

**UTILIZATION OF CERVICAL CANCER SCREENING SERVICES  
AMONG WOMEN IN IKWERRE LOCAL GOVERNMENT AREA,  
RIVERS STATE**

**BY**

**OKACHI-ORDU, CHIKERU**

**REG. NO: 20164996948**

**A THESIS SUBMITTED TO THE DEPARTMENT OF PUBLIC HEALTH,  
SCHOOL OF HEALTH TECHNOLOGY, FEDERAL UNIVERSITY OF  
TECHNOLOGY, OWERRI**

**MARCH, 2021.**

**UTILIZATION OF CERVICAL CANCER SCREENING SERVICES  
AMONG WOMEN IN IKWERRE LOCAL GOVERNMENT AREA,  
RIVERS STATE**

**BY**

**OKACHI-ORDU, CHIKERU**


**REG. NO: 20164996948**

**A THESIS SUBMITTED TO THE DEPARTMENT OF PUBLIC HEALTH,  
SCHOOL OF HEALTH TECHNOLOGY, FEDERAL UNIVERSITY OF  
TECHNOLOGY, OWERRI IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF MASTER OF PUBLIC  
HEALTH (MPH) DEGREE**


**MARCH, 2021.**

## CERTIFICATION


This is to certify that this work **“Utilization of Cervical Cancer Screening Services among Women in Ikwerre Local Government Area of Rivers State”** was carried out by **Okachi-Ordu, Chikeru (20164996948)** in partial fulfillment for the award of the degree of (MPH in Health Promotion) in the Department of Public Health, Federal University of Technology Owerri.

  
.....  
Dr. (Mrs.) O.B. Nworuh  
(Principal Supervisor)


27/4/23  
.....  
Date

  
.....  
Dr. J.C. Nwaokoro  
(Co-Supervisor)

03/05/23  
.....  
Date

  
.....  
Dr U.M. Chukwuocha  
(Head of Department)


23/06/23  
.....  
Date

  
.....  
Prof. P.U. Agbasi  
(Dean of School of Health Technology)

23/06/23  
.....  
Date

.....  
Prof. B.O. Esonu  
(Dean, Post Graduate School)

.....  
Date

  
.....  
Prof. D.F.E. Nwagbo  
(External Examiner)

12/01/23  
.....  
Date

## **DEDICATION**

This work is dedicated to God Almighty for His mercies and kindness and favour towards me. Also, to my caring and loving husband Barr, Okachi Ordu Nwenenda for being my backbone throughout the work.

## ACKNOWLEDGMENTS

It is my pleasure to use this medium to express my gratitude to lecturers, friends and my parents.

I appreciate my project supervisor Dr. (Mrs.) O.B. Nworuh and Co-supervisor Dr. J.C. Nwaokoro whose contribution cannot be quantified in material terms.

My sincere gratitude also goes to Prof P.U. Agbasi (Dean, school of Health Technology), my indefatigable Head of Department, Dr. U. M. Chukwuocha and other staff of Public Health, Prof. O.C. Abanobi, Prof. A.N. Amadi, Dr. (Mrs.) S. N. O. Ibe, Dr. (Mrs.) Nwifo, Dr. (Mrs.) Amadi C. Dr. Uduji, Dr. I.C. Iwuala, (Mrs). U.W. Dozie, Mr. Greg Iwuoha, Dr. C.I.C. Ebirim for their intellectual contributions to the success of this work. I also wish to thank all the supporting staffs of the Department of Public Health for their assistance.

I really thank my caring and loving husband (Barr. Okachi-Ordu Nweneda) for his understanding and financial backup. I will not fail to thank my parents (Barr. And Mrs. Alex Igwe) for their moral support. Also to all my colleagues and my course mates (Mrs. Gbalam Sotonye and Anamali Chineye) that keeps me motivated.

God bless you all Thanks.

## TABLE OF CONTENTS

Title Page	i
Certification	ii
Dedication	iii
Acknowledgements	iv
Table of Contents	v
Abstract	vi

### CHAPTER ONE: INTRODUCTION

1.1 Background to the Study	1
1.2 Statement of Problem	4
1.3 Objectives of The Study	5
1.3.1 General Objective	5
1.3.2 Specific objectives	5
1.4 Research Questions	6
1.5 Research Hypotheses	7
1.6 Significance of the Study	7
1.7 Scope of the Study	8
1.8 Definition of Terms	8

## **CHAPTER TWO: LITERTURE REVIEW**

2.1	Conceptual Framework	10
2.1.1	Overview of Cervical Cancer Screening.	10
2.1.2.	Significance of Women Participation in Cervical Cancer Screening	12
2.1.3	Influence of Socio-demographic factors on Utilization of Cervical Cancer Screening Services	14
2.1.4	Knowledge on Cervical Cancer as an Influence to Utilization of Screening Services	18
2.1.5	Accessibility of the Screening Services as an Influence to their Utilization	21
2.1.6	Cost of Cervical Cancer Screening as an Influence to their Utilization	24
2.1.2	Other Factors Influencing Participation of Women in Cervical Cancer Screening	27
2.2	Theoretical Framework	29
2.2.1	Health Belief Model	29
2.2.2	Behavioral Model of Health Services Use	31
2.3	Empirical Studies	34

## **CHAPTER THREE: MATERIALS AND METHODS**

3.1	Study Design	37
3.2	Area of Study	37
3.3	Study Population	39

3.4	Sample Size and Sampling Method	39
3.4.1	Sample Size	39
3.4.2	Sampling Methods	40
3.5	Instruments for Data Collection	40
3.6	Validity of Instrument	41
3.7	Reliability of Instrument	41
3.8	Method of Data Collection	42
3.9	Method of Data Analysis	42
3.10	Ethical Considerations	43

## **CHAPTER FOUR: RESULTS AND ANALYSIS**

4.1	Utilization of Cervical Cancer Screening Services	44
4.2	Demographic Characteristics of the Respondents and Utilization of Cervical Cancer Screening Service	46
4.3	Demographic Characteristics on utilization of Cervical Cancer Screening Services among the Group Studied	48
4.4	Influence of Knowledge of cervical cancer s and Utilization of Cervical Cancer Screening Services	51
4.4.1	Summary of knowledge and utilization of cervical Cancer Screening Services	51

4.4.2	Specific Knowledge items and utilization of cervical Cancer Screening Services	52
4.5	Influence of Accessibility on Utilization of Cervical Cancer Screening Services	54

**CHAPTER FIVE : DISCUSSION,CONCLUSION AND  
RECOMMENDATION**

<b>5.1</b>	<b>Discussion</b>	<b>57</b>
<b>5.2</b>	<b>Conclusion</b>	
<b>5.3</b>	<b>Recommendation</b>	
	References	62
	Questionnaire	70

## ABSTRACT

This study investigated the utilization of cervical cancer screening services among women in Ikwerre Local Government Area of Rivers State. Cervical cancer screening aims to detect precancerous changes in the cervix. Mere being a woman is a risk factor of cervical cancer. Most often cervical cancer could be asymptomatic. Hence, utilization of cervical cancer screening services cannot be over emphasized. Five specific objectives with corresponding research questions and two hypothesis guided this study. The study adopted a cross-sectional descriptive research design. A multi stage sampling technique was used to select 399 women (21-65years) for this study. A well structured questionnaire after being validated and tested for reliability was administered to women (21-65years) in Ikwerre Local Government Area of Rivers State. The data collected were analyzed using descriptive statistics of frequencies and percentages,also inferential statistics such as chi-square ( $\chi^2$ ). Statistics was used to test relationship between variables at  $p \leq 0.05$  significant level. Significant demographic characteristics found to be associated with utilization of cervical cancer screening services in this study include age 12(12.4%) at  $P= 0.001$ , marital status 14(9.5%) at  $P= 0.002$ , education 19(9.0%) at  $P= 0.001$ , number of children 14(6.8%) at  $P= 0.009$  and income level 19 (45.2%) at  $P= 0.001$ . Majority of the women 307 (98.1%) had poor knowledge on cervical screening services. The result also show that awareness level (16.3%) of women significantly influences the utilization of cervical cancer screening services. The result also show that accessibility (18.3%) to health facility providing the cervical cancer screening services significantly influences the cervical cancer screening services. The result also show that affordability (4.8%) of cervical cancer screening services does not influence the utilization of cervical cancer screening services. Majority (95.2%) of the women had never utilized cervical cancer screening services only 4.8% of the women utilized cervical cancer screening services. From the findings of this study, utilization of cervical cancer screening services among women in Ikwerre Local Government Area is abysmally low. The researcher recommended that there is need for the Government to further educate the medical personnel who will play a major role in enlightening the public on the importance of cervical cancer screening and availability of the screening services. There is also need for the government to ensure that cervical cancer screening services are affordable to the society. Key words: Cervix, Cancer, Utilization, Scening Services, Woman

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 BACKGROUND TO THE STUDY**

Cancer of the cervix is currently the commonest cancer and the leading cause of cancer deaths among women in developing countries (WHO, 2015). It is also the second most common cancer among women worldwide. In 2008 alone, not less than 530,000 new cases of the disease and 275,000 deaths were recorded globally. Surprisingly, 90% of these deaths were recorded in the developing countries. In the WHO African region, about 75,000 new cases were recorded for the same year (WHO, 2015). Cervical cancer is the second commonest cancer in Nigerian women and the leading gynecological malignancy with high mortality among the afflicted.

In Nigeria, an estimated 10,000 new cases of cervical cancer and 8000 deaths due to the disease are recorded among women yearly (Airede, 2010). Moreover, Nigeria has an estimated five-year prevalence of 21.6% for cervical cancer (GLOBOCAN, 2012). In 2012, 5% was reported as the prevalence of cervical cancer among women in Ilorin (Durowade, 2012). However, a study in 2010 showed that cancer of the cervix accounted for 63% of all gynaecological cancers seen in the Obstetrics and Gynaecology Department of the University of Ilorin Teaching Hospital, Ilorin, Nigeria (Ijaiya, 2010).

Papanicolaou (Pap) smear cytology screening method to identify precancerous lesions has helped in achieving massive reduction in the burden of cancer of the cervix especially in the developed countries (Stewart,2010). Other less invasive techniques have been developed for rapid screening of cancer of the cervix. Such techniques include Visual Inspection with Acetic Acid (VIA) and Visual Inspection with Lugol's Iodine (VILI).They have been discovered to be less sensitive compared to cytologic examination through Pap smear.

Due to the increasing burden of cancers generally, the World Health Assembly (WHA), adopted resolution58.22 which urged member states to intensify action against cancer through creation of National Cancer Control Programme (WHO, 2015). In Nigeria, the National Cancer Control Programme was developed in 2008 with the view of reducing the morbidity and mortality associated with cancer and its socioeconomic impacts. Within the framework of the National Cancer Control Plan, the Federal Ministry of Health (FMOH, 2018) established a cervical cancer control plan. The plan adopted screening for early disease detection of cervical cancer and human papilloma virus (HPV) vaccination for primary prevention in girls of 9–15 years (Federal Ministry of Health, 2018).

Although screening is a known cost effective strategy used in reducing the burden of cervical cancer worldwide, its uptake particularly in developing countries is still abysmal (Jeronimo, 2014). One of the barriers to access is that most cervical cancer screening services (provided by governmental and non-governmental agencies) in Nigeria had been poorly coordinated. Most services are urban-based; the rural and semi-urban dwellers are often neglected. Another problem is low awareness of women about cancer of the cervix and cervical cancer screening.

In Rivers State, screening services are mostly found in government owned tertiary and secondary health facilities with assistants from few non-governmental organizations. The cost of screening could be as high as five thousand naira (#5000) in such facilities. In a country such as Nigeria, with a timid population of people living below the poverty line and with a healthcare system that is predominantly dependent on out-of-pocket expenditure, such cost of service could be prohibitive. However, cytological screening using Pap smear seems to be the preferred method of screening in these facilities.

In spite of efforts from governmental and nongovernmental organizations to improve access to cervical cancer screening services in Nigeria, uptake has been appalling. Several studies have documented factors associated with uptake of cervical screening tests worldwide. Such factors include age of the women, their marital status, parity, risk perception, financial constraint, and knowing someone

who has cancer of the cervix (Butho, 2015). However, works on the level of participation and utilization of cervical cancer screening services and the influence of socio-demographic factors on utilization rate are limited. It is on this premise that a research of this nature is proposed.

