

## Original Research Article

### **UPTAKE OF CERVICAL CANCER SCREENING SERVICE AND ASSOCIATED FACTORS AMONG FEMALE CIVIL SERVANTS IN OYO STATE SECRETARIAT, IBADAN, NIGERIA.**

#### **Abstract**

Cervical cancer remains a leading cause of death among females in the developing country with poor prognosis attributed to lack of awareness about the disease and its prevention.

This study sought to assess the uptake of cervical cancer screening service and associated factors among female civil servants in Oyo State Secretariat, Ibadan, Nigeria.

A cross-sectional descriptive survey was carried out among 400 randomly selected female workers in Oyo State Secretariat in September 2023 using a self-administered questionnaire probing into basic demographic characteristics, uptake of cervical cancer screening service and associated factors. Variation of these parameters with socio-demographic characteristics were studied.

A total of 400 women aged between 25 to 46 and older participated in the survey. Data was analyzed using the Statistical Package for Social Sciences version 20.0. Descriptive statistics were conducted for all relevant data. The mean age was 30.5 (range from 16 to 72 years) and approximately two-thirds (46.25%) of the participants were aged 26 to 35 years. Majority of the respondents (63.5%) have already had cervical screening test but only 31.75% had performed a breast self-examination more than 2 years ago. 74.50% of the respondents had performed a breast self-examination and 22.50%, 23% and 32.25% had it in the last 2 months, 3 months and more than 3 months ago respectively.

**Comment [LN1]: ??**  
Check the sample size again

This study found that the overall knowledge of risk factors for breast cancer and cervical cancer among women was low. Lack of cancer awareness, and lack of education in general, are the most potent barriers to access and care, and should be addressed through multi-faceted strategies including peer-education, mass media and other community-based interventions. Therefore, the burden of CC can be reduced if women are educated and health care providers challenged to recommend CCS and HPV vaccination

**Comment [LN2]:** The research results have not answered the research objectives and hypotheses. It is necessary to explain in writing in more detail about hypothesis testing and the p value obtained

**Keywords:** Uptake, factors, cervical cancer, screening service. female civil servants State, Secretariat, Nigeria.

## 1. INTRODUCTION

Cervical cancer is the most occurring gynecological cancer ((Okunowo et al., 2018). Cervical cancer is a one of the exceedingly preventable predominant disease (Murfin et al., 2019).

Cervical cancer is caused by human papilloma virus especially 16/18 strain which is responsible for 70% of global cervical cancer incidence (Li et al., 2018). The risk for cervical cancer include having multiple sexual partner, having a family history of cervical cancer, women with low socioeconomic status, young age lesser than 20 at first full time pregnancy, long term use of oral contraceptive pills, infections such as chlamydia infections, having a weakened immune system, being sexually active at a young age lesser than 18 years (Li et al., 2018).

Cervical cancer (CC) is the most common gynaecological cancer. Ninety-nine percent of all cases are linked to infection with high-risk human papilloma viruses (HPVs) which may be transmitted through sexual contact (Ferlay et al., 2019). Cervical cancer ranks fourth among the common cancers in women worldwide; only breast, colorectal and lung cancers are more common (Arbyn et al., 2020).

Cervical cancer is one of the gravest threats to women's lives. Worldwide, currently, it is estimated that over a million women have cervical cancer. Most of these women have not been

diagnosed, nor do they have access to treatment that could cure them or prolong their lives (World Health Organization, 2018). Cervical cancer is the fourth most common cancer in women, and seventh overall, with an estimated 528,000 new cases worldwide. Majority (around 85%) of the global burden occurs in the less developed regions.

Cervical cancer is the most occurring gynecological cancer (Okunowo et al., 2018). An estimate of 569,847 people was diagnosed of having cervical cancer in 2018 globally and 311,000 deaths were estimated (Bray et al., 2018). Cervical cancer is reportedly a major challenge in Sub-Saharan Africa as it accounts for about 70% of global cervical cancer cases in developing countries (Adamu et al., 2019; Mburu et al., 2019).

The incidence of cervical cancer is disproportionately increased in developing countries. In Nigeria, 53.3 million women are estimated to be at risk of developing cervical cancer with a national standardized prevalence rate of 33.0 per 100,000 (Ilevbare et al., 2020). In Nigeria, 70,327 deaths in women were attributed to cancer, with cervical cancer causing 14.8% of those deaths in 2018, making it the second most common cancer after breast cancer (World Health Organization, Nigeria Fact Sheet: Globocan 2018).

Cervical cancer is caused by human papilloma virus especially 16 of 18 strains which is responsible for 70% of global cervical cancer incidence (Li et al., 2018). The risk for cervical cancer include having multiple sexual partner, having a family history of cervical cancer, women with low socioeconomic status, young age lesser than 20 at first full time pregnancy, long term use of oral contraceptive pills, infections such as chlamydia infections, having a weakened immune system, being sexually active at a young age lesser than 18 years (Li et al., 2018). In Nigeria, most of the women were not aware that cervical cancer can be prevented and controlled, the worrisome scenario is that educated women that are government workers were not exempted from this ugly situation. In order to address these gaps, this study is set to assess the uptake of

cervical cancer screening service and associated factors among female civil servants in Oyo State Secretariat, Ibadan, Nigeria

### 1.1 Main Objective

The broad objective of the study was to assess the uptake of cervical cancer screening service and associated factors among female civil servants in Oyo State Secretariat, Ibadan, Nigeria.

