

In order to ensure early detection of cancer to reduce pain, health professionals should engage in public health campaigns to educate the public on how to recognise warning signs that can lead to early detection and treatment of cancer.

Physicians who treat women with long-term cancer should closely monitor their patients for psychological distress and conduct routine screenings for it. In order to ensure the quick identification and treatment of psychiatric morbidity in affected women, improving the consultation-liaison between oncologists, gynaecologists, and psychiatrists should involve early referral of women with cancer sites in the breast, cervix, vagina, or vulva to the mental health clinic.

Also, health professionals in collaboration with the community leaders and faith-based community should provide culturally sensitive mental health and support programmes which can help reduce the prevalence of anxiety and depression in the population of women with reproductive cancer in Nigeria. Additionally, partners and families should be involved in the support process, this can improve the mental and psychosocial well-being of the affected women.

To the MoH:

Since social support have been found to improve the self-esteem of women with reproductive cancers and reduce the risk of mental health challenges among them, strategies to increase/improve social support that is in line with transdiagnostic Mental Health interventions as recommended by programs like mental health gap action programme (MhGAP) should be implemented. The full involvement of the family, community, women support groups, religious leaders, legal and human rights groups, oncologist, mental health specialist should be encouraged in achieving this.

In some regions of Nigeria especially the rural areas, access to conventional healthcare services, including specialized cancer and psychological care is limited. Faith-based health professionals may be more accessible in such areas, making them the primary point of contact for health concerns. It is essential to recognize and respect the cultural and religious beliefs of individuals while also promoting evidence-based medical practices for reproductive health issues. Mental health care package in Nigeria should integrate the collaboration of Psychiatrists and Faith-based health professionals in the primary health sector to make up of lack of mental health experts.

To the Federal Government:

One key factor in alleviating the various challenges faced by women with reproductive cancers in Nigeria is to provide financial risk protection among this populace. The Government of Nigeria in collaboration with Ministry of Finance (MoF) and MoH should work towards providing health insurance scheme with a substantial welfare package for women with reproductive cancers. They government could start with integrating cancer care and mental care package in its Basic Health Care Insurance Scheme for all irrespective of gender, background and belief. This will go a long way in reducing the rate of depression, anxiety and psychological distresses among these women and their households.

Government should also make conscious efforts in allocating funds for provision of quality health care services, equipping health facilities, training of health professionals (Oncologists, mental health nurses and doctors) and implementing retention and well fare packages for health workers in the country.

For Further Research:

Since there are gaps in evidence of some contextual factors such as ethnicity and family/recurrent history in Nigeria, public health researchers should be encouraged with the best resources to conduct more evidenced based research.

More research on the influence of differences in ethnicity on the mental health outcome of women with reproductive cancers in Nigeria is important as Nigeria is known to have 250 ethnic groups. This could shape the direction of future studies, leading to more generalizable findings and exploration of cultural homogeneity. Also, research on the influence of family history and recurrent history is equally important because by exploring their impact,

information on how best to support women with reproductive cancers is clearly made available.

This way, the mental health of women with reproductive cancers in Nigeria could be well understood in the aspect of risk assessment, cultural considerations and psychosocial support needs. This will lead to more sustainable interventions implemented by the government in collaboration with the MoH, MoF, Public health researchers and health monitoring and evaluation team.