## **1.2 STATEMENT OF PROBLEM**

Cervical cancer screening is a method of preventing cancer by detecting and treating early abnormalities. Early detection and treatment can prevent 75percent of cancers developing. Early detection through screening of precancerous lesions remains the best possible protection against cervical cancer. If women do not go for screening they are prone to complications which includes bleeding, pelvic inflammatory diseases, smelly virginal discharge, and death. Some are operable while some are inoperable which is largely dependent on the stage of the cancer after screening.

However, in Ikwerre local government area, this study has not been carried out before, hence, the desire to carry out this study.

## **1.3 OBJECTIVES OF THE STUDY**

### **1.3.1 General Objective**

The overall objective of this study is to determine the utilization of cervical cancer screening services by women in Ikwerre local government area of Rivers State.

### **1.3.2 Specific objectives**

In order to achieve the study overall objective, the following specific objectives shall be followed:

- 1) To determine the proportion of women that utilize cervical cancer screening services in Ikwerre Local Government Area of Rivers State.
- 2) To determine the influence of socio-demographic characteristics of women on the utilization of cervical cancer screening services in Ikwerre Local Government Area of Rivers State.
- 3) To ascertain if awareness influences the utilization of cervical screening services among women in Ikwerre Local Government Area of Rivers State.
- 4) To determine the influence of accessibility on utilization of cervical screening services among women in Ikwerre Local Government Area of Rivers State.

- 5) To ascertain the influence of affordability on utilization of cervical cancer screening services among women in Ikwerre Local Government Area of Rivers State.

#### **1.4 RESEARCH QUESTIONS**

- 1) Does the socio-demographic characteristics of women influence utilization of cervical cancer screening services in Ikwerre Local Government Area of Rivers State?
- 2) Does awareness level of women significantly influence the utilization of cervical screening services in Ikwerre Local Government Area of Rivers State?
- 3) Is there any association between the accessibility and the utilization of cervical cancer screening services among women in Ikwerre Local Government Area of Rivers State?
- 4) Does affordability influence utilization of cervical cancer screening among women in Ikwerre Local Government Area of Rivers State?
- 5) What is the proportion of women that utilize cervical cancer screening services in Ikwerre Local Government Area of Rivers State?

## **1.5 RESEARCH HYPOTHESES**

1. There is no significant relationship between awareness level of women and the utilization of cervical cancer screening services by women in Ikwerre Local Government Area of Rivers State.
2. There is no significant relationship between affordability of cervical cancer screening services and the utilization of cervical cancer screening services by women in Ikwerre Local Government Area of Rivers State.

## **1.6 SIGNIFICANCE OF THE STUDY**

This research is expected to be of great importance to women the general public in Ikwerre local government area. Though men are not included in this study, the information gotten from this study will encourage them to spread same to their wives, relations, and friends.

The information disseminated will be of great importance to the women by increasing their awareness level through health information which may change their attitude towards utilization of cervical screening services.

The findings from this study will be of immense help to health persons who in one way or the other may have contributed to the poor utilization of cervical cancer

screening services. The findings may serve as a clue for Rivers State Ministry of health to make better plan by creating more awareness to enlighten women more especially in the rural areas on the implications of not screening for cervical cancer.

### **1.7 SCOPE OF THE STUDY**

This study is restricted to women within the ages of (21-65 years) in Ikwerre Local Government Area of Rivers State. WHO stated the women of child bearing age are 15-49years and women of child bearing ages are at risk of having cervical cancer. Also, menopausal symptoms begins from 50years and above, women of these ages are also at risk of coming down with cervical cancer. Civil servants retire at 65years and may still be sexually physically active. This study is community based and the study design will be descriptive cross sectional study design. The variables of interest in this study includes the women's age, religion, occupation, income, educational status ,number of children, marital status, cervical cancer screening services and utilization of cervical cancer screening services.

### **1.8 DEFINITION OF TERMS**

**Health:** The state of physical and mental well being.

**Health Centre:** A building where group of doctors, nurses and health workers see their patients in their community.

**Woman:** A female human

**Cervix:** The lower part of the uterus in the human female reproductive system.

**Cancer:** A group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body.

**Screening:** A strategy used in a population to identify an unrecognized disease in individuals without signs and symptoms.

**Utilization:** The action of making practical and effective use of something

## **CHAPTER TWO**

### **LITERTURE REVIEW**

#### **2.1 CONCEPTUAL FRAMEWORK**

- **2.1.1 Overview of Cervical Cancer Screening.**

Cervical cancer is the fourth most common cancer among women globally that affect a woman's reproductive organs. Cervical cancer is a major global health problem. Cervical cancer had an estimated 342,000 death in 2020 and 604,000 new cases (WHO, 2022). About 86% of the deaths occur in lower-resource countries of sub-Saharan Africa. Almost 70% of the global burden falls in areas with lower levels of development and more than one fifth of all new cases are diagnosed in India (WHO, 2022). About 90% of new cases and deaths worldwide in 2020 occurred in low and middle-income countries, with most women dying in the prime of life (WHO, 2022). While numerous tools and technologies exist to prevent cervical cancer, these interventions remain largely inaccessible to the girls and women who need them most. Despite the proven link between the Human Papilloma virus (HPV) and cervical cancer, HPV vaccines are not yet widely available and screening rates remain low in much of the world. Lack of awareness and deep-seated stigma associated with the disease also pose significant barriers to access help (WHO, 2022). Various strains of the human Papilloma virus (HPV), a

sexually transmitted infection, play a role in causing most cases of cervical cancer. When exposed to HPV, a woman's immune system typically prevents the virus from doing harm. In a small group of women, however, the virus survives for years before it eventually converts some cells on the surface of the cervix into cancer cells. Cervical cancer occurs most often in women over age thirty years (Anorlu, 2017).

Globally, Pap test screening has greatly decreased the death rate from cervical cancer over the last 50 years (Cox, 2016). However in Nigeria, women have not taken to doing Pap smear regularly and this leads to many late diagnosis. And today, most cases of cervical cancer can be prevented with a vaccine for young women. However, the vaccine is expensive and out of reach for most women in Nigeria (Goldie, 2019)

There is an extreme lack of resources to treat cervix cancer (both medical equipment and physician expertise) in Nigeria. There are, however, effective strategies that can be employed to reduce the impact of cervix cancer. Ultimately the goal must be to prevent cervical cancer through introduction of the HPV vaccine, but even if introduced today it will take many years for its full impact to be realized. Over the years awareness and uptake of services has remained poor despite all the studies on cervical cancer screening. Various studies indicate that

cervical cancer screening services is poorly utilized and the awareness of the need for it is very low(Wong, 2019).

Problems associated with cervical cancer incidence include late reporting, ignorance and cultural issues relating to cervical cancer screening. Currently, reports show that only three-percent of women between the ages of 15-49 request cervical cancer screening. Given that patient records take many forms and are not necessarily shared between clinics, it is difficult for health providers to be aware of their patients' cervical screening status, or to track health trends related to the disease.

### **2.1.2. Significance of Women Participation in Cervical Cancer Screening**

Cervical cancer continues to be a major cause of mortality and morbidity among women worldwide yet it is one of the preventable human cancers because of its slow progression (Hakama and Miller, 2016; Spencer, 2017).

Cancer of the cervix occurs as a result of abnormal cell changes in the tissue layers of the Cervix. Changes that occur in the cervical cell before cancer develops are referred to as the pre-cancerous lesions. Early detection of pre-cancerous lesions can easily be achieved through cervical cancer screening and is 100% treatable (ACCP, 2014; Spencer, 2017). Evidence from a comprehensive analysis of data by

the International Agency for Research on Cancer (IARC) shows that developing countries have been able to drastically reduce the incidence and mortality of cervical cancer through effective screening programs (Ferlay, 2018).

Cervical cancer continues to be a major public health threat to women in many low and medium resourced countries like South and Central America, sub-Saharan Africa, and Southeast Asia which lacks effective cervical screening program. These countries account for more than 80% of the world cervical cancer death (IARC, 2016, Ferlay 2018).

The high morbidity and mortality of cervical cancer has been associated with non-participation of women in cervical cancer screening programs and low screening coverage among the illegible population (Janerich, 2020). According to the National Institutes of Health consensus development (2016), 85% of the women who die of cervical cancer in Australia have not had regular cervical cancer screening and about 50% of them have never had any form of cervical cancer screening. In the United States, half of women die of invasive cervical cancer have never had a cervical cancer screening test and 10% have not had cervical cancer screening in the last five years. Levels of participation in cervical cancer screening programs differ between developed and developing countries. Developed countries reports high percentage of participation in cervical cancer

screening of about 86% and a follow up rate of 76% within 3 years after initial screening (McKee, 2017; Marcus, 2017). As a result, there is low incidence of cervical cancer mortality and morbidity. On the other hand, developing countries such as Jamaica and Nicaragua shows low participation rates of 23% and follow up rates of 46% within 3 years after initial screening (Carey& Gjerdingen,2016) and very low or non-existent coverage in most Asian and African countries (IARC,2014; Lewis, 2017).

Another study of a large U S. prepaid, comprehensive health plan reported that 53% of women who were diagnosed with cervical cancer had not had any cervical cancer screening test within 3 years prior to the diagnosis (Saslow, 2018). Therefore, regular participation and utilization cervical cancer screening services is crucial if cervical cancer incidence and its associated mortality and morbidity are to be reduced.

### **2.1.3 Influence of Socio-demographic factors on Utilization of Cervical Cancer Screening Services**

Even where screening facilities and services are available, there are individual characteristics that determine whether a woman actually does utilize the services. Socio-demographics such as age, marital status, educational level, occupational status and religion were reported in many studies to have an impact on women's

choice and readiness to be screened for cervical cancer (Aswathy, 2012; Ayinde, 2014).

Women who accept to screen tend to be younger (aged 30–39), married, had mostly been pregnant, better educated and had ever used contraception (Were, 2011). In rural China, women social demographic and social economic profile including marital status, parity low social economic status, less education, early marriage and place of residence affected cancer of the cervix screening services usage (Holroyd, 2014).

Two studies in India found that younger women (30-39 years, optimally below 35 years) were more likely to be screened than older women (Aswathy, 2012; Nene, 2017).

Occupation and employment status also plays a pivotal role in the utilization of cervical cancer screening services. Due to economic challenges women tend to prioritize other financial and social responsibilities related to their families, other than their health resulting to self-neglect. It can therefore be said that the employment status or occupation of women influenced the utilization of cervical cancer screening services (Singh, 2012).

Marital status of women influences their decision and willingness to go for cervical cancer screening. Research by Abdullahi, 2019 indicated married women had a

higher knowledge of cervical cancer risk factors than those who have never been married. Also, another study in Kenya reported 85.9% of those screened being married Mutuma, Otieno, Kei, Ngege, Ndwiga and Gacheri, (2016). In contrast, a study reported that 73.2% (n=256) of respondents who were married reported consent by their husbands as a barrier to uptake of cervical cancer screening (Lyimo & Beran, 2012). Hoque and Hoque (2009) identified that married women in South Africa were convinced they were not at risk of developing cervical cancer because neither they nor their spouses were involved in promiscuous sexual behaviours, and hence did not need to have a Pap smear test.

Education is one of the factors most frequently associated with knowledge of cervical cancer and screening for it Utoo, Ngwan and Anzaku, (2018). A study in India found that screened women were those who had a higher educational level (Nene, 2017). Furthermore, they added that lower educational status has not only been found as strongly associated with low knowledge and screening status, but also served as a barrier to getting screened in the future (Nene, 2017).

"Cultural beliefs, Religion and custom barriers faced by women in most cases make her shy to discuss their problems and getting examined by the male health professionals may lead to decreased screening especially in Muslim women. More

so, some religious and cultural beliefs in Africa prohibit the exposure of the female reproductive organs. This might subsequently lead to underutilization of cervical cancer screening services. An effective program for cancer of the cervix screening should target both gender as male partners have a role to encourage their spouses to be screened and male leaders can promote women participation in cancer of the cervix screening processes irrespective of their marital status" (Singh, 2012).