### 1.2 Specific Objectives

The specific objectives of the study were to:

1. Assess the knowledge of cervical cancer among female civil servants in Oyo State secretariat.
2. Assess the level of awareness on cervical cancer screening services among representative sample of population under study
3. Determine the attitude of the of the women towards cervical cancer screening
4. Determine their uptake of cervical screening
5. Determine the factors influencing uptake of cervical cancer screening among the female civil servants in the study setting
6. Identify strategies that can promote uptake of cervical screening service uptake among the study's participants

### 1.3 Research Questions

This study was conducted to answer the following questions:

**Comment [LN3]:** add objective items to analyze variables according to the research hypothesis

**Comment [LN4]:** Research questions should be in line with the research objectives

1. What is the level of awareness regarding uptake of cervical cancer screening services among female civil servants in Oyo State secretariat?
2. What are the determinants of knowledge of cervical cancer in the representative sample of population under study?
3. What is the uptake of cervical screening among the representative sample of respondents' understudy?
4. What are those factors influencing uptake of cervical cancer screening among the female civil servants in the study setting?
5. What strategies can promote uptake of cervical screening service uptake among the study's participants?

#### **1.4 Research Hypotheses**

The following null Hypotheses (HO) were proposed:

1. There is no significant association between the level of awareness and uptake of cervical cancer screening.
2. There is no significant association between of knowledge of cervical cancer and uptake of cervical cancer screening.

## **2. MATERIALS AND METHODS**

### **2.1 The Study area**

**Comment [LN5]:** If there is a hypothesis, then the research objective should be to analyze the variables whose hypothesis will be tested

Ibadan is the capital city of Oyo State, Nigeria. It was founded in the early 19th century by fleeing refugees from the old Oyo Empire, following Fulani invasion of Yoruba land. Ibadan is designated as largest city in the West Africa and the most populous in Black Africa. It is mainly inhabited by the Oyo –a Yoruba sub-group with an estimated population of 1,829,187, the study area, is one of the five (5) that were carved out of the former Ibadan Municipal Government (IMG) in 1991 by the then Federal Military Government. Its headquarters stood at Agodi in Ibadan. The postal code of the area is 200 and has an area of 27 km<sup>2</sup> and a population of 856,988 according to the Oyo State Government in 2017. It also has bustling academic and economy activities with the presence of the First Premier University in Nigeria, the University of Ibadan, founded in 1948, and The Polytechnic, Ibadan in 1970 creates an aura of lively place to live in.

Agodi secretariat is the seat of all administrative activities in the state and this secretariat housed most of the ministries, parastatal and agencies with an average population of eleven thousand four hundred eighty (11,480) (workers (male-7,324, female-4,156) three thousand two hundred and sixty (3,260) of whom were women of reproductive age while the remaining eight hundred ninety-six (896) are non-reproductive age

**Table 1: LIST OF MINISTRIES/DEPARTMENTS AND AGENCIES IN OYO STATE SECRETARIAT, AGODI, IBADAN. OYO STATE**

S/N	NAMES OF MINISTRIES/DEPARTMENTS/PARASTATALS, AND AGENCIES	FEMALE STAFF	MALE STAFF	TOTAL
A	<b>MINISTRIES</b>			
1	MINISTRY OF AGRICULTURE, NATURAL RESOURCES AND RURAL DEVELOPMENT	234	1226	1460
2	MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY	567	1345	1912
3	MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES	34	67	101
4	MINISTRY OF FINANCE	43	89	132
5	MINISTRY OF HEALTH	1234	734	1968
6	MINISTRY OF JUSTICE	31	67	98
7	MINISTRY OF INFORMATION AND MASS MOBILIZATION	123	453	576
8	MINISTRY OF LANDS, HOUSING AND SURVEY	54	89	143
9	MINISTRY OF LOCAL GOVERNMENTS AND CHIEFTAINCY MATTERS	93	132	225
10	MINISTRY OF SPECIAL DUTIES	23	65	88
11	MINISTRY OF INVESTMENT, TRADE AND INDUSTRIES	43	76	119
12	MINISTRY OF PUBLIC WORKS, INFRASTRUCTURE AND TRANSPORTATION	56	234	290
13	MINISTRY OF WOMEN AFFAIRS AND SOCIAL INCLUSION	123	32	155
14	MINISTRY OF YOUTH AND SPORTS	54	157	211
15	MINISTRY OF BUDGET AND ECONOMIC PLANNING	34	78	112
16	MINISTRY OF ESTABLISHMENTS AND TRAINING	36	87	123
17	MINISTRY OF ENERGY AND MINERAL RESOURCES	21	57	78
B	<b>DEPARTMENTS</b>			
18	OFFICE OF THE HEAD OF SERVICE	23	36	59
19	OFFICE OF THE ACCOUNTANT-GENERAL	32	56	88
20	OFFICE OF THE AUDITOR-GENERAL FOR STATE	24	39	63
21	OFFICE OF THE AUDITOR-GENERAL FOR LOCAL GOVERNMENTS	18	31	49
22	BOARD OF INTERNAL REVENUE (BIR)	42	38	80
23	OFFICE OF THE STATE SURVEYOR-GENERAL	25	43	68
24	CIVIL SERVICE COMMISSION (CSC)	35	65	100
C	<b>AGENCIES</b>			
25	OYO STATE SIGNAGE AND ADVERTISEMENT AGE	18	34	52
26	STATE SERVICES AND SECURITY <sup>7</sup> DEPARTMENT	09	23	32
27	OYO STATE EMERGENCY MANAGEMENT AGENCY	26	43	69

