



# Determinants of Perceived Susceptibility to Cervical Cancer and the Uptake of Screening Services Among Women of Reproductive Age Attending UCH, Ibadan, Nigeria

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## Abstract

**Background:** The burden of cervical cancer and the perception of its susceptibility remains alarming. This study evaluates perceived susceptibility and utilization of Cervical Cancer Screening (CCS) services among women of reproductive age attending the Gynecology Clinic at University College Hospital (UCH) Ibadan, Nigeria.

**Methods:** The study adopted a quasi-experimental research design, and a semi-structured questionnaire was used to obtain data from the respondents. A total number of 228 respondents took part in this study with an age mean of 32.71. The data sourced from this study were subjected to descriptive and inferential statistical analysis methods. Descriptive statistics were used to establish the frequencies and percentages of responses while inferential statistics (regression analysis) was used to test the hypotheses.

**Results:** The findings show that 82.9% ever heard of CCS, 45% reported knowing the screening procedure, but only 22.4% ever undertook the screening. Also, perceived susceptibility had a significant effect on the uptake of CCS. Concerning perceived barriers to uptake of CCS, 32.8% reported a lack of information and 32.5% reported long distance. Perceived barriers, perceived benefits and cues to actions showed no significant influence on CCS uptake.

**Conclusion:** The findings showed a low level of knowledge about cervical cancer. Also, the level of knowledge had no significant influence on the uptake of CCS. Thus, the study recommends community-integrated cervical cancer screening program that will be available, accessible and affordable for all women regardless of their socio-economic status.

**Keywords:** Cervical cancer; Human Papilloma Virus; Pap smear; Reproductive age; Sexual intercourse

## Introduction

The reproductive health needs of women are germane to the health of the family as women carry out vital and numerous responsibilities in the family. Their health is essential to their functioning in the family. As a result, a woman is healthy as long as diseases, organic disorders and deficiencies do not affect her sexual and reproductive functions. [1] Cancer of the cervix is a disease condition that is exclusive to women; it adversely affects their sexual and reproductive health, general condition, and family life. Cancer of the cervix is a major cause of death in developing

countries among reproductive-age women. [2] Globally, cancer of the cervix takes the second position after breast cancer in terms of most common cancer reported among women.[3] In 2008, the worldwide record showed an estimate of 530,000 new cases of cervical cancer and 275,000 deaths. However, developing nations recorded 90% of these deaths. According to WHO (2015a), 2 and the African region recorded around 75,000 new cases in 2008.

In Nigeria, reported new cases of diagnosis of cervical cancer is reported in about 10,000 women, while an estimate of 8,000

women dies as a result of cancer of the cervix in Nigeria annually [4,5]. A researcher opined that eight out every ten deaths due to cervical cancer take place in developing nations [5]. Others found that cancer of the cervix was the foremost cause of gynecological cancers in the Northern part of the country, responsible for about 65.7% of all cases of gynecological cancer [6]. Annually, the report had it that 14,089 women have new cases of cervical cancer, and 8,240 deaths are documented in Nigeria. [7]

However, cancer of the cervix is an avoidable disease and has good prognosis at the latent pre-invasive stage. Thus, early diagnosis is the most appropriate means of preventing its development to an incurable stage of the disease. The screening involves examination like Papanicolaou test (Pap smear test) from age 21, with regular screening alternating from once per year up to once in five years as long as there is no abnormal result. [8] According to WHO (2006), [9] Pap smear test is a vital screening tool for early diagnosis of cancer of the cervix, and it has been reported to be very effective in reducing susceptibility to the disease. The significance of Pap smear screening in reducing the susceptibility to cervical cancer and mortality in developed countries like Finland, United States, United Kingdom and Sweden with national screening programs is well established. [10]

Researchers reported that 47.72 million women in Nigeria are susceptible to cervical cancer. [11] They also estimated that the country would be documenting around 19,440 new diagnoses of cervical cancer and 10,991 deaths by the year 2025. Although making use of cervical cancer screening to reduce susceptibility to the disease is very low in Nigeria [12]. WHO (2012) [13] similarly reported that the response of women to utilize cervical cancer screening in Nigeria is low in comparison to the effort involved in promoting cancer screening. It buttresses the fact that awareness of cervical cancer among women in Nigeria is still shallow; therefore, it is crucial to improve the dissemination of health education in this aspect. Poor health education is still a significant factor that discouraged women from undertaking cervical cancer screening [14]. Using the Health Belief Model (HBM), this study evaluates factors influencing perceived susceptibility to cervical cancer and uptake of screening services among women of reproductive age attending the University College Hospital Ibadan, Nigeria.