#### **2.1.4 Knowledge on Cervical Cancer as an Influence to Utilization of Screening Services.**

In many developing countries, women's knowledge of cervical cancer is very limited Amarin, Badria, and Obeidat (2018). It has been demonstrated that the vast majority of women in some countries had not heard of cervical cancer and even more knew nothing about cervical screening (Wong, 2019). Poor knowledge of cervical cancer among women has also been reported in various studies (Wong, 2019). A study of influences on uptake of reproductive health services revealed that knowledge about cervical cancer among the women was very low (Mutya, Mmiro and Weiderpass, 2016). Prominent in their finding was the fact that patients are not given adequate information on cervical cancer and screening. This shows that women are willing to know about their health but health providers are not using their vantage positions to provide necessary information on cervical cancer.

There are several studies showing that knowledge about cervical cancer and Pap testing influences uptake of cervical cancer screening services (Coughlin and Uhler, 2012). This was especially true among Jordanian women where about 80% of those interviewed in a study knew cervical cancer could be detected and referred to the Pap test as a means of prevention (Amarin et al.,2018). Many studies have shown that cervical cancer and Pap testing awareness positively influence the utilization of cervical cancer screening services (Aboyeji, 2014). In many developing countries, women's knowledge of cervical cancer and Pap smears is very limited. In a survey performed in Nigeria, 254 women were randomly assessed and asked about knowledge of cervical cancer (Ayayi and Adewole, 2015). Only 15% had ever heard of cervical cancer and those who knew about cervical screening were even less. The barriers identified by (Mutya et al., 2016) were ignorance about cervical cancer, cultural constraint/beliefs about illness, economic factors, domestic gender power relations, alternative authoritative sources of reproductive health knowledge and unfriendly health care services.

Research among Kenyan women to find out how much they know about cervical health suggests a further challenge. A 2010 study conducted in Kisumu by the University of North Carolina-Chapel Hill found that 89% of the study population knew of cancer in general, but only 15% had heard of cervical cancer. None of the women in the study knew about the HPV vaccine (Huchko, 2011).

### **2.1.5 Accessibility of the Screening Services as an Influence to their Utilization.**

All sexually active women are at risk for the development of cervical cancer. Where the services are available, many women seem not to be aware of the services. Services are mainly available in some secondary and tertiary health facilities at a cost that make it not accessible and affordable to many women.

The major factors identified by the women in a study by (Ndikom and Ofi 2012) are lack of awareness about the screening, illiteracy, some people think that such services are for educated people, and the facts that when people are healthy they don't bother about preventive services as they have other contending problems.

Also, poor knowledge, underlying health and cultural beliefs, attitudes, language and unhelpful attitudes of health professionals are important barriers (Thomas, 2005). Other barriers to screening include low income, decreased access, insufficient funding, and unfavorable attitudes towards screening (Hilton, 2013).

Similarly, the barriers identified by Mutyaba (2016) were ignorance about cervical cancer, cultural constraint/beliefs about illness, economic factors, domestic gender power relations, alternative authoritative sources of reproductive health knowledge and unfriendly health care services.

Cervical cancer and HIV represent synergistic threats to women's reproductive health and overall mortality in resource-limited countries. Biologically, HIV

infection increases women's risk of human Papillomavirus (HPV) infection, cervical neoplasia, and invasive cervical cancer (WHO, 2017). In addition, most global HIV infections occur in resource limited settings where healthcare funding and infrastructure are inadequate for primary care and prevention programs such as cervical cancer screening, which substantially increases the vulnerability of HIV-infected women (WHO, 2017).

Population-based cervical screening has been promoted widely and enthusiastically as a preventive measure for cervical cancer since the development of the Papanicolaou smear test in the 1940s (Shingleton, 2015). Reports from United States National Cancer Institute revealed that from 1975 to 2000, the surveillance, epidemiology, and end results(SEER) based age-adjusted incidence rate of invasive cervical cancer in the United States decreased from 14.8 to 7.6 per 100 000 women/year (Ries, 2013). However, the incidence of cervical cancer in most less developed countries including Nigeria is still very high due to low uptake of women in the screening programs (Ferlay, 2018).

Several studies have attributed low uptake of cervical cancer screening to non participation of high risk women in established screening programs available for cervical cancer prevention and or lack of health care access, as the most common implicated universally attributable factor in the development of invasive cervical cancer (Kenter, Janerich, Hogenmiller, 2015). Among those who had access to

health care, non-participation in established cervical cancer preventive programs available in the health care system was the most common attributable factor in the development of cervical cancer (Sung, and Stuart, 2019).

Review of a population-based Canadian study reported that 46% of women who were diagnosed with cervical cancer had not had a Pap smear test within 3 years prior to the diagnosis of cervical cancer (Stuart, 2019); while a study of a large U.S. prepaid, comprehensive health plan reported that 53% of women who were diagnosed with cervical cancer had not had a Pap test within 3 years prior to the diagnosis (Stuart et al.,2019). Therefore, regular cervical cancer screening is crucial if cervical cancer incidence and its associated mortality and morbidity are to be reduced to a reasonable level in developing countries as the case in developed countries.

Public health researchers have been quite categorical in their views that regular Pap smears can detect invasive disease early and improve the odds for successful treatment. Countries such as Denmark and Sweden have reported a 60% decrease in cervical cancer morbidity and mortality with nationwide Pap test programmes (Landrine and Klonoff, 2018). Unfortunately, only 5% of women in developing countries have access to Pap tests, compared with 50% in developed countries such as the USA where it is mainly the poor and minority women who have insufficient access due to inadequate health insurance (Landrine and Klonoff, 2018). In a

report by Population Reference Bureau, it is shown that only 5% women in low income countries have undergone a Pap smear test (PATH, 2014).

### **2.1.6 Cost of Cervical Cancer Screening as an Influence to their Utilization.**

Financial constraint is another problem as the available services are not free. The poverty level in our society is quite high. Some people think that it is a death warrant if they are tested positive and are not able to afford treatment so it is better not to go for screening.

A Swedish Study reported that non-attendance to cervical screening was positively associated with time-consuming and economic barriers Nygrd, Nygard, Skare, and Thoresam, (2016). Time is a problem because women have so many responsibilities thus cervical cancer screening could be given less priority in demanding real life settings (Nygrd, et al., 2016). Most screening programmes rely on Pap smear which are complex and costly to run especially in developing countries where health systems and infrastructures are weak (Ashford, 2015).

The past decade has yielded another powerful tool in the fight against cervical cancer worldwide. In 2006, the pharmaceutical company Merck released a vaccine called Gardasil, while competitor GlaxoSmithKline released the Cervarix vaccine. Both are designed to protect women from the human Papillomavirus (HPV), which

causes cervical cancer. By 2009, 33 developed countries had included the HPV vaccine as part of their national immunization programmes.

In Botswana, McFarland (2013) reported that lack of cervical cancer screening or infrequent use of cervical cancer screening is noted for different reasons like lack of knowledge, lack of access to health care, financial constraints, and attitudes of health care workers etc. Perceived susceptibility to cervical cancer, perceived severity to cervical cancer, perceived benefits to doing cervical cancer screening and perceived barriers to seeking cervical cancer screening are the major factors that determines a woman's likelihood to do cervical cancer screening although attitudes of health providers, availability and cost are other important determinants (Burak, 2017). Therefore, the assumption is that if these screening services are available and accessible at low cost like the case of VIA/VILI tests, the uptake of cervical cancer screening will depend largely on the perceived susceptibility of women to cervical cancer, perceived severity of cervical cancer, perceived benefits of doing cervical cancer screening and perceived barriers to seeking cervical cancer screening. If the uptake is to be increased to achieve the desired goals, these issues must be recognized and taken into account when planning and implementing effective cervical cancer screening programs in order to reduce the mortality and morbidity resulting from cervical cancer.

A study done by Agurto, 2014 revealed that financial constraints were associated to never doing a Pap smear as was with cost of transportation among poor women who had to travel some distance to do Pap smear test. Also, Leyva, 2016 and Bessler, 2017 reported significant association between perceived barriers to cervical cancer screening with employment due to lack of convenient clinic time.

### **2.1.7 Other Factors Influencing Participation of Women in Cervical Cancer Screening**

Factors associated with reducing participation or uptake of women in cervical cancer screening programs are poor awareness of the indications and benefits of the pap smear test, lack of knowledge of cervical cancer and its risk factors, fear of being embarrassed by health care workers, fear of pain and fear of finding a positive result (Fylan, 1998).

Lack of female screeners in health facilities, convenient clinic times, anxiety caused by receiving an abnormal cervical smear result, poor understanding of the cervical cancer screening procedures and a need for additional information are other barriers for uptake in cervical cancer screening programs (Fylan, 2017). Studies in the developed countries (McKee, 2017 and Marcus, 2017) have reported a high percentage of participation in cervical cancer screening of about 86% and a follow up rate of 76% within 3 years after initial screening, while a study done in

Nigeria reported low participation rates of 41% and follow up rates of only 21% within 3 years after initial screening (Onyije, 2017). This shows that the frequency of practice in Nigeria is not adequate as recommended.

The reasons for non-participation among these women in less developed countries according to a study carried out in Southern Brazil (Cesar, 2012) in which 1,302 women were interviewed and 57% had never had a Pap smear, reported the factors most closely associated with non-participation in cervical cancer screening programs were young age, low family income, low schooling, living alone, and first childbirth after 25 years of age. A study of socio-demographic factors associated with non-participation amongst Taiwanese women by Wangi and Lin 2003 in which 40% of women sampled had never had a Pap smear and 86% did not have one in the past year, reported age as the strongest factor affecting cervical cancer screening, particularly for women below the age 30 and above 65 year olds. The study also found that, women with lower levels of education, who were unemployed, never-married and those who live outside the city tend to underuse Pap smear screening services (Wangi and Lin, 2016; Hayward and Swan, 2016). Regarding age, women aged 65 years and older were 13 times more likely not to have had a Pap smear in the past year, while women aged less than 30 years are more likely to have had a Pap smear test in the past 3years (Wangi and Lin, 2016). Hayward and Swan (2016) reported that age was the most important factor in

determining Pap smear use with higher rates of participation among the middle aged group (40-60years).

According to Hayward and Swan (2016), illiterate woman had the greatest risk of never having cervical cancer screening. Ndikom and Ofi 2012 reported that typical estimates of the percentage of women who fail to utilize Pap smear screening services range from 30% to 44% and have been reported to be observed among younger women, those lacking health insurance, those with less than a high school education, and those that are unmarried women.

## **2.2 THEORETICAL FRAMEWORK**

This study shall be premised on the Health Belief Model and the Behavioral Model of Health Services Use

### **2.2.1 Health Belief Model**

The health belief model is a psychosocial model (Stanhope and Lancaster, 2016) for studying and promoting the uptake of health services like screening. The model explains preventive behavior. The model assumes that belief and attitudes of people are critical determinants of their health-related actions. It holds that when cues to actions are present, the variations in uptake behavior can be accounted for by beliefs concerning four sets of variables. These include:

- i.) The individual's view of own vulnerability to illness. If an individual does not see him or herself as being at risk of any problem, he or she will not seek care.
- ii.) Belief about severity of the illness. The associated problem could be seen as minor therefore little attention will be required.
- iii.) The person's perception of the benefits associated with action to reduce the level of threat or vulnerability.
- iv.) The individual's evaluation of the potential barrier associated with the proposed action, this could be physical, psychological, financial and social.

### **The Three Major Components of Health Belief Model**

The three major components of the health belief model are: individual perception, modifying factors and variables affecting likelihood of action.

Individual perception: Perception is the process of becoming aware of objects, qualities or relation by the way of sense organ. The individual's perception of being at risk of cervical cancer will motivate the person to seek preventive services.

Modifying factors: These are variables that change or improve likelihood of action. They include demographic variables, level of education, location of health facility, cost, mass media etc. They affect perception of threat; increased knowledge will

result in correct perception of threat based on scientific knowledge of cervical cancer. Likelihood of action: an individual will take action if he or she understands that there is a need and that the particular action will help in meeting the need. Also if barriers to the utilization of such services are minimized, the individual is likely to take action.