28	OYO STATE HOUSE OF ASSEMBLY SERVICE COMMISSION	32	53	85
29	OYO STATE PUBLIC WORKFARE	21	32	53
30	OYO STATE TEACHING SERVICE COMMISSION (TESCOM)	56	154	210
31	OYO STATE HOSPITALS MANAGEMENT BOARD (OYSHMB)	123	76	199
32	OYO STATE LIBRARY BOARD	19	32	51
33	OYO STATE UNIVERSAL BASIC EDUCATION BOARD	34	67	101
34	OYO STATE INDEPENDENT ELECTORAL COMMISSION (OYSIEC)	18	32	50
35	OYO STATE COUNCIL FOR ARTS & CULTURE	21	35	56
36	OYO STATE SPORTS COUNCIL (OYSSC)	23	45	68
37	OYO STATE GOVERNMENT PRINTING PRESS	18	56	74
38	BUREAU OF INVESTMENT PROMOTION	16	32	48
39	OYO STATE RURAL ELECTRIFICATION BOARD (OYSREB)	15	31	46
40	BOARD FOR TECHNICAL & VOCATIONAL EDUCATION (BOTAVED)	12	23	35
41	OYO STATE FIRE SERVICE	24	45	69
42	OYO STATE SOLID WASTE MANAGEMENT AGENCY	23	67	90
43	OYO STATE PENSION BOARD	18	45	63
44	SIMEON ADEBO STAFF DEVELOPMENT CENTRE (SASDC)	13	32	45
45	OYO STATE LOCAL GOVERNMENT COMMISSION	24	46	70
46	OYO STATE AGRICULTURAL DEVELOPMENT AGENCY (OYSADA)	23	43	66
47	BUREAU OF PUBLIC PROCUREMENT	13	32	45
48	OYO STATE AGENCY FOR ADULT & NON-FORMAL EDUCATION	18	25	43
49	OYO STATE SCHOLARSHIP BOARD	12	27	39
50	OYO STATE AGENCY FOR YOUTH DEVELOPMENT (AYD)	17	24	41
51	OYO STATE RURAL WATER SUPPLY AND SANITATION AGENCY	19	29	48
52	OYO STATE DIASPORANS	11	23	34
53	OYO STATE HOUSING CORPORATION	34	76	110
54	SHOOTING STARS SPORTS CLUB	13	34	47
55	OYO STATE AGENCY FOR THE CONTROL OF AIDS (OYSACA)	18	32	50
56	WATER CORPORATION OF OYO STATE (WCOS)	23	35	58
57	BROADCASTING CORPORATION OF OYO STATE	72	89	161
58	PACESETTER MICRO-FINANCE INSTITUTION	11	32	43
59	OYO STATE COMMUNITY AND SOCIAL DEVELOPMENT AGENCY (CSDA)	23	33	56

60	LOCAL GOVERNMENT PENSION BOARD (LGPB)	27	56	83
61	OYO STATE MEDIATION CENTRE	11	21	32
62	OYO STATE PLANNING COMMISSION	18	21	39
63	OYO STATE AGRICULTURAL CREDIT CORPORATION (ACCOS)	23	45	68
64	OYO STATE ROAD TRAFFIC MANAGEMENT AUTHORITY (OYRTMA)	46	77	123
65	SOLID MINERALS DEVELOPMENT AGENCY	18	34	52
66	STATE OPERATION COORDINATING UNIT	11	23	34
67	SUSTAINABLE DEVELOPMENT GOALS UNIT	08	13	21
68	PILGRIMS WELFARE BOARD (CHRISTIAN WING)	13	23	36
69	PILGRIMS WELFARE BOARD (MUSLIM WING)	11	20	31
70	OYO STATE PUBLIC CORPORATION COMMISSION	19	23	42
71	OYO STATE BUREAU OF STATISTICS	13	25	38
72	OYO STATE HEALTH INSURANCE AGENCY	29	56	85
73	OYO STATE EDUCATION TRUST FUND	18	28	46
74	BUREAU OF PHYSICAL PLANNING & DEVELOPMENT CONTROL	19	26	45
	<b>TOTAL</b>	<b>4,156</b>	<b>7,324</b>	<b>11,480</b>

Based on the sample size calculated (600) above, that 600 questionnaires would be spread across the 74 ministries, departments and agencies identified above

### **Sampling Technique**

The sample size of 600 were determined using the Taro Yamane formula for descriptive studies. A multistage sampling method would be used to select respondents. The first stage involved selection of three thousand two hundred and sixty (3,260) out of the total number of four thousand one hundred fifty-six (4,156) that happened to be female workers in the secretariat. The second stage involved the use of systematic sampling to select six hundred (600) on each of these female workers (4,156) until the desired number of respondents (600) were met. Where there were more than one eligible female workers in a ministry/department/agency, the respondent were selected by balloting. Data was collected using pretest, interviewer administered questionnaires. The questionnaires were administered by three trained female research assistants

with a minimum of post-secondary school qualification. Data analysis was done with SPSS 20 software. Frequency tables were made for categorical variables.