## Methods

### Research Design

The study adopted a Quasi-experimental research design. It assessed respondents' knowledge and perceived susceptibility, benefits, barriers, severity and cues to action on cervical cancer and uptake of screening services among women of reproductive age attending the gynecological clinic at University College Hospital (UCH), Ibadan, Nigeria.

### Study Setting

University College Hospital (UCH), Ibadan is situated in Ibadan North Local Government Area of Oyo State, Nigeria. Established in 1957 as the foremost Federal Tertiary Hospitals in the country and a referral centre. The health institution is made up of 16 clinical and six non-clinical Departments. The study made use of the Gynaecological clinic under the Obstetrics and Gynecology Department out of the 16 clinical departments in the institution.

### Sampling Procedure and Sample Size

Random sampling technique was employed in the selecting 228 women of reproductive age who participated in the study.

### Research Instrument

The study used a structured questionnaire with six sections out of which four sections measured the perception of the respondents on HBM constructs.

### Pre-treatment of Questionnaire

The questionnaire was pre-treated by carrying out a pilot study involving administration of 30 copies of questionnaires to 30 women of reproductive age. The outcome of this pre-treatment established the suitability of the research design.

### Data Collection Procedure

The patients' consent was sought, before administration of the 228 copies of the questionnaire to the respondents who have given their consent. The copies of the questionnaire were retrieved from the respondents immediately after completion.

### Data Management, Analysis and Presentation

The copies of questionnaire retrieved from the respondents were collated, cleaned, coded and entered into Statistical Package for Social Sciences (SPSS) version 17.0 for analysis. Using descriptive and inferential statistics. For the descriptive statistics, frequency count and percentage were used to represent the responses of respondents on each item of the questionnaire, and the categorical variable was analyzed using ANOVA. For the inferential statistics, linear regression analysis was used to test the five hypotheses stated in the study.

### Ethical Consideration

The study adhered to the ethics regulating the use of human respondents in scientific research. Ethical approval was obtained from the Ethics and Research Committee of University College Hospital, Ibadan, Oyo State with reference number NHREC/05/01/2008a. Before administering the questionnaire, the aim and procedure of the study were explained to the prospective respondents; they were made to realize that it is a voluntary exercise and respondents could quit at any time. After that, the consent of

all the interested respondents was obtained. Also, the researcher adhered to anonymity and confidentiality of data throughout the process of the study.

## Results

### Socio-demographic variables of respondents

A total number of 228 women of reproductive age attending the gynecological clinic in the University College Hospital, Ibadan participated in the study. The average age of respondents was 32.7, with a standard deviation of 6.47. The highest percentage (58.1%) of the respondents was within 30-39 years, and 89.4% of the respondents were married, and 92.5% were employed. Also, 93.4% had a post-secondary academic qualification, and 4.8% had secondary school qualification. Others, as shown in (Table 1).

**Table 1:** Showing demographic variables (age, marital status and education) of respondents.

Variables	Frequency	Percentage	Mean	Sd
<b>Age</b>				
18 – 29 years	68	29.8	32.71	6.476
30 – 39 years	133	58.3		
40 – 49 years	20	8.8		
50 – 55 years	7	3.1		
<b>Marital Status</b>				
Single	19	8.3		
Married (monogamous)	195	85.5		
Married (polygamous)	9	3.9		

### Respondents on knowledge and uptake of CCS

Most of the respondents (82.9%) ever heard of cervical cancer, 96.5% had no history of cervical cancer, 46.5% knew any CCS procedure with 45.0% reporting Pap smear test. Also, 31.6% of respondents reported that a person should start CCS when such a person is sexually active, 29.0% said that one should start CCS when that individual is 18 years and above.