Since cervical cancer is not usually noticed until late stage the call to go for screening seems to be ignored. Some women may not consider it as important because they have other competing needs, while others may perceive screening as a needful preventive health behavior.

### **2.2.2 Behavioral Model of Health Services Use**

One of the models to be applied in this study is the Behavioral Model of Health Services Use (BM), which was developed in 1968 by the US medical sociologist and health services researcher Ronald M. Andersen (Andersen, 2018) as a result of the third survey of the Center for Health Administration Studies and the National Opinion Research Center (Andersen, 2018).

The BM is a multilevel model that incorporates both individual and contextual determinants of health services use. In doing so, it “divides the major components of contextual characteristics in the same way as individual characteristics have traditionally been divided—those that predispose, enable, or suggest need for

individual use of health services”(Andersen,2018). In their most recent explication of the model, Andersen,2010 described these three major components as follows:

- *Predisposing factors.* Individual predisposing factors include the demographic characteristics of age and sex as “biological imperatives” (Andersen,2018), social factors such as education, occupation, ethnicity and social relationships (e.g., family status), and mental factors in terms of health beliefs (e.g., attitudes, values, and knowledge related to health and health services).Contextual factors predisposing individuals to the use of health services include the demographic and social composition of communities, collective and organizational values, cultural norms and political perspectives.

- *Enabling factors.* Financing and organizational factors are considered to serve as conditions enabling services utilization. Individual financing factors involve the income and wealth at an individual’s disposal to pay for health services and the effective price of health care which is determined by the individual’s health insurance status and cost-sharing requirements. Organizational factors entail whether an individual has a regular source of care and the nature of that source. They also include means of transportation, travel time to and waiting time for health care. At the contextual level, financing encompasses the resources available within the community for health services, such as per capital community income,

affluence, the rate of health insurance coverage, the relative price of goods and services, methods of compensating providers, and health care expenditures. Organization at this level refers to the amount, varieties, locations, structures and distribution of health services facilities and personnel. It also involves physician and hospital density, office hours, provider mix, quality management oversight, and outreach and education programs. Health policies also fall into the category of contextual enabling factors.

- *Need factors.* At the individual level, Andersen, 2010 differentiated between perceived need for health services (i.e., how people view and experience their own general health, functional state and illness symptoms) and evaluated need (i.e., professional assessments and objective measurements of patients 'health status and need for medical care). At the contextual level, they make a distinction between environmental need characteristics and population health indices. Environmental need reflects the health-related conditions of the environment (e.g., occupational and traffic and crime-related injury and death rates). Population health indices are overall measures of community health, including epidemiological indicators of mortality, morbidity, and disability. The BM has frequently been used in studies, mainly those conducted in the United States and the United Kingdom. It has also been applied in numerous systematic reviews on different aspects of health care utilization to structure their results (Moher, 2009). In other countries, such as

Germany, only recently has there been increased awareness and use of the model. In Germany, for instance, it was adopted by the Federal Health Reporting System for analyzing health services utilization within the country (Thode, 2018).

### **2.3 EMPIRICAL STUDIES**

In a study conducted among patients at Kenyatta National Hospital in Nairobi, Kenya it revealed that, Pap smear testing was more likely if the patient was aware about cervical cancer, or had some education, or had used family planning and condoms, or was 35 years and above (Gichangi, Estambale, Bwayo, Rogo, Ojwang, Opiyo and Temmerman, 2015). However, the study revealed that perception of risk of cervical cancer was not associated with Pap smear testing (Gichangi et al., 2015).

Another study carried out in Central Provincial General Hospital, Nyeri, Kenya found out that utilization of cervical cancer screening services was low at 24.7% despite the fact that the study group consisted of well educated women who had autonomy in decision making and good family support. Only less than 20% of the women knew the importance of cervical cancer testing and majority (80%) of the respondents could only mention one to two risk factors of cervical cancer (Gichogo, 2012). Lack of awareness and screening plus the unavailability of HPV vaccines are obstacles in Kenya's fight against cervical cancer. Vaccination is

crucial in developing countries because so few women go for cervical cancer screening.

However, another study done in Kasarani, Nairobi Kenya found out that 80% of respondents knew about Pap smear and cervical cancer and only 21% of them had had a Pap smear test done on them (Ombechi, 2012). This study found out that knowledge of cervical cancer and Pap smear does not translate to action. There could be more underlying reasons as to why women do not go for screening despite knowing the importance.

In a country such as Nigeria, with a timid population of people living below the poverty line and with a healthcare system that is predominantly dependent on out-of-pocket expenditure, such cost of service could be prohibitive. However, cytological screening using Pap smear seems to be the preferred method of screening in these facilities.

In spite of efforts from governmental and nongovernmental organizations to improve access to cervical cancer screening services in Nigeria, uptake has been appalling. Several studies have documented factors associated with uptake of cervical screening tests worldwide. Such factors include age of the women, their marital status, parity, risk perception, financial constraint, and knowing someone who has cancer of the cervix (Ndikom, 2012).

A study in Lagos (Oluwole, 2019), on cervical cancer awareness and screening uptake among rural women in Lagos. A cross sectional descriptive study design was adopted and a total of 400 women were studied. Data was collected using a structured, interviewer-administered questionnaire. Univariate and bivariate analysis were done with statistical package for social science (SPSS). There was low awareness of cervical cancer and screening uptake among the respondents and the overall knowledge was equally poor. However, the respondent's showed a strong willingness for screening.

A study in Owerri (Ezem 2017) on knowledge, awareness and uptake of cervical cancer screening services among women in Owerri, showed that the uptake of cervical cancer screening services was 1.78% which is low but higher than 0.6% reported by Eze, 2012. Cross sectional descriptive study was employed in the study and total of 350 women were studied. Data was collected using a structured questionnaire. The burden of cervical cancer cannot be appreciably reduced with these very low-level of uptake. The main reason adduced by the respondents for not doing the test was lack of awareness (51.58%), followed by cost (15.84%) and lack of facility (15.84%)

A similar study conducted in Nigeria also revealed that only 47.1% of the women interviewed had heard about cervical cancer, while 39.5% of them knew something about Pap smear (Akinola, 2014). This study was hospital-based and may not be representative of the true awareness level of women in the community as opposed to the current study that was community-based.

A study conducted in Nigeria reported that women with low levels of education tended not to see the need for cervical cancer screening. Women with a higher level of education tended to be well versed with the risk of not seeking cervical cancer screening (Utoo et al., 2018). Furthermore, a study done in Kenya found that 48% of those who had tertiary education had been screened before (Mutuma et al., 2016). A study by Nunez-Troconis, 2018 contradicted this study as they reported that low educational levels in a Venezuelan urban area did not negatively influence women's decisions of being screened for cervical cancer.

A study in Nigeria found that age had an effect on knowledge and screening for cervical cancer, as the screening and knowledge was higher among those younger than 39 and those who were married (Ayinde, Omigbodun and Ilesanmi, 2018)

"Utilization of screening services was found to be directly proportion to parity of the women indicating that previous contact with reproductive health services in their earlier parity (in form of gynecological checkups) may increase awareness

among women to be more responsive towards health workers and facility settings  
"(Sankaranarayanan,2017).

## **CHAPTER THREE**

### **MATERIALS AND METHODS**

#### **3.1 STUDY DESIGN**

A descriptive survey research design was used in the description of the current status of the variables in the study. A descriptive survey was appropriate for this study because it involved fact finding and enquiries. A cross-sectional descriptive study design was employed as it generated quantitative data through administered questionnaires.

#### **3.2 AREA OF STUDY**

In this research, the area of study is Ikwerre Local Government Area. The Local Government Area covers 260 km<sup>2</sup>. Ikwerre Local Government is also surrounded by neighbouring Local Governments such as Obio/Akpor Local Government Area and Emuoha Local Government Area respectively. Ikwerre Local Government Area also shares boundary with Imo State.

Ikwerre Local Government Area has its headquarters at Isiokpo. The people of Ikwerre have their major economic activities as agriculture. There are some artisans, professionals and petty-traders in the area. Their cultural heritage consists of Eregbu dance, wrestling festival, new yam festival and their main language is Ikwerre. Ikwerre Local Government Area is one of the local government areas in

Rivers State. Ikwerre Local Government Area is made up of thirteen(13) electoral wards which includes Igwuruta, Omagwa, Elele, Ubima, Omuanwa, Aluu, Ipo, Omuademe, Apani, Omerelu, Isiokpo,The state is the heart of the hydro-carbon industry, responsible for a huge chunk of the nation's foreign exchange earnings. It is accountable for over 48% of crude oil produced on-shore in the country and100% of the liquefied natural gas that Nigeria is currently exporting to several countries of the world. The strategic importance, of Rivers State in the economic equation of Nigeria earned it in the name, Treasure Base of the Nation.

### **.3.3 STUDY POPULATION**

A study population refers to individuals that are eligible for inclusion in a specific study (Burns, 2011). Women of reproductive age residing in Ikwerre Local Government Area were selected as the study population. The target population for the study involved women from 21-65years that are resident in any of the selected communities in Ikwerre Local Government Area. The 2006 population of women in Ikwerre Local Government Area is 60,569 (NPC, 2006). The 2018 projected population of women in Ikwerre Local Government Area is 122,433 (NPC 2018).

### **3.4 SAMPLE SIZE AND SAMPLING METHOD**

#### **3.4.1 Sample Size Determination**

To achieve a manageable sample size from the total population, the Taro Yamane (1967) formula was applied to arrive at a sample size of 399 respondents for this study. The formula is expressed as:

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

Where

n = sample size required

N = total population

1 = constant

e = 0.05 error margin

For adequate distribution of questionnaires to the sample strata's, the proportional allocation method was applied to ensure equitable distribution of questionnaire in the selected communities.

#### **3.4.2 Sampling Methods**

Multi-stage sampling technique was used in selecting the study participants. Stage one involved the listing of all the thirteen wards in Ikwerre Local Government Area. One-third which is a total of four wards were selected using simple random sampling each of these wards have communities under each of them. Stage two

involved listing the communities under each of the four wards selected in stage one and selected another one-third of the listed communities of each of these four wards using simple random sampling. State three involved listing the communities selected in stage two, then selected participants according to household names using systematic sampling technique.

### **3.5 INSTRUMENTS FOR DATA COLLECTION**

A well-structured questionnaire was administered through assistance by trained research assistants to women between the ages of 21-65 years. All research assistants were trained and provided with written materials which are relevant to the research objectives

The research questionnaire also contained information which will be given in sections. Section A contained information on such socio-demographic characteristics such as age, marital status, religion, occupation, educational status, number of children, and income. Section B contained information on the awareness of cervical cancer screening services by the respondents. Section C contained information on the accessibility of cervical cancer screening services by the respondents. Section D contained information on affordability of cervical cancer screening services. Section E contained utilization of cervical cancer screening services by the respondents

### **3.6 VALIDITY OF INSTRUMENT**

The questionnaire was well approved by the thesis supervisors and validated by a cancer expert from University of Port Harcourt Teaching Hospital. All the necessary corrections was effected based on my supervisor's comments.

### **3.7 RELIABILITY OF INSTRUMENT**

The questionnaire was pre-pilot tested and distributed to a small group of 39 women (which make 10% of the total sample size) from a neighboring Local Government of rural population. The result was analyzed using chrombach Alpha Coefficient of Reliability test and a reliability coefficient of 0.607 was obtained.

### **3.8 METHOD OF DATA COLLECTION**

The questionnaire was administered to the respondents at their homes, market, and business organization after an informed consent had been obtained. The literate respondents was allowed to fill the questionnaire themselves but, for non-literate respondents, questions were asked in local language and their response was filled by the researcher. It also includes explanation of the aim and objectives of the study to respondents. The questionnaire was collected after completion. The questionnaire after collection was scored and data was extracted.

### **3.9 METHOD OF DATA ANALYSIS**

Data that was collected was coded appropriately into computer software called statistical package for social sciences (IBM-SPSS) version 21.0 for analysis.