This study adopted a multi stage sampling technique that comprises of the following steps:

Step 1: Oyo State Secretariat was stratified into its ministries, departments and agencies using stratified sampling technique and the numbers of the female workers were obtained in each ministry, department and agency (as shown in table 1), compiled and calculated.

Step 2: A Simple random sampling technique was used to select eligible participants based on predefined criteria.

## **2.2 Target population**

The populations for this study were women of reproductive age working in the Oyo State Secretariat, Ibadan. Which was three thousand two hundred and sixty (3,260). A structured questionnaire that comprises open- and closed-ended questions were used for data collection. The reliability of the instrument was tested using Cronbach's alpha. The reliability coefficient (r) is= 0.7. Ethical approval was seek from Oyo State Ethics Committee; data was then collect from the select health women of reproductive age working in the secretariat after duly obtaining an informed consent from each of the respondents.

## **2.3 Sample Size Determination**

Calculation and Sampling procedure

Sample Size Calculation

This study utilized the Taro Yamane formula for calculating sample of a known population using the sample size equation

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

Where n = Sample size N= Size of population, e = assumed error of 0.05

$$\text{Sample size } (n) = \frac{3260}{1+3260 (0.05)^2} = 356$$

$$\text{Adjusting sample size for 10\% attrition: } nf = \frac{n}{1-Nr}$$

$$nf = \frac{356}{1-10} \quad =nf = \frac{356}{0.9} \quad =396$$

By approximating to the nearest whole number, a total of 400 women was utilized for the study.

#### **2.4 Data Collection Methods and Analysis**

Data collection was carried out on September 2023. A description of the processes involved in data collection for this study is provided below. Each of the ministries/department/agencies were visited daily by two research assistants. Research assistants was set out early in the morning and approach the female workers of the ministry/department/agency to explain purpose and obtain written consent from them before the commencement of the study. In situations where neither was around, repeat visits were made as nobody is qualifying to give the needed information beside the female working in the ministry/department/agency. A coding guide was developed to facilitate coding and data entry into the computer. The investigator checked all the administered questionnaire copies one by one and edit them where necessary. Each questionnaire copy was coded and entered into a password protected computer, made only assessable to the research team. Data analysis was undertaken in SPSS software version 25 using descriptive and inferential statistics. The descriptive data entailed computing the (mean, median or mode). To determine the association between variables and test the hypotheses, percentage of the responses in support and against were calculated. Finally, information obtained were summarized and presented in tables.

### 3.0 RESULTS AND DISCUSSION

#### 3.1 Introduction

This chapter presents the analysis and presentation of results both in tables and raw data in SPSS

**Table 2: Socio-demographic characteristics of study participants (n = 400)**

	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Age</b>		
<25	145	36.25
26-30	87	21.75
31-35	98	24.50
36-40	45	11.25
41-45	19	4.75
46 <sup>+</sup>	6	1.50
<b>Marital Status</b>		
Single	178	44.50
Married	222	55.50
<b>Position</b>		
Permanent Staff	309	77.25
Temporary Staff	91	22.75
<b>Educational Level</b>		
Tertiary Education	346	86.50
Secondary Education	54	13.50
<b>Religion</b>		
Christianity	278	69.50
Islam	122	30.50
<b>Years of work experiences</b>		
1-5	287	71.75
6-10	76	19
11-15	-	-
16-20	24	6
21-25	7	1.75
26-30	6	1.5

#### **Socio-demographic characteristics**

The median age of the study participants was 30.5 (range 16 to 72 years) and approximately two-thirds (46.25%) of the participants were aged 26 to 35 years (Table 2). The majority of the participants were married (55.5%) and 45.5% identified as single. 13.5% of the participants had a

secondary level of education while 86.5% were tertiary education graduates. Larger percentage (89.5%) of the participants were identified as Christians.

**Table 3 General knowledge of cervical cancer and uptake of screening**

<b>Variables (n=400)</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Have you ever had a cervical cancer screening test	Yes	254	63.50
	No	146	36.50
When was the last time that you performed a breast self-examination	In the last 12 months	89	22.25
	In the last 18 months	91	22.75
	In the last 2 years	93	23.25
	More than 2 years ago	127	31.75
How often do you have cervical cancer screening test	Every 12 months	87	21.75
	Every 18 months	92	23
	Every 2 years	95	23.75
	Less frequently than every 2 years	126	31.5
Have you ever performed a breast self-examination	Yes	298	74.50
	No	102	23.50
When was the last time that you performed a breast self-examination?	In the last month	89	22.25
	In the last 2 months	90	22.50
	In the last 3 months	92	23
	More than 3 months ago	129	32.25
How often do you perform a breast self-examination?	Every month	86	21.50
	Every 2 months	93	23.25
	Every 3 months	98	24.50
	Less frequently than every 3 months	123	30.75
Healthy adult women should have cervical cancer screening test every two years	Yes	376	94
	No	24	6
Cervical cancer screening tests are not important for a woman at my age.	Yes	256	64
	No	144	36
Only women who have had many sexual partners need to have cervical cancer screening test	Yes	167	41.75
	No	233	58.25
The purpose of	Yes	385	96.25