Also, only 22.4% had ever gone for CCS, 8.6% reported preventive measure as the reason they went for CCS. However, 10.4% reported that they had gone for CCS only once in their lifetime with 10.0% reporting they went for CCS when they were within the age bracket of 20-29 years. (Table 2) highlighted others. Furthermore, regression analysis shows that the level of knowledge had no significant influence ( $R^2=0.10$ ,  $F(1,227)=1.987$ ,  $P>.05$ ) on the uptake of CCS.

**Table 2:** Showing responses to statements on knowledge and uptake of CCS.

Variable	Frequency	Percentage
<b>Ever heard of cervical cancer</b>		
Yes	189	82.9
No	39	17.1

<b>History of cervical cancer</b>		
Yes	8	3.5
No	220	96.5
<b>Know any screening procedure</b>		
Yes	106	46.5
No	122	53.5
<b>If yes, which one</b>		
Pap smear test	104	45.0
VIA	1	0.4
<b>When should one start CCS</b>		
18 years and above	67	29.0
After menopause	8	3.5
When one gets symptoms	4	1.7
When one gets STDs	7	3.0
When one gets sexually active	70	31.6
I don't know	18	7.79
<b>Do you go for CCS</b>		
Yes	51	22.4
No	177	77.6
<b>Reasons for CCS</b>		
Preventive measure	20	8.6
Diagnostic purposes	9	3.9
Health worker's recommendation	11	4.8
For regular check-up esp. Pap smear	11	4.8
<b>How often do you go for screening?</b>		
Yearly	6	2.6
Every two years	11	4.8
Every three years	10	4.3
Only once in a lifetime	24	10.4
<b>What age did you go for the first CCS</b>		
10 – 19 years	3	1.3
20 – 29 years	23	10.0
30 – 39 years	14	6.1
40 – 49 years	10	4.3
60 – 69 years	1	0.4

### Respondents' responses to risk factors (perceived susceptibility)

Table 3 shows the risk factors that are associated with cervical cancer, 37.7% of the respondents reported sexually transmitted diseases, poor hygiene (25.9%), positive family history (31.6%), 30.7% had several sexual partners, early age of first sexual intercourse (18.9%), cigarette smoking (18.4%), contraceptives (17.5%) and HIV/AIDS (13.6%). Regression analysis shows that perceived susceptibility had significant influence ( $R^2=0.92$ ,  $F(1,227)=16.022$ ,  $P<.001$ ) on the uptake of CCS.

**Table 3:** Showing participants' responses to risk factors (perceived susceptibility).

Variables	True (F/ %)	False (F/ %)	I don't know (F/ %)
<b>What risk factor associated with cervical cancer do you know?</b>			
· Sexually transmitted diseases	86/37.7	22/9.6	120/52.6
· Poor personal hygiene	59/25.9	36/15.8	133/58.4
· First pregnancy at early stage (<18years)	22/9.6	50/21.9	156/68.4
· Contact with relative with cervical cancer	15/6.6	74/32.5	139/61.0
· Positive family history of cervical cancer	72/31.6	23/10.1	133/58.3
· Early age of first sexual intercourse	43/18.9	43/18.9	141/61.8
<b>(less than 16 years)</b>			
· High parity (more than 8 pregnancies)	28/12.3	37/16.2	163/71.5
· Menopausal women of over 55 years of age	31/13.6	46/20.2	151/66.2
· Many sexual partners	31/13.6	20/8.8	138/60.5
· Cigarette smoking	42/18.4	39/17.1	147/64.5
· Contraceptives	42/18.4	32/14.0	156/68.4
· HIV/AIDS	31/13.6	41/18.0	156/68.4

### Respondents' responses to perceived benefits

(Table 4) shows that (62.7%) of the respondents strongly agreed that it is essential to have CCS to now if one is healthy, 46.1% strongly agreed that CCS could find changes in the cervix before

becoming cancerous, and 47.8% strongly agreed that changes found from CCS are easily curable. Regression analysis shows that perceived benefits had no significant influence ( $R^2=0.007$ ,  $F(1,227)=1.396$ ,  $P>.05$ ) on the uptake of CCS.