Descriptive analysis was used to analyze data from socio demographic characteristics and to ascertain if women in Ikwerre Local Government Area utilize cervical cancer screening services. The statistical association between women's dependent variables and independent variables was tested using chi-square.

Data from the influence of affordability on utilization was also analyzed using chi-square.

Frequency tables was generated for the socio demographic distribution of the respondents. Pie chart was subsequently by created to aid visual appreciation of the proportion of women that utilize the screening services and those that do not. The significance level for all statistical analysis in set as  $p \leq 0.05$ .

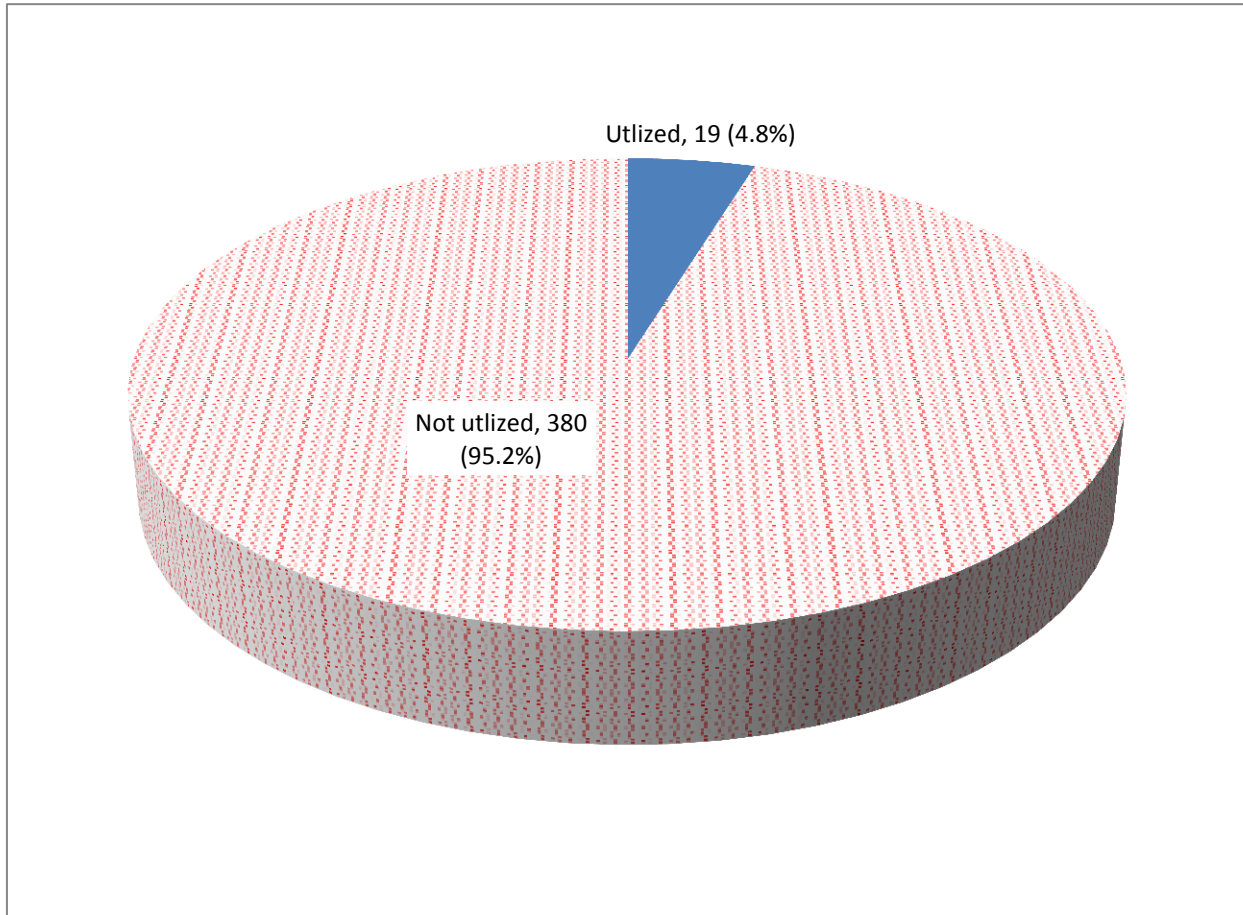
### **3.10 ETHICAL CONSIDERATIONS**

Ethical clearance was obtained from Ethics and Research Committee of Federal University of Technology, Owerri. Verbal consent was sought from the respondent before being allowed to participate in the study. Confidentiality was ensured throughout the study period.

## CHAPTER FOUR

### RESULTS AND ANALYSIS

#### 4.1 UTILIZATION OF CERVICAL CANCER SCREENING SERVICE



**Figure 1: Cervical cancer screening services Utilization among Women in Ikwere LGA, Nigeria**

Figure 1 showed that utilization of cervical cancer screening services by women in Ikwerre Local government area of Rivers is quite poor as majority of the women in do not utilize the service in the health facilities. For the entire 399 women studied, only 19 (4.8%) indicated that they do make use of cervical cancer screening services, which the remaining 380 (95.2%) responded that they do not utilize such services.

#### 4.2 DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS AND UTILIZATION OF CERVICAL CANCER SCREENING SERVICES

**Table 1: Distribution for Demographic Characteristics and utilization of Cervical Cancer Screening Services among the Respondents Studied**

Item	Demographic Class	Total (n=399) n (%)
Age	21-35 years	250 (62.7)
	36-45 years	97 (24.3)
	46-55 years	27 (6.8)
	56-65 years	25 (6.3)
Marital Status	Single	148 (37.1)
	Married	217 (54.4)
	Divorced	14 (3.5)
	Widowed	20 (5.0)
Education	Primary	40 (10.0)
	Secondary	102 (25.6)
	Tertiary	212 (53.1)
	No formal education	45 (11.3)
Occupation	Civil servant	134 (33.6)
	Student	116 (29.1)
	Trader	113 (28.3)

	Farmer	35 (8.8)
	House wife	1 (0.3)
<b>Religion</b>	Christianity	383 (96.0)
	Islam	15 (3.8)
	African Traditional Religion	1 (0.3)
<b>Number of children</b>	1-3	35 (8.8)
	4-6	76 (19.1)
	7-10	55 (13.8)
	Greater than 10	26 (6.5)
	None	207 (51.9)
<b>Income in Naira (₦)</b>	< 30,000	229 (57.4)
	31,000 - 40,000	100 (25.1)
	41,000 - 50,000	16 (4.0)
	51,000- 60,000	12 (3.0)
	Greater than 60,000	42 (10.5)

Table 1 represents the demographic distribution characteristics and utilization of cervical cancer screening services among the study group. The largest number of the participants (250; 62.7%) falls within the age of 21-35 years, followed by the 36 – 45 with 97 (24.3%). More than half of the respondents 217 (54.4%) were married, 148 (37.1%) were singles and 20 (5%) were widowed. Similarly more than half 212 (53.1%) attained up to tertiary education, 102 (25.6%) had secondary education and 40 (10%) had primary education. A total of 134 (33.6%) were civil servants, 116 (29.1%) were students and 113 (28.3%) were involved in trading. The respondents were predominantly Christians (383; 96.0%), the other 15 (3.8%) and 1(0.3%) were respectively of Islam and African traditional religion. Those who

had 1-3 children were 35 (8.8%) and 76 (19.1%) had 4-6 children while 207 (51.9%) are yet to have children. The largest group of the income earners were those earning below 30,000 naira with 229 (57.4%), followed by those earning 31,000 - 40,000 naira at 100 (25.1%). Only 42 (10.5%) earn above 60,000 naira.

### 4.3 DEMOGRAPHIC CHARACTERISTICS ON UTILIZATION OF CERVICAL CANCER SCREENING SERVICES AMONG THE GROUP STUDIED

**Table 2: Demographic Characteristics and utilization of Cervical Cancer Screening Services among the Respondents Studied**

Item	Variable Class	Total(n=399) n (%)	Utilized (n = 19) number (%)	Not Utilized (n=380) number (%)	p-value (LR $\chi^2$ )		
Age	21-35 years	250 (62.7)	7	2.8	243	97.2	0.001 (16.307)
	36-45 years	97 (24.3)	12	12.4	85	87.6	
	46-55 years	27 (6.8)	0	0.0	27	100.0	
	56-65 years	25 (6.3)	0	0.0	25	100.0	
Marital Status	Single	148 (37.1)	14	9.5	134	90.5	0.002 (12.524)
	Married	217 (54.4)	5	2.3	212	97.7	
	Divorced	14 (3.5)	0	0.0	14	100.0	
	Widowed	20 (5.0)	0	0.0	20	100.0	
Education	Primary	40 (10.0)	0	0.0	45	100.0	0.001 (24.867)
	Secondary	102 (25.6)	0	0.0	40	100.0	
	Tertiary	212 (53.1)	0	0.0	102	100.0	
	No formal education	45 (11.3)	19	9.0	193	91.0	
Occupation	Civil servant	134 (33.6)	6	4.5	128	95.5	0.001 (23.105)
	Student	116 (29.1)	0	0.0	116	100.0	
	Trader	113 (28.3)	13	11.5	100	88.5	
	Farmer	35 (8.8)	0	0.0	35	100.0	
	House wife	1 (0.3)	0	0.0	1	100.0	
Religion	Christianity	383 (96.0)	19	5.0	364	95.0	0.451

Number of children	Islam	15 (3.8)	0	0.0	15	100.0	(1.594)
	African Traditional Religion	1 (0.3)	0	0.0	1	100.0	
	1-3	35 (8.8)	0	0.0	35	100.0	0.009
	4-6	76 (19.1)	5	6.6	71	93.4	(13.442)
	7-10	55 (13.8)	0	0.0	55	100.0	
	Greater than 10	26 (6.5)	0	0.0	26	100.0	
	None	207 (51.9)	14	6.8	193	93.2	
Income in Naira (₦) per Month	< 30,000	229 (57.4)	0	0.0	229	100.0	0.001
	31,000 - 40,000	100 (25.1)	0	0.0	100	100.0	(94.93)
	41,000 - 50,000	16 (4.0)	0	0.0	16	100.0	
	51,000- 60,000	12 (3.0)	0	0.0	12	100.0	
	Greater than 60,000	42 (10.5)	19	45.2	23	54.8	

Significant demographic characteristics found to be associating with utilization of cervical cancer screening services in this study include age ( $p= 0.001$ , LR  $\chi^2= 16.3$ ), marital status ( $p= 0.002$ , LR  $\chi^2= 12.5$ ), education ( $p= 0.001$ , LR  $\chi^2= 24.9$ ), number of children ( $p= 0.009$ , LR  $\chi^2= 13.4$ ), and income level ( $p= 0.001$ , LR  $\chi^2= 94.9$ ).

Among the respondents aged 21-35 years, only 7(2.8%) utilized cervical cancer services; and for the 36-45 years, 12 (12.4%) utilized the services. None of the women who were above 45 years old utilized the screening services. Among the few women that utilized the services were the singles and married women. Up to 14 (9.5%) of single women and 5 (2.3%) of married ones utilized the services while none of the divorced and widowed seems to have utilized the services.

Education showed inverse impart in the utilization of cervical cancer screening services in the study area. Only those without formal education were noticed to be utilizing the services.

11.5% of traders utilized the service, 4.5% of civil servant also did the utilization while no other occupation were indicated to have utilized the services.

Though religion was not found as a significant factor for cervical cancer screening utilization in this study, the only women that responded that they utilized the services were all Christians. Up to 6.8% of women who do not have kids do utilize the services compared to 6.6% for those that had up to 4-6 children and “zero” each for the 1-3 children, 5-8 children and more than ten children. On income status, only the respondents that earn more than 60,000 monthly utilized the utilization of cervical cancer screening services.