cervical cancer screening test is to detect early signs of cervical cancer.	No	15	3.75
Cervical cancer screening tests are necessary even if there is no family history of cancer.	Yes	385	96.25
	No	15	3.75
The purpose of regular breast self-examinations is to detect potentially cancerous breast lumps.	Yes	385	96.25
	No	15	3.75
Healthy breasts should have no lumps in them at all.	Yes	385	96.25
	No	15	3.75
Breast examinations by a doctor are unnecessary if I am performing breast self-examinations regularly	Yes	345	86.25
	No	55	13.75
All women of child-bearing ages should do cervical cancer screening test	Agree	246	61.50
	Neutral	30	7.50
	Disagree	124	31
Cervical cancer screening test is safe	Agree	276	69
	Neutral	62	15.50
	Disagree	62	15.50
Cervical cancer is common in Nigeria	Agree	96	24
	Neutral	26	6.50
	Disagree	278	69.50
I have enough information about cervical cancer to guide my pupils	Agree	30	7.50
	Neutral	120	30
	Disagree	250	62.50
I would like to know more about the cervical cancer	Agree	278	69.50
	Neutral	24	6
	Disagree	98	24.50
All women should get education about cervical cancer	Agree	389	97.25
	Neutral	11	2.75
	Disagree	-	
In your own view do you think cervical cancer screening test should be performing on all women	Yes	378	94.50
	No	22	5.50

working in Oyo State secretariat			
What in your opinion hindered the cervical cancer screening test on all women working in Oyo State secretariat	Lack of information	234	58.50
	Financial constraint	56	14
	No Hospital	108	27
	No time and chance	2	0.5
What do you think can be done to improve the cervical cancer screening test	Ignorant		
	More education and awareness on cervical cancer test	243	60.75
	The test should be more accessible	98	24.50
	Free working day to do the test	42	10.50
	Make it compulsory	17	4.25

### **Knowledge of cervical cancer and uptake of screening among female workers in Oyo State**

#### **Secretariat, Ibadan**

Majority of the respondents (63.5%) have already had cervical screening test but only 31.75% had performed a breast self-examination more than 2 years ago. 74.50% of the respondents had performed a breast self-examination and 22.50%, 23% and 32.25% had it in the last 2 months, 3 months and more than 3 months ago. 94% of the respondents believed that healthy adult women should have cervical cancer screening test every two years, 64% of the respondents believed that cervical cancer screening tests are not important for a woman at their age, 41.75% of the respondents ascertained that only women who have had many sexual partners need to have cervical cancer screening test, 96.75% believed that the purpose of cervical cancer screening test is to detect early signs of cervical cancer, cervical cancer screening tests are necessary even if there is no family history of cancer, the purpose of regular breast self-examinations is to detect potentially cancerous breast lumps and Healthy breasts should have no lumps in them at all respectively.

Also 61.50%, 69%, 24%, 7.50%, 69.50% and 97.25% of the respondents agreed that all women of child-bearing ages should do cervical cancer screening test, cervical cancer screening test is safe, cervical cancer is common in Nigeria, having enough information about cervical cancer to guide my pupils, knowing more about the cervical cancer and all women should get education about cervical cancer respectively. 94.50% of the respondents believed that cervical cancer screening test should be performing on all women working in Oyo State secretariat, 58.50% of the respondents believed that lack of information hindered the cervical cancer screening test on all women working in Oyo State secretariat and lastly 60.75% of the respondents believed that more education and awareness about cervical cancer screening test will improve the cervical cancer screening test. Therefore, from the table above, it was revealed that lack of cancer awareness, and lack of education in general are the most determinants of knowledge of cervical cancer in the representative sample of population under study which answer research question 2.

**Table 4 Level of awareness of cervical cancer screening services**

<b>Variables (n=400)</b>	<b>Yes (%)</b>	<b>No (%)</b>
Cervical cancer screening service available within my reach?	124(31)	276(69)
Most hospitals/clinics does not have cervical cancer screening services?	306(76.5)	94(23.5)
Most women of reproductive ages feared cervical cancer screening service therefore they distance themselves from it	388(97)	12(3)
Most of their husbands does not encourage their wives to seek knowledge about cervical cancer screening services	346(86.5)	54(13.5)
The little knowledge and awareness most women have about cervical cancer screening services are not enough	346(86.5)	54(13.5)

**The associated factors with the level of awareness of cervical cancer screening services among female workers in Oyo State Secretariat, Ibadan**

Analysis of our result found that 69% and 76.5% of the respondents said that cervical cancer screening service were not available within my reach and most hospitals/clinics does not have cervical cancer screening services respectively. Also 97% of the respondents believed that most women of reproductive ages feared cervical cancer screening service and that made them to distance themselves from it.86.5% of the respondents believed that most of their husbands does not encourage their wives to seek knowledge about cervical cancer screening services and the little knowledge and awareness most women have about cervical cancer screening services are not enough. Therefore, this answer the research question 1 that the level of awareness regarding uptake of cervical cancer screening services is very low among female civil servants in Oyo State secretariat as majority of the respondents said that cervical cancer screening service were not available within their reach and most hospitals/clinics does not have cervical cancer screening services. Also most women of reproductive ages feared cervical cancer screening service and their husbands does not encourage them to seek knowledge about cervical cancer screening services.