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ANNEX

Annex 1

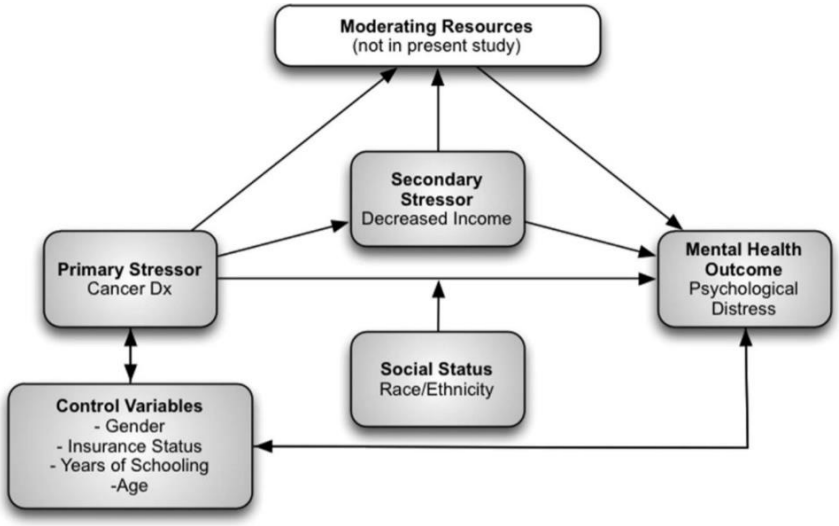
A TABLE SHOWING THE SEARCH TERMS AND COMBINATIONS

Specific Objectives	Internet Source	Publication/Literature	Keywords
To Identify the types of mental health challenges among women with reproductive cancers in Nigeria.	Google Scholar, PubMed, Science direct, Hinari.	Peer reviewed articles	"Depression" "Anxiety" "Psychological distress" "Insomnia" "Suicidal Ideation" "Social phobia" "Mental Health" "Psychosocial" "Mental Health Challenges" "Reproductive Cancers" "Women" "Nigeria" "Sub-Saharan Africa" "LMICs". Using Boolean operators: 'AND' 'OR'
To identify the socio-demographic factors associated with mental health challenges of women with reproductive cancers in Nigeria.	Google Scholar, PubMed, Science direct, Hinari.	Peer reviewed articles, Non-peer reviewed articles.	"Socio-demographic Factors" "Depression" "Anxiety" "Age" "Educational Status" "Family History" "Recurrent History" "Gender" "Culture" "Health seeking behaviours" "Marital Status" "Psychological distress" "Breast Cancer" "Cervical Cancer" "Ovarian Cancer" "Women" "Nigeria" "Sub-Saharan Africa" "LMICs" Using Boolean operators: 'AND' 'OR'
To explore how reproductive cancers on women in Nigeria affect their mental	Google Scholar, PubMed, Science direct, Hinari	Peer reviewed articles	**"**Female Reproductive Cancers", "Cancer diagnosis" "Cancer treatment" "Cancer Stage" "Cancer Pain" "Chemotherapy"

health outcome.			“Radiotherapy” “Stigma and Discrimination” “Income loss” “Women” “Nigeria” “Sub-Saharan Africa” “LMICs”. Using Boolean operators: ‘AND’ ‘OR’
To explore the availability of mental health interventions and psychosocial support programs for women with reproductive cancer in Nigeria.	Google Scholar, PubMed, Science direct.	Peer Reviewed Articles.	“MHPSS” “Mental Health” Challenges” “Depression” “Anxiety” “Social phobia” “Psychosocial Interventions” “Social Support” “Psychotherapy” “Quality of Life” “Psychoeducation” “Women” “Reproductive Cancers” “Women” “Nigeria” Using Boolean operators: ‘AND’ ‘OR’.

Annex 2

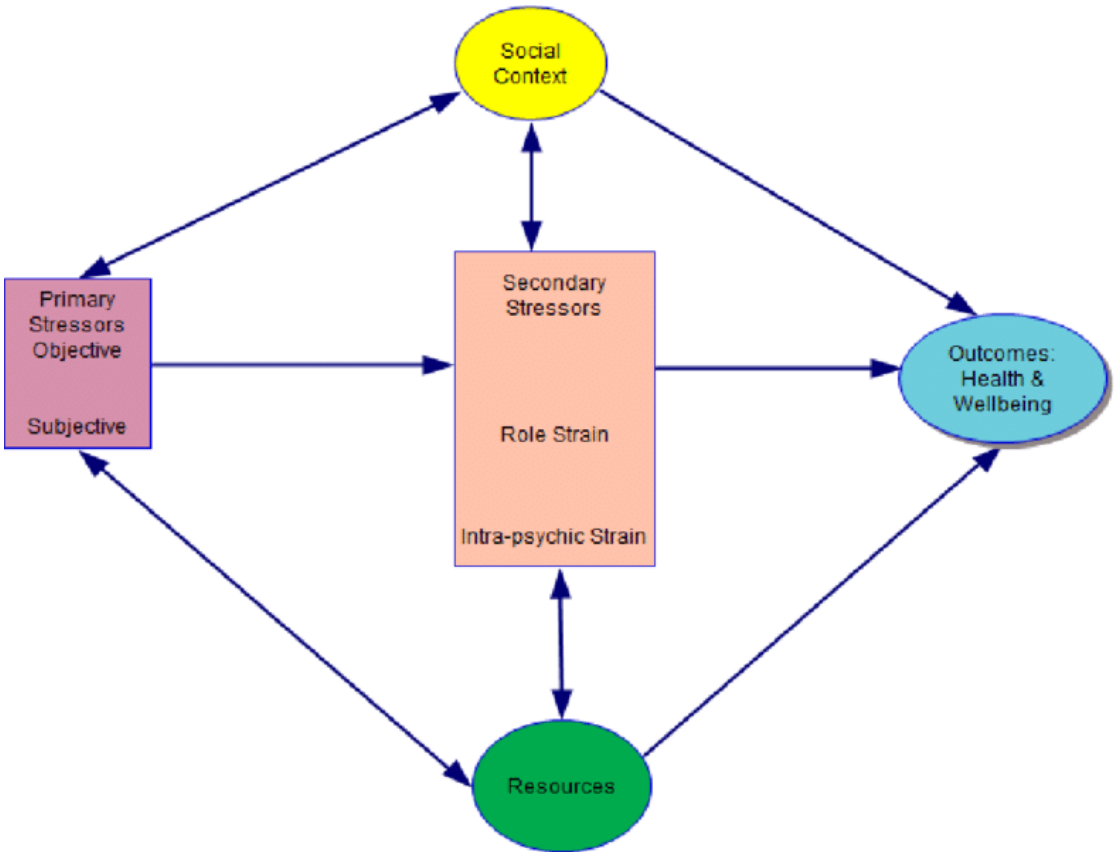
Conceptual Framework Adapted from the Stress Process Model



Source: (55)**.**

Annex 3

The Stress Process Model



Source: (53).