## 4.4 INFLUENCE OF KNOWLEDGE OF CERVICAL CANCER S AND UTILIZATION OF CERVICAL CANCER SCREENING SERVICES

**Table 3: Summary of knowledge and utilization of cervical cancer screening facilities**

<b>General Knowledge</b>	<b>Total</b>	<b>Utilized</b>		<b>Unutilized</b>		<b><math>\chi^2</math></b>	<b>p-value</b>
Good Knowledge	65 (16.3%)	7	10.8%	58	89.2%		
Poor Knowledge	334 (83.7%)	12	3.6%	322	96.4%		
Total	399 (100%)	19	4.8%	380	95.2%	6.179	0.013

### 4.4.1 Summary of knowledge and utilization of cervical cancer screening Services

The general knowledge of cervical cancer s in relation to the utilization of cervical cancer screening services is summarized on Table 4. A total of 65 (16.3%) only showed good general knowledge of cervical cancer as against 334 (83.7%) that showed poor general knowledge. Among the study participants that showed good knowledge of the disease, 10% utilized the screening services compared to 3.6% obtained among the subjects that showed poor knowledge of the disease. Obviously having knowledge of the disease was found to be significantly associated with utilization of the screening services ( $p=0.013$ ,  $\chi^2= 6.179$ ).

#### 4.4.2 Specific Knowledge items and utilization of cervical cancer screening Services.

**Table 4: Knowledge items and utilization of cervical cancer screening facilities**

Knowledge Item	Variable Class	Utilized (n = 19)		Not Utilized (n=380)		$\chi^2$ orLR	p-value
		Total	Freq	(%)	Freq		
<b>Heard of cervical cancer</b>	Yes	122	19	15.6	103	84.4	
	No	277	0	0.0	277	100	
	<b>Total</b>	<b>399</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>0.0001<sup>†</sup></b>
<b>Information source</b>	Radio	14	0	0.0	14	100	
	Television	25	0	0.0	25	100	
	Newspaper	3	1	33.3	2	66.7	
	Hospital	26	6	23.8	20	76.9	
	School	16	0	0.0	16	100	
	Relatives & friends	38	12	31.6	26	68.4	
	<b>Total</b>	<b>122</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>26.231<sup>¥</sup> 0.0001*</b>
<b>know of anyone with cervical cancer</b>	Yes	26	0	0.0	26	100	
	No	373	19	5.1	354	94.9	
	<b>Total</b>	<b>380</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>0.625<sup>†</sup></b>
<b>Heard of cervical cancer screening test</b>	Yes	86	13	15.1	73	84.9	
	No	313	6	1.9	307	98.1	
	<b>Total</b>	<b>399</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>25.917 0.0001*</b>
<b>If yes which of cervical cancer screening</b>	Pap smear only	55	13	23.6	42	76.4	
	All	1	0	0.0	1	100	
	not applicable	343	6	1.7	337	98.3	
	<b>Total</b>	<b>399</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>32.173<sup>¥</sup> 0.0001*</b>
<b>Do you know cervical cancer is preventable</b>	Yes	104	6	5.8	98	94.2	
	No	295	13	4.4	282	95.6	
	<b>Total</b>	<b>399</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>0.315 0.575</b>
<b>What are the risk factors of cervical cancer?</b>	Gender	7	0	0.0	7	100	
	Multiple sexual partners	15	0	0.0	15	100	
	all of the above	2	0	0.0	2	100	
	Don't know	375	19	5.1	356	94.9	
	<b>Total</b>	<b>380</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>1.277<sup>¥</sup> 0.735</b>
<b>What are the symptoms of cervical cancer?</b>	Bleeding	1	0	0.0	1	100	
	Abdominal pain	17	0	0.0	17	100	
	Bleeding, abdominal pain and painful intercourse	17	0	0.0	17	100	
	Don't know	364	19	5.2	345	94.8	
<b>Total</b>	<b>399</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>1.417<sup>¥</sup> 0.490</b>	
<b>Know that early detection of cervical cancer can be treated</b>	Yes	47	0	0.0	47	100	
	No	352	19	5.4	333	94.6	
	<b>Total</b>	<b>399</b>	<b>19</b>	<b>4.8</b>	<b>380</b>	<b>95.2</b>	<b>0.103<sup>†</sup></b>

Asterisks \* = significant at 5%, <sup>†</sup> = Fishers exact test, <sup>¥</sup> = Likelihood ratio (LR) chi-square

In Table 4, the result for specific knowledge items relating to the utilization of cervical cancer screening services among women in Ikwerre Local Government Area of Rivers State is presented. Surprisingly those who responded that they have not heard of cervical cancer were more than those that have heard of it (277: 122). The entire participant that utilized the screening services have heard of the disease and thus having heard of the disease is a significant factor of its screening services utilization ( $p=0.0001$ ). Similarly the source of information is a significant factor of utilization ( $p=0.0001$ ,  $LR\chi^2= 26.231$ ), with relatively more utilization recorded on sources such as relatives and friends (31.6%), and hospital (23.8%).

Heard of cervical cancer screening test is also a significant factor of utilization ( $p=0.0001$ ,  $LR\chi^2= 26.231$ ). Up to 15% of the women who heard of cancer screening test utilized of the screening services against 1.9% on those that were yet to hear of it.

Knowing anyone with cervical cancer has no significant influence on utilization, as well as knowing if the disease is preventable cervical cancer is preventable ( $p> 0.05$ ). Other knowledge related factors not found significant in this study include knowledge on knowledge of the risk factors of cervical cancer, symptoms of cervical cancer and knowledge that early detection of cervical cancer can be treated ( $p> 0.05$ ).

## 4.5 INFLUENCE OF ACCESSIBILITY ON UTILIZATION OF CERVICAL CANCER SCREENING SERVICES

**Table 5: Accessibility and Utilization of Cervical Cancer Screening Services**

Item	Utilized (n =19)		Not Utilized (n=380)		$\chi^2$	p-value
	Total	Freq (%)	Freq (%)	Freq (%)		
<b>Availability of health facility that provides cervical cancer Screening Services</b>						
Yes	71	13 18.3%	58	81.7%		
No	328	6 1.8%	322	98.2%		
Total	399	19 4.8%	380	95.2%	35.955	0.0001*
<b>Do you find it difficult to get to the health facility?</b>						
Yes	63	0 0	82	100%		
No	317	19 6.0	298	94.0%		
Total	399	19 4.8%	380	95.2%		<sup>†</sup> 0.018*
<b>If Yes, what are your reasons</b>						
Distance	31	6 19.4%	25	80.6%		
None	368	13 3.5%	355	96.5%		
Total	399	19 4.8%	380	95.2%	15.783	0.0001*
<b>What means of transportation do you use to get there</b>						
motorbike	31	6 19.4%	25	80.6%		
Car	199	0 0.0%	199	100.0%		
Total	399	19 4.8%	380	95.2%		<sup>†</sup> 0.0001*

Asterisks \* = significant at 5%, <sup>†</sup>= Fishers exact test

Accessibility factors were significantly associated with utilization of cervical cancer screening services, they include availability of health facility that provides cervical cancer screening services ( $p=0.0001$ ,  $\chi^2= 35.95$ ), difficulty getting to the health facility ( $p=0.018$ ), distance to health facility ( $p=0.0001$ ,  $\chi^2= 15.78$ ), and means of transportation used to get to the health facility ( $p=0.0001$ ) (Table 5).

Those who responded “yes” for availability of health facility utilized the screening services by 18.3% against 1.8% recorded on those who stated that such cervical cancer screening facilities were not available. None of the women who find it difficult to get to the health facility utilized the screening services. The simplest means of transport to the health facility is the use of motorbike for which the few women that utilize the health facility do go on motorbike (19.4%).

#### **4.6 INFLUENCE OF AFFORDABILITY ON UTILIZATION OF CERVICAL CANCER SCREENING SERVICES**

Those who were utilizing the cervical cancer services among the group studied comprised of all the respondents who responded that they can afford cervical cancer screening services. However being able to afford the cervical cancer screening is not a significant factor of cervical cancer screening services utilization in this study ( $p= 0.685$ ,  $\chi^2= 0.196$ ).

## CHAPTER FIVE

### DISCUSSION, CONCLUSION AND RECOMMENDATIONS

#### 5.1 DISCUSSION

Utilization of cervical cancer screening services by women in Ikwerre Local government area of Rivers was quite poor (4.8%) as majority of the women there do not utilize the services. Similar poor utilization was found on cervical cancer screening uptake studies with 5.7% in Nnewi (Udigwe, 2016), 1.78% in Owerri (Ezem, 2017) 8.7% in Ogun state (Adefuye , 2016) and 8.5% in a study carried out in Ghana (Adanu, 2012).

Utilization of cervical cancer screening services for the index study is lower than 20% reported among female sex workers in some selected brothels in Abuja, Nigeria (Ilesanmi & Kehinde, 2018). It is also lower than 21% found a Tanzania study (Kilo *et al.*, 2015) and 17.5% at a study in Kenya (Morema, 2014).It was rather higher than what was reported in a Mozambique where none of the study participants had been screened for cervical cancer (Lafort, 2016).

Some of their reasons for low utilization of cervical cancer screening services in the present study include non-availability of the screening services at the health facility, attitude of health workers in effecting utilization, cost of the screening test and time spent at health facility but majority do not have clear reasons for non-

utilization of cervical cancer screening services. In Ilesanmi and Kehinde(2018), majority gave no particular reason, but procrastination and lack of accessibility were contributory reasons.

Significant demographic characteristics found to be associating with utilization of cervical cancer screening services in this study include age, marital status, education number of children, and income level. More of younger women utilized the screening services than the older ones.

Similarly in (Kileo, 2015), increasing age was associated with a decreased use of screening services with younger women being were more likely to attend for screening than older women. On the other hand, a study in Kenya found that women screened for cervical cancer were generally older than those not screened (Morema, 2014).

The divorced and the widowed were behind in the utilization of the services. The current study result is in agreement with Indian study where marital status was a significant factor of utilization (Nene, 2017) but both studies differ in such a way that quite unlike the present study, married, divorced and widowed were more likely to utilize for cervical cancer screening services than single women. The study contradicts the findings in (Kilo, 2015), which did not find marital status as an associated factor for utilization of cervical cancer screening services.

Education showed inverse relationship with utilization of cervical cancer screening services in the study area. Those who utilized the services were more of traders and those without children. Only the income earners of more than 60,000 monthly utilized of cervical cancer screening services. On the contrary, one study (Kritpetcharat, 2018) found that women with higher income levels were less likely to participate in the visual inspection- based screening.

In Gharoro and Ikeanyi (2016), women with higher education level were more likely to participate in screening since women are less likely to be screened when they do not understand what is being asked of them.

Having knowledge of the disease was found to be significantly associated with utilization of the screening services, but the majority the women showed poor knowledge which obviously affected the rate of utilization. However more of the women that showed good knowledge of the disease, utilized the screening services compared to the ones that showed poor knowledge of the disease. In another Nigerian study (Owoeye & Ibrahim, 2013), knowledge was also found as a significant factor in uptake of cervical cancer screening, though knowledge was quite high in that study due to the fact that the study was performed on staff and students of a tertiary institution.

Surprisingly those who responded that they have not heard of cervical cancer were more than those that have heard of it. The entire participants that utilized the screening services have heard of the disease and thus having heard of the disease is a significant factor of its screening services utilization in the present study as well as knowing anyone with the disease.

However, earlier studies have shown that though large number of female may be aware of cervical cancer disease, yet utilization of the disease screening services is always low (Gharoro & Ikeanyi, 2016; Bayo, 2015).

Accessibility factors were significantly associated with utilization of cervical cancer screening services. Availability of health facility that provides cervical cancer screening services, difficulty getting to the health facility, distance to health facility and means of transportation used to get to the health facility were all significant in the present study. None of the women who find it difficult to get to the health facility utilized the screening services. Most of the few women that utilized the services in the health facilities do go on motorbike. Accessibility is among the factors influencing screening utilization in Ilesanmi and Kehinde (2018). In Jeal and Salisbury (2014), it was reported that women studied preferred to use services with extended operating hours located closer to where they worked.

The women who were utilizing the cervical cancer services among the group studied comprised the respondents who can afford the cost of screening services. This was not a surprise considering the fact that the larger income earners in this study were the ones utilizing the services. However being able to afford the cervical cancer screening is not a significant factor of cervical cancer screening services utilization in this study. This is a surprise finding considering the fact that accessibility was found as a significant factor and having large income is usually a pathway to having access to the services location.

These results obtained in the current study generally suggest insufficient utilization of cervical cancer screening services among women in Ikwere LGA Nigeria, and indicate the urgent need to implement interventions that would improve utilization in the area.