**Table 5 Attitude towards cervical cancer screening services**

<b>Variables (n=20)</b>	<b>Yes (%)</b>	<b>No (%)</b>
My chances of getting cervical cancer if I attended cervical cancer screening services in the next few years are high.	348 (87)	52(13)
I feel I will get cervical cancer some time during my life if I attended cervical cancer screening services	348 (87)	52 (13)

The thought of cervical cancer scares me therefore I don't want to attend any cervical cancer screening services	388 (97)	12 (3)
Cervical cancer would threaten a relationship with my husband if I attended cervical cancer screening services	348 (87)	52 (13)
Having cervical exams takes too much time	348 (87)	52(13)
Having cervical exams is too painful.	388 (97)	12 (3)
Health care workers doing cervical exams are rude to women.	246(61.5)	54 (38.5)
I have other problems more important than attending cervical cancer screening services in my life.	270(67.5)	30(32.5)
I will never have cervical exams if I have to pay for it.	388 (97)	12 (3)
I would be ashamed to lie on a gynecologic examination table and show my private parts to have a cervical exam.	388 (97)	12 (3)

**Attitude towards cervical cancer screening services among female workers in Oyo State Secretariat, Ibadan**

Analysis of our results in Table 5 revealed that 87% of the respondents said that their chances of getting cervical cancer if they attended cervical cancer screening services in the next few years are high, feel they will get cervical cancer some time during their life if they attended cervical cancer screening services, cervical cancer would threaten a relationship with their husband if they attended cervical cancer screening services and having cervical exams takes too much of their time. Lastly 97% of the respondents said that the thought of cervical cancer scares me therefore they don't want to attend any cervical cancer screening services, having cervical exams is too painful, they will never have cervical exams if they have to pay for it and they would be

ashamed to lie down on a gynecologic examination table and show their private parts to have a cervical exam respectively.

**Table 6 Uptake of cervical cancer screening services**

<b>Variables (n=400)</b>	<b>Yes (%)</b>	<b>No (%)</b>
Most women of reproductive ages does not undergo cervical cancer screening service	275 (68.75)	125 (31.25)
Uptake of cervical cancer screening services scared most women	388 (97)	12 (3)
Uptake of cervical cancer screening services is not compulsory in most hospital/clinic	388 (97)	12 (3)
Most of their husbands does not encourage their wives to undertake cervical cancer screening services	388 (97)	12 (3)
Lack of knowledge and awareness most women have about cervical cancer screening services prevented them from undertake it	388 (97)	12 (3)

**Uptake of cervical cancer screening services among female workers in Oyo State Secretariat, Ibadan**

Analysis of our result found that 68.75% of the respondents said that most women of reproductive ages does not undergo cervical cancer screening service and 97% of the respondents believed that uptake of cervical cancer screening services scared most women, uptake of cervical cancer screening services is not compulsory in most hospital/clinic, most of their husbands does not encourage their wives to undertake cervical cancer screening services and lack of knowledge and awareness most women have about cervical cancer screening

services prevented them from undertake it . Therefore, update of cancer screening services among female workers in Oyo State Secretariat are very poor and that answer research question 3

**Table 7 Factors influencing uptake of cervical cancer screening services**

<b>Variables (n=400)</b>	<b>Yes (%)</b>	<b>No (%)</b>
Most women of reproductive ages were not aware about cervical cancer	290 (72.5)	110 (27.5)
Most hospitals/clinics does not have expertise on cervical cancer	388 (97)	12 (3)
Most women of reproductive ages feared cervical cancer therefore they don't want to hear anything about it	388 (97)	12 (3)
Most of their husbands does not encourage their wives to seek knowledge about cervical cancer	388 (97)	12 (3)
The little knowledge and awareness most women have about cervical cancer is not enough	388 (97)	12 (3)

**Factors influencing uptake of cervical cancer screening services among female workers in Oyo State Secretariat, Ibadan**

Analysis of the results revealed in Table 7 that 72.5% of the respondents said that most women of reproductive ages were not aware about cervical cancer and 97% of the respondents believed that most hospitals/clinics does not have expertise on cervical cancer, most women of reproductive ages feared cervical cancer therefore they don't want to hear anything about it, most of their husbands does not encourage their wives to seek knowledge about cervical cancer and the little

knowledge and awareness most women have about cervical cancer is not enough. Therefore, majority of factors that influencing uptake of cervical cancer screening services were not adequately observed and that answers research question 4.