## **5.2 CONCLUSION**

The study revealed that 95.2% (380) of the respondents have never utilized cervical cancer screening services whereas only 4.8% (19) utilized. That is to say that utilization of cervical cancer screening among women in Ikwere Local Government is very low. Some reasons given for non-utilization included women availability at the health facility, the cost of screening, and time spent at the facility. Thus, the availability at the health facility and the cost of screening were

seen to affect the utilization of cervical cancer screening services by women in Ikweere Local Government Area of Rivers State.

### **5.3 RECOMMENDATIONS**

There is need to encourage these women (21-65) to utilize the cervical cancer screening services through awareness campaigns by Government at Federal, State and local level. Nurses have a major role to play in this regard. There is need to further enlighten the nurses, to mobilize the Local Communities to embrace the cervical cancer screening and thus, reduce the mortality associated with invasive cervical cancer.

The government should intensify effort to ensure the cost of the screening service is made affordable to the least in the society. There should also be joint assistance from NGOs to support government to sustain the programme.

## REFERENCES

- Abdullahi, A., Copping, J., Kessel, A., Luck, M. and Bonell, C. (2019). Cervical screening: Perceptions and barriers to uptake among Somali women in Camden. *Public Health*, 123(10): 680-685
- Aboyeji, P. A., Ijaiya, M.D.A., and Jimoh, A.G.A. (2014). Knowledge, attitude and practice of cervical smear as a screening procedure for cervical cancer in Ilorin. *Nigeria. Trop J Obstet. Gynaecol.*, 21:114–7.
- Adanu, R.M.K.(2015). Cervical cancer knowledge and screening in Accra, Ghana. *J. Women's Health and Gen Med*;11:487.
- Adefuye, P.O.(2016). Knowledge and practice of cervical cancer screening among female professional health workers in a sub-urban district of Nigeria. *Nig Med Practitioner*;50:19-22.
- Agurto, I., Bishop, A., Sanchez, G., Betancourt, Z., and Robles, S., (2014). Perceived barriers and benefits to cervical cancer screening in Latin America. *Preventive Medicine*, 39(1): 91-98.
- Alliance for Cancer of the Cervix Prevention (ACCP) (2014). Planning and Implementing Cancer of the cervix Prevention and Control Programs: A Manual for Managers. Seattle: ACCP; 2014
- Amarin, Z.O., Badria, L.F., and Obeidat, B.R. (2018).Attitudes and beliefs about cervical smear testing in ever-married Jordanian women. *Eastern Mediterranean Health Journal*, 14, (2):389-397.
- Andersen, R.M (2016). National health surveys and the behavioral model of health services use. *Med Care J.*, 46(7):647-53.
- Andersen, R.M (2018). Improving access to care in America: Individual and contextual indicators. In: Andersen R.M., Rice, T.H., Kominski, E.F., eds. Changing the U.S. health care system: key issues in health services, policy, and management. San Francisco, CA: Jossey-Bass.

- Airede L.R., Onakewhor J.U.E, Aziken M.E, Ande A.B.A., Aligbe J.U., (2016). Carcinoma of the Uterine Cervix in Nigerian Women: The Need to Adopt a National Prevention Strategy. *Sahel Medical Journal*, 11(1): 1-11.
- Ashford, L. and Collymore, Y. (2015). Prevention of Cervical Cancer Worldwide, Population Reference Bureau, Washington.
- Aswathy, S., Quereshi, M.A., Kurian, B. and Leelamoni, K. (2012). Cervical cancer screening: Current knowledge and practice among women in a rural population of Kerala, India. *Indian Journal Medical Research*, 136(2): 205-210.
- Ayayi, I.O., and Adewole, I.F.(2015). Knowledge and attitude of general outpatient attendants in Nigeria to cervical cancer. *Central Africa Journal of Medicine*,44:41–3.
- Ayinde, O.A., Omigbodun, A.O. and Ilesanmi, A.O. (2018). Awareness of cancer of the cervix, Papanicolaou's smear and its utilization among female undergraduates in Ibadan. *Afr. J Reprod. Health*, 3, 68-80
- Bayo, S., Bosch, F.X., de Sanjosé. S., Muñoz, N., Combita, A.L., Coursaget, P.,..., Meijer, C.J.M.(2015). Risk factors of invasive cervical cancer in Mali. *International Journal of Epidemiology*, 31(1):202–9.<https://doi.org/10.1093/ije/31.1.202>.
- Bessler, P., Aung, M. and Jolly, P. (2017). Factors affecting uptake of cervical cancer screening among clinic attendees in Trelawny, Jamaica. *Journal of the Moffitt Cancer Centre*, 14(4): 396-404.
- Blumenthal, P. (2015). Based on presentation given at global meeting Preventing Cancer of the cervix in Low-Resource Settings: from Research to Practice, Bangkok, Thailand, and December 2015.
- Coughlin, S.S. and Uhler, R.J. (2017). Breast and Cervical Screening Practices among Hispanic Women in the United States and Puerto Rica. *Preventive Medicine*,34: 42-51.

- Durowade, K.A. (2012). Prevalence and risk factors of cervical cancer among women in an urban community of Kwara State, north central Nigeria. *J Prev Med Hyg.*, 53(4): 213-219 *Encyclopedia of Women and Gender*, 577–92.
- Eze, J.N., Umeora, O.U., Obuna, J.A., Egwuatu, V.E. and Ejikeme, B.N. (2012). Cervical cancer awareness and cervical screening uptake at the Mater Misericordiae Hospital, Afikpo, Southeast Nigeria. *Annals of Africa Medicine*, 11(4): 238-243.
- Ezem, B.U. (2017). Awareness and uptake of cervical cancer screening in Owerri, South-Eastern Nigeria. *Annals of African Medicine*, 6(3): 94-98.
- Federal Ministry of Health (2018). Nigeria Cancer Control Plan 2018–2021, FMOH, Abuja, Nigeria.
- Ferlay, J., Shin, H.R., Bray, F., Forman, D., Mathers, C. and Parkin, D.M. (2018). Estimates of worldwide burden of cancer in 2008. *International Journal of Cancer*, 127(12): 2893-2917.
- Getahun, F., Mazengia, F., Abuhay, M., and Birhanu, Z. (2013). Comprehensive knowledge about cervical cancer is low among women in Northwest Ethiopia. *BMC Cancer*, 13(1): 2-5.
- Gharoro, E. and Ikeanyi, E. (2016). An appraisal of the level of awareness and utilization of the Pap smear as a cervical cancer screening test among female health workers in a tertiary health institution. *Int J Gynecol Cancer*. 2016;16(3):1063–8.
- Gichangi, P., Estambale, B., Bwayo, J., Rogo, K., Ojwang, S., Opiyo, A. and Temmerman, M. (2016). Knowledge and practice about cervical cancer and Papsmear testing among patients at Kenyatta National Hospital, Nairobi, Kenya. *International Journal of Gynecological Cancer*, 136:827–33.
- GLOBOCAN (2012). *Latest world cancer statistics*. Available at <http://globocan.iarc.fr/>
- Hanisch, R., Gustat, J., Hagensee, M. E., Baena, A., Salazar, J. E., Castro, M. V. and Sánchez, G. I. (2018). Knowledge of Pap screening and human papillomavirus among women attending clinics in Medellin, Colombia. *International Journal of Gynecological Cancer*, 18(5): 1020-1026.

- Hayward, D., and Swan, P. (2016). Predictors of cervical cancer screening in Taiwan. *Journal of Obstetrics and Gynaecology*, 22(4): 421–422.
- Holroyd, E., Twinn, S. and Adab, P. (2014). Social cultural influences on Chinese women's attendance for cancer of the cervix screening. *S. Adv Nurs*, 46:42-52
- Hoque, M. and Hoque, E. (2019). Knowledge of and attitude towards cervical cancer among female university students in South Africa. *South Africa Journal Epidemiological Infections*, 24(1): 21-24.
- Huchko, J.M., Bukusi, E.A. and Cohen, C.R., (2021). *Building capacity for cervical cancer screening in outpatient HIV clinics in the Nyanza province of western Kenya. Int J Gynecol. Obstet.*, 3:312-315
- Ilesanmi, R. E., & Kehinde, D. R. (2018). Pattern of Utilization of Cervical Cancer Screening Services among Female Sex Workers in Some Selected Brothels in Abuja, Nigeria. *Asia-Pacific journal of oncology nursing*, 5(4), 415–420. doi:10.4103/apjon.apjon\_31\_18
- International Agency for Research on Cancer (IARC) (2014). IARC Handbook of Cancer Prevention. Cervical Cancer Screening. Volume 10. IARC Press. Lyon.
- Jeal, N. and Salisbury, C. (2014). Self-reported experiences of health services among female Street-based prostitutes: A cross-sectional survey. *Br J Gen Pract.* 54:515–9.
- Kileo, N.M., Michael, D., Neke, N.M. and Moshiro, C. (2015). Utilization of cervical cancer screening services and its associated factors among primary school teachers in Ilala Municipality, Dar es Salaam, Tanzania. *BMC Health Serv Res* 15,552. doi:10.1186/s12913-015-1206-4.
- Kritpetcharat, O., Suwanrungruang, K., Sriamporn, S., Kamsa-Ard, S., Kritpetcharat, P., Pengsaa, P. (2018). The coverage of cervical cancer screening in KhonKaen, northeast Thailand. *Asian Pac J Cancer Prev.* 4(2):103–6.
- Lafort, Y., Lessitala, F., Candrinho, B., Greener, L., Greener, R., Beksinska, M., Smit, J.A., Chersich, M. and Delva W. (2016). Barriers to HIV and sexual

- and reproductive health care for female sex workers in Tete, Mozambique: results from a cross-sectional survey and focus group discussions. *BMC Public Health*. Jul 20; 16:608.
- Landrine, H. and Klonoff, E.A. (2018). Health and health care. In: Worrel J, Ed.
- Lewis, M.(2014). Situational analysis of cervical cancer in Latin America and the Caribbean. Washington, DC7 Pan American.
- Leyva, M., Byrd, T., and Tarwater, P. (2016). Attitudes towards cervical cancer screening: A study of beliefs among women in Mexico. *Californian Journal of Health Promotion*, 4 (2):13-24.
- Lyimo, F. S. and Beran, T. N. (2012). Demographic, knowledge, attitudinal, and accessibility factors associated with uptake of cervical cancer screening among women in a rural district of Tanzania: Three public policy implications. *BMC Public Health*, 12: 12-22.
- Marcus, A., Crane, L., Kaplan, C., Reading, A., Savage, E., and Gunning, J. (2017).Improving adherence to screening follow-up among women with abnormal Pap smears: results from a large clinic-based trial of three intervention strategies. *Archives of Family Medicine*, (30) 6:216-229.
- McFarland, D.M. (2013). Cervical screening and Pap smear testing in Botswana: Knowledge and Perceptions. *International Nursing Review*, 50(3):167–75.
- McKee, D. (2017). Strategies to improve follow-up of abnormal Pap smears, *Archives of Family Medicine*, 32 (6): 574-577.
- Morema, E.N., Atieli, H.E., Onyango, R.O., Omondi, J.H., Ouma, C. (2014). Determinants of cervical screening services uptake among 18-49 year old women seeking services at the Jaramogi Oginga Odinga Teaching and Referral Hospital, Kisumu, Kenya.,”. *BMC Health Serv Res*.14:335.
- Mutuma, A. M., Otieno, G. O, Kei, R.M., Ngege, S., Ndwiga, T. and Gacheri, R. (2016). Socio-demographic characteristics influencing uptake of screening for cervical cancer in women aged 18-49 years in Imenti North Sub-county, Meru County, Kenya. *Science Journal of Public Health*, 4(2): 94-99.

- Mutyaba T., Mmiro F.A. and Weiderpass, E. (2016). Knowledge, attitudes and practices on cervical cancer screening among the medical workers of Mulago Hospital, Uganda. *BMC Medical Education*, 6(13): 13-18.
- Ndikom, M.C. and Ofi, B.A. (2012). Awareness, perception and factors affecting utilization of cervical cancer screening services among women in Ibadan, Nigeria. *Reproductive Health*, 9: 9-11.
- Nene, B., Jayant, K., Arrossi, S., Shastri, S., Budukh, A., Hingmire, S., ... Sankaranarayanan, R. (2017). Determinants of womens participation in cervical cancer screening trial, Maharashtra, India. *Bulletin of the World Health Organization*, 85(4), 264–272. doi:10.2471/blt.06.031195
- Nene, B., Jayant, K., Arrossi, S., Shastri, S., Budukh, A., Hingmire, S. and Sankaranarayanan, R. (2017). Determinants of women s participation in cervical cancer screening trial, Maharashtra, India. *Bulletin of the World Health Organization*, 85(4): 264-272.
- Nunez-Troconis, J., Vela´squez, J., Mindiola, R. and Munroe, D. (2018). Educational level and cervical cancer screening programs in a Venezuelan urban area. *Investigacio ´nclinica´*, 49(3): 333-339.
- Nygrd, J.F., Nygard, M., Skare, G.B. and Thoresam, S.O. (2016). Pap smear screening in women under 50 in the Norwegian coordinated cervical cancer screening program, with a comparism of immediate biopsy versus Pap smear triage of moderate dysplasia. *Acta Cytology*, 50(3):295–302.
- Ombechi, E.A., Muigai A. W. and Wanzala, P. (2012). Awareness of cervical cancer risk factors and practice of Pap smear testing among female primary school teachers in Kasarani division, Nairobi Kenya. *Afr J Health Sci.*, 21:121-132.
- Onyije F.M., Eroje M.A. and Fawehinmi H.B. (2010). Trends in cervical cancer incidence in University of Port Harcourt Teaching Hospital (UPTH), Rivers State, Nigeria. *Continental J. Tropical Medicine* 4:1-5, ISSN: 2141-4167.
- Owoeye I.O.G1, Ibrahim .I.A (2013). Knowledge and attitude towards cervical cancer screening among female students and staff in a tertiary institution in the Niger Delta. *Int J Med Biomed Res* 2013;2(1):48-56.

- Program for Appropriate Technology in Health (PATH) (2014). *Planning appropriate cervical cancer prevention programs*. 2nd Edition. <http://www.path.org/publications/files/cxca-planning-appro-prog-guide.pdf>
- Sankaranarayanan, R., Esmay, P.O., Rajkumar, R., Muwonge, R., Swaminathan, R., Shanthakumari, S., Fayette, J.M. and Cherian, J. (2017). Effect of visual screening on cancer of the cervix incidence and mortality in Tamil Nadu, India: A cluster-randomized trial. *Lancet*, 370(9585):398-406.
- Saslow, D., Boetes, C. and Burke, W. (2018). American Cancer Society; guidelines for early detection of cancer. *Cancer Journal for Clinicians*, 18(7): 58-72.
- Spencer, J., (2017). *Deadly disease and epidemics: Cervical cancer*. Infobase publishers Chelsea House, New York
- Udigwe, G.O.(2016). Knowledge, attitude and practice of cervical cancer screening (Pap smear) among female nurses in Nnewi, south eastern Nigeria. *Niger J ClinPract*;9:40-3.
- Utoo, B.T., Ngwan, S.D. and Anzaku, A.S. (2018). Utilization of screening services for cancer of the cervix in Makurdi, Nigeria. *Journal of Reproductive Biology and Health*, 1(2): 2-3.
- Wangi, P. and Lin, R. (2016). Socio-demographic factors of Pap smear screening in Taiwan. *Acta Obstetrics and Gynecology Scandinavia*, 14 (4): 76-120.
- Were, E., Nyaberi, Z. and Buziba, N. (2013). Perceptions of risk and barriers to cervical cancer screening at Moi Teaching and Referral Hospital (MTRH), Eldoret, Kenya. *African Health Sciences*, 11(1): 58-64.
- WHO/ICO (2017). Information Centre on HPV and Cervical Cancer (HPV Information Centre). Summary report on HPV and Cervical Cancer Statistics in Kenya. [www.who.int/hpv centre](http://www.who.int/hpv centre).
- WHO/ICO, (2018). Information Centre on HPV and Cervical Cancer (HPV Information Centre). Human Papillomavirus and Related Cancers in Kenya; Summary Report 2018. [www.who.int/hpv centre](http://www.who.int/hpv centre).

Wong, L.P. (2019). Knowledge and Awareness of Cervical Cancer and Screening among Malaysian Women Who have never had a Pap smear: a qualitative study. *Singapore Med J*, 50(1):49.

World Health Organization (WHO) (2019). Comprehensive cervical cancer control: A guide to essential practice-Second edition. Archived from the original on 2019-09-04.

World Health Organization (WHO) (2022) WHO Guidance note, comprehensive Cancer of the cervix prevention and control: a healthier future for girls and women.

**QUESTIONNAIRE**  
**UTILIZATION OF CERVICAL CANCER SCREENING SERVICES**  
**AMONG WOMEN IN IKWERE LOCAL GOVERNMENT AREA,**  
**RIVERS STATE**

Introduction: Tick or fill the appropriate response(s)

**SECTION A: SOCIO-DEMOGRAPHIC INFORMATION**

1. What is your age range?
  - a. 21-35 years
  - b. 36-45 years
  - c. 46-55 years
  - d. 56-65 years
  
2. What is your marital status?
  - a. Single
  - b. Married
  - c. Divorced
  - d. Widowed
  
3. What is your educational qualification?
  - a. Non formal education
  - b. Primary
  - c. Secondary
  - d. Tertiary
  
4. What is your occupation?
  - a. Student
  - b. Farmer
  - c. Trader/business
  - d. Civil/Public servant
  - e. House wife
  
5. What is your religion?
  - a. Christianity
  - b. Islam
  - c. African Traditional Religion
  - d. Others please specify .....

6. How many children don you have?

- a. 1 – 3
- b. 4 – 6
- c. 7-10
- d. >10
- e. None

7. What is your income range?

- a. <N30,000
- b. N31,000-N40,000
- c. N41,000-N50,000
- d. N51,000-60,000
- e. >N60,000
- f. None

## **SECTION B: AWARENESS OF CERVICAL CANCER SCREENING SERVICE**

1. Have you heard of cervical cancer?

- a. Yes
- b. No

2. If yes, where did you get the information?

- a. Radio
- b. Television
- c. Newspaper
- d. Hospital
- e. School
- f. Relatives

3. Do you know anyone who has had cervical cancer?

- a. Yes
- b. No

4. If yes, who?

- a. Relative
- b. Friend
- c. Colleague
- d. Lecturer

5. Have you heard of cervical cancer screening tests?
  - a. Yes
  - b. No
6. If yes, which of the cervical cancer screening tests have you heard of?
  - a. Pap smear
  - b. Visual inspection with acetic acid (VIA)
  - c. Visual inspection with Lugol's Iodine
  - d. All of the above
7. Do you know Cervical Cancer can be prevented?
  - a. Yes
  - b. No
8. What are the risk factors of cervical cancer?
  - a. Gender
  - b. Multiple parity
  - c. Multiple sexual partners
  - d. Untreated STDs
  - e. All of the above
  - f. Don't know
9. What are the symptoms of cervical cancer?
  - a. Painful intercourse
  - b. Bleeding
  - c. Abdominal pains
  - d. All of the above
  - e. Don't know
10. Do you know early detection of cervical cancer can be treated?
  - a. Yes
  - b. No

**SERVICE C: ACCESSIBILITY OF CERVICAL CANCER SCREENING SERVICE**

1. Is there any health facility in Ikwerre local government area that provides cervical cancer screening services?
  - a. Yes
  - b. No
  - c. Don't know
2. If yes, how far is the health facility from your home
  - a. Not Far
  - b. Far
  - c. Very Far

- d. Don't know
- 3. Do you find it difficult to get there?
  - a. Yes
  - b. No
- 4. If yes, what are your reasons?
  - a. Bad Road
  - b. Distance
  - c. Insecurity
  - d. None
- 5. What means of transportation do you use to get there?
  - a. Walking
  - b. Motorcycle
  - c. Bicycle
  - d. Car
- 6. Have you been able to access any cervical cancer screening services in the health facility?
  - a. Yes
  - b. No
- 7. If no, what are your reasons?
  - a. Not available at the health facility
  - b. Cost of screening test
  - c. Attitude of health workers
  - d. time spent at health facility
  - e. no reason

**SECTION D: AFFORDABILITY OF CERVICAL CANCER SCREENING SERVICES**

- 1. Is cervical cancer screening free in the health facility
  - a. Yes
  - b. No  c. Don't Know
- 2. if No, what is the cost of cervical cancer screening services
  - a. less than N3,000
  - b. N3,000-N4,000
  - c. N4,000-N5,000
  - d. N5,000-N10,000
  - e. Above N10,000
  - f. Don't know
- 3. Can you afford it?
  - a. Yes
  - b. No  c. Don't know

4. If yes, have you done any of the screening tests?

a. Yes

b. No

5. If No, what are your reasons?

a. No time

b. Husband does not approve

c. Scared of the result

d. None

#### **SECTION E: UTILIZATION OF CERVICAL CANCER SCREENING SERVICES**

1. Have ever had cervical cancer screening before?

a. Yes

b. No

## APPENDIX

### SAMPLE SIZE

To achieve a manageable sample size from the total population, the Taro Yamane (1967) formula was applied to arrive at a sample size of 399 respondents for this study. The formula is expressed as:

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

Where

n = sample size required

N = total population

1 = constant

e = (0.05)<sup>2</sup> error margin

$$n = \frac{122,433}{1 + 122,433 (0.05)^2}$$

$$n = 399$$

**LIST OF WARDS AND COMMUNITIES IN IKWERRE LOCAL  
GOVERNMENT AREA OF RIVERS STATE**

<b>S/No</b>	<b>WARDS</b>	<b>COMMUNITIES</b>
<b>1.</b>	<b>OMAGWA</b>	<b>OMUOLO</b>
		<b>OKPARA AGWU</b>
		<b>OMU-AGWUSIA</b>
		<b>OMUKETU</b>
<b>2.</b>	<b>IGWURUTA</b>	<b>OMUOHIA</b>
		<b>OMUWEINYE</b>
		<b>OMUEKE</b>
		<b>OMUODUGWU</b>
		<b>IGWURUTA-ALI</b>
<b>3.</b>	<b>ISIOKPO</b>	
		<b>OMUEKE</b>
		<b>OGBODO</b>
		<b>ADANTA</b>
		<b>AZU MINI</b>
<b>4.</b>	<b>IPO</b>	<b>NGBUMINI</b>
		<b>OMARIKE</b>
		<b>OMUOHIA</b>
		<b>OMUALI</b>
<b>5.</b>	<b>ELELE</b>	<b>OMUALIKOR</b>
		<b>NGBUAYIM</b>
		<b>AGWUBUWIGBO</b>
<b>6.</b>	<b>OMUANWA</b>	<b>OGBASARA</b>
		<b>OMUTE</b>
		<b>OMUCHINWO</b>
<b>7.</b>	<b>OMADEME</b>	<b>OMUOWOR</b>
		<b>OMUECHIM</b>
		<b>OMUNKWO</b>
<b>9.</b>	<b>ALUU</b>	<b>MBODO</b>
		<b>OMUIGWE</b>
		<b>OMUODA</b>

		<b>OMUIKE</b>
		<b>OMUAIHINWO</b>
		<b>OMUCHIOLU</b>
		<b>OMUOKIRI</b>
		<b>OMUOKO</b>
<b>10.</b>	<b>OMARELU</b>	<b>OMOPI</b>
		<b>OMUOPARAOGA</b>
		<b>OMUAGWOR</b>
		<b>OMUHOMBIA</b>
<b>11.</b>	<b>OZUAHA</b>	<b>OMUNUAH</b>
		<b>OMUAKWURU</b>
		<b>OMUOTA</b>
<b>12.</b>	<b>APANI</b>	<b>OMUDIALA</b>
		<b>OLORI</b>
		<b>OMUDAGWA</b>
		<b>UMESIOBI</b>
<b>13.</b>	<b>UBIMA</b>	<b>OMUEKA</b>
		<b>OMUOWHOR</b>
		<b>OMUORDU</b>