**Table 8 Strategies promoting uptake of cervical screening services**

<b>Variables (n=400)</b>	<b>Yes (%)</b>	<b>No (%)</b>
Introduction of awareness and knowledge of cervical cancer in Nigeria educational system	290 (72.5)	110 (27.5)
Most hospitals/clinics must have expertise on cervical cancer	388 (97)	12 (3)
Most women of reproductive ages should be educated about cervical cancer screening services	388 (97)	12 (3)
Husbands should encourage and support their wives to attend cervical cancer screening services regularly	388 (97)	12 (3)
Cervical cancer screening services progress report must be included in marriage counselling requirement	388 (97)	12 (3)

**Strategies promoting uptake of cervical screening services among female workers in Oyo State Secretariat, Ibadan**

Analysis of the results revealed in Table 8 that 72.5% of the respondents said that introduction of awareness and knowledge of cervical cancer in Nigeria educational system is one of the strategies that promoting uptake of cervical cancer services in Oyo State Secretariat, Ibadan.

97% of the respondents believed that most hospitals/clinics must have expertise on cervical cancer, most women of reproductive ages should be educated about cervical cancer screening services, husbands should encourage and support their wives to attend cervical cancer screening services regularly and cervical cancer screening services progress report must be included in marriage counselling requirement. In the research work, it was revealed that most of the strategies that can promote uptake of cervical screening service uptake among the study's participants were not adequately captured and that answers research question 5.

In a nut shell, the null hypothesis that says there is no significant association between the level of awareness and knowledge and uptake of cervical cancer screening would be rejected and accept alternative hypothesis ( $H_A$ ) that says there is significant association between the level of awareness and knowledge and uptake of cervical cancer screening.

**Comment [LN6]:** Proof of calculating the p value using statistical analysis

#### 4.0 CONCLUSION AND SUMMARY

Most women in the developing world are at a considerable risk of developing cervical cancer because the prevalence high risk of sexual behavior (Ayinde et al (2017)). The situation is further worsened by the fact that many of these women are poorly informed about the disease and its prevention (Center for Disease Control and Prevention 2018).

Our study confirmed that the practice of cervical screening in Oyo State Secretariat among female workers is low. The overall women that had performed breast self-examination more than 2 years ago and in the last 2 months ago were 23.25% and 22.5% respectively. Age, educational status, knowing someone diagnosed with cervical cancer, sources of information from health professionals were predictors of knowledge of cervical cancer screening. Marital status, monthly income, and good knowledge were significant predictors of attitude towards cervical cancer screening. The level of knowledge of cervical cancer screening of women working in Oyo State

Secretariat of this study was 63.5%. This finding was comparable with the research done in Dessie referral hospital and Dessie health Center, northeast Ethiopia, which was 44.2%<sup>6</sup>. It was congruent with the survey done in Kathmandu Nepal which was 61% but slightly higher than a similar study in Northwest Ethiopia, Gabon, Tanzania (Getahun et al 2018). This could be due to the variation in study setting

Also, in the study age and marital status were found to be important factors of determinant knowledge, awareness and attitude of cervical cancer screening test. Single women and those under age of 30 years are less likely to know about the cervical cancer and screening test. Also, they are less likely to make themselves available for the cervical cancer screening test. These were similar to study carried out in Australia (Siahpush et al 2018). The level of education was found to determine the awareness of the cervical cancer. This was at variance with the findings of Skaer et al in which higher levels of education had positive influence of the use of pap smear (Skaer et al 2018).

## **5.0 RECOMMENDATION**

In general, the following recommendations need to be adhered to;

1. the need for more intensive awareness campaigns and well organized screening programmes among female civil servants in Oyo State Secretariat and the rest of the female population cannot be over emphasized.
2. More efforts are particularly needed in reaching the identified categories of the women who are less likely to have knowledge of cervical cancer and screening test.
3. Health education and awareness creation regarding cervical cancer should be implemented at primary health care units and clinics in the secretariat

4. Finally, further study is recommended at the community level, including a qualitative component.

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## APPENDIX QUESTIONNAIRE

### **STUDY TITLE: Uptake of cervical cancer screening service and associated factors among female civil servants in Oyo State Secretariat, Ibadan, Nigeria.**

The following questions are focused on some of your behaviours. Please answer each of the following questions by circling the answer which best describes you. Your responses will be kept in the utmost confidence. There are no right or wrong answers.

#### **A. DEMOGRAPHICS:**

Please fill in the following information about yourself:

1. What is your age in years? \_\_\_\_\_
2. Sex:            Male             Female
3. Position:      Permanent staff       Casual staff       Temporary staff       Other (specify): \_
4. Educational level: Primary education       Secondary education       Tertiary education   
Others
5. How many years of work experience have you? \_\_\_\_\_ years
6. What is your religion? Christianity       Islam       Traditional       Others (specify): \_\_\_\_\_
7. What is your marital status? Single       Married       Divorced       Other (specify): \_\_\_\_\_

#### **B. GENERAL KNOWLEDGE ON CERVICAL CANCER AND UPTAKE OF SCREENING:**

Below are some statements concerning general information about cervical cancer screening. Please read each statement carefully. Once you have read it, indicate whether you agree or disagree with the statement by picking or circling YES/TRUE for those you agree with, and NO/FALSE for those you disagree with.

8. Have you ever had a cervical cancer screening test? Cervical cancer screening is the mandatory screening test undergo by person suffering from cervical cancer periodically in order

to know her health status as far as cancer is concerned  Yes  No

If you answered NO, skip to question 11. If you answered YES, proceed to question 9.

9. When was the last time that you had a cervical cancer screening test?

- a. In the last 12 months
- b. In the last 18 months
- c. In the last 2 years
- d. More than 2 years ago

10. How often do you have cervical cancer screening test?

- a. Every 12 months
- b. Every 18 months
- c. Every 2 years
- d. Less frequently than every 2 years

11. Have you ever performed a breast self-examination? Breast self-examination is the use of your hands to examine your breasts for lumps or other abnormal tissue.  Yes  No

If you answered NO, skip to question 14. If you answered YES, proceed to question 12.

12. When was the last time that you performed a breast self-examination?

- a. In the last month
- b. In the last 2 months
- c. In the last 3 months
- d. More than 3 months ago

13. How often do you perform a breast self-examination?

- a. Every month
- b. Every 2 months
- c. Every 3 months
- d. Less frequently than every 3 months

14. Healthy adult women should have cervical cancer screening test every two years.

True      False

15. Cervical cancer screening tests are not important for a woman at my age. True      False

16. Only women who have had many sexual partners need to have cervical cancer screening test.

True      False

17. The purpose of cervical cancer screening test is to detect early signs of cervical cancer.

True      False

18. cervical cancer screening tests are necessary even if there is no family history of cancer.

True      False

19. The purpose of regular breast self-examinations is to detect potentially cancerous breast lumps. True      False

20. Healthy breasts should have no lumps in them at all. True      False

21. Breast examinations by a doctor are unnecessary if I am performing breast self-examinations regularly. True      False

For the following section, please indicate whether you agree or disagree with the statement:

	Agree	Neutral	Disagree
22. All women of child-bearing ages should do cervical cancer screening test			
23. Cervical cancer screening test is safe			
24. Cervical cancer is common in Nigeria			
25. I have enough information about cervical cancer to guide my pupils			
26. I would like to know more about the cervical cancer			
27. All women should get education about cervical cancer			

28. In your own view do you think cervical cancer screening test should be performing on all women working in Oyo State secretariat?

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29. What in your opinion hindered the cervical cancer screening test on all women working in Oyo State secretariat?

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30. What do you think can be done to improve the cervical cancer screening test?

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**C. LEVEL OF AWARENESS OF CERVICAL CANCER SCREENING SERVICES**

S/N	QUESTIONS	YES	NO
31	Cervical cancer screening service available within my reach?		
32	Most hospitals/clinics does not have cervical cancer screening services?		
33	Most women of reproductive ages feared cervical cancer screening service therefore they distance themselves from it		
34	Most of their husbands does not encourage their wives to seek knowledge about cervical cancer screening services		
35	The little knowledge and awareness most women have about cervical cancer screening services are not enough		

**D. ATTITUDE TOWARDS CERVICAL CANCER SCREENING SERVICES**

S/N	QUESTIONS	YES	NO
36	My chances of getting cervical cancer if I attended cervical cancer screening services in the next few years are high.		
37	I feel I will get cervical cancer some time during my life if I attended cervical cancer screening services		
38	The thought of cervical cancer scares me therefore I don't want		

	to attend any cervical cancer screening services		
39	Cervical cancer would threaten a relationship with my husband if I attended cervical cancer screening services		
40	Having cervical exams takes too much time		
41	Having cervical exams is too painful.		
42	Health care workers doing cervical exams are rude to women.		
43	I have other problems more important than attending cervical cancer screening services in my life.		
44	I will never have cervical exams if I have to pay for it.		
45	I would be ashamed to lie on a gynecologic examination table and show my private parts to have a cervical exam.		

#### E. UPTAKE OF CERVICAL CANCER SCREENING SERVICES

S/N	QUESTIONS	YES	NO
46	Most women of reproductive ages does not undergo cervical cancer screening service		
47	Up of cervical cancer screening services scared most women		
48	Up of cervical cancer screening services is not compulsory in most hospital/clinic		
49	Most of their husbands does not encourage their wives to undertake cervical cancer screening services		
50	Lack of knowledge and awareness most women have about cervical cancer screening services prevented them from undertake it		

**F. FACTORS INFLUENCING UPTAKE OF CERVICAL CANCER SCREENING SERVICES**

S/N	QUESTIONS	YES	NO
51	Most women of reproductive ages were not aware about cervical cancer		
52	Most hospitals/clinics does not have expertise on cervical cancer		
53	Most women of reproductive ages feared cervical cancer therefore they don't want to hear anything about it		
54	Most of their husbands does not encourage their wives to seek knowledge about cervical cancer		
55	The little knowledge and awareness most women have about cervical cancer is not enough		

**G. STRATEGIES PROMOTING UPTAKE OF CERVICAL SCREENING SERVICES**

S/N	QUESTIONS	YES	NO
56	Introduction of awareness and knowledge of cervical cancer in Nigeria educational system		
57	Most hospitals/clinics must have expertise on cervical cancer		
58	Most women of reproductive ages should be educated about cervical cancer screening services		
59	Husbands should encourage and support their wives to attend cervical cancer screening services regularly		

60	Cervical cancer screening services progress report must be included in marriage counselling requirement		
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**\*\*END OF QUESTIONNAIRE. Thank you for your time\*\***

UNDER PEER REVIEW