**Table 4:** Showing participants' responses to perceived benefits.

Variables	SA (F/ %)	A (F/ %)	D (F/ %)	SD (F/ %)	IDK (F/ %)
<b>What benefits of cervical cancer screening do you know?</b>					
• It is important for a woman to have CCS to know if she is healthy	143/62.7	55/24.1	6/2.6	2/0.9	22/9.6
• CCS can find changes in the cervix before they become cancer	105/46.1	68/29.8	12/5.3	1/0.4	42/18.4
• If changes are found early from CCS, the disease is curable	109/47.8	71/31.1	10/4.4	4/1.8	34/14.9
• Doing CCS can help improve the chances of an infertile woman to become pregnant	33/14.5	51/22.4	36/15.8	19/8.3	89/39.0
• CCS can decrease the chances of a woman having an abortion	24/10.5	50/21.9	34/14.9	30/13.2	90/39.5

SA-Strongly Agreed, A-Agreed, D-Disagree, SD-Strongly Disagreed, IDK- I do not know;

F/% - Frequency and Percentage

### Respondents' responses to perceived barriers

About (32.9%) reported lack of information about CCS procedures, 14.9% reported not knowing where to go for CCS, tests are costly (11.4%), cervix is part of the sex organ and it is private

(11.4%), lack of female screeners (10.1%), attitude of health workers (10.1%), and lack of convenient screening time (10.1%). (Table 5) highlighted others. The regression analysis shows that perceived barriers had no significant influence ( $R^2=0.00$ ,  $F(1,227)=0.34$ ,  $P>.05$ ) on the uptake of CCS.

**Table 5:** Showing participants' responses to perceived barriers.

Variables	SA (F/%)	A (F/%)	D (F/%)	SD (F/%)
<b>What makes you not to be screened?</b>				
• Lack of information about CCS procedures	75/32.9	76/33.3	57/25.0	20/8.8
• It is so embarrassing to do CCS	10/4.4	26/11.4	139/61.0	53/23.2
• CCS is painful	12/5.3	38/16.7	137/60.1	41/18.0
• The screening is for the sick person	11/4.8	12/5.3	111/48.7	94/41.2

• Doing CCS will only make one to worry	9/3.9	41/18.0	123/53.9	55/24.1
• Only women who have had babies need to do CCS	5/2.2	16/7.0	116/50.9	91/39.9
• Not knowing where to go for CCS is a the reason why people do not do it	34/14.9	77/33.8	80/35.1	37/16.2
• Lack of female screeners in health facilities are the reason for not doing CCS	23/10.1	51/22.4	116/50.9	38/16.7
• Attitudes of health workers can discourage one from going for CCS	23/10.1	73/32.0	107/46.9	25/11.0
• Lack of convenient screening time is a barrier to routine CCS	23/10.1	59/25.9	107/46.9	39/17.1
• The tests are very expensive	26/11.4	49/21.5	103/45.2	50/21.9
• Services are offered at big hospitals which are far and is expensive to get there	17/7.5	55/24.1	112/49.1	44/19.3
• The belief that cervix is part of sex organ moreover, it is personal	26/11.4	54/23.7	104/45.6	44/19.3
• My partner will not want me to do CCS	9/3.9	24/10.5	129/56.6	66/28.9
• Unreliable result	11/4.8	23/10.1	134/58.8	60/26.3
• Sources of HIV transmission	15/6.6	24/10.5	122/53.5	67/29.4

SA-Strongly Agreed, A-Agreed, D-Disagree, SD-Strongly Disagreed; F/% - Frequency and Percentage

### Respondents' responses to cues to action on CCS

Almost half (48.7%) reported take care of my health, (29.8%) after hearing something about CC, (20.2%) because a nurse or midwife told me, (17.1%) listened to radio or read newspaper, (15.8%)

because a doctor told me, and (14.0%) saw it on social media platforms. Table 6 reported others. The regression analysis shows that cues to action had no significant influence ( $R^2=0.007$ ,  $F(1,227)=1.358$ ,  $P>.05$ ) on the uptake of CCS.

**Table 6:** Showing participants' responses to Cues to Action on CCS.

VARIABLES	SA (F/%)	A(F/%)	D(F/%)	SD(F/%)
• To take care of my health	111/48.7	88/38.6	14/6.1	15/6.6
• After hearing something about CC	68/29.8	109/47.8	39/17.1	12/5.3
• Because a nurse or midwife told me	46/20.2	83/36.4	77/33.8	22/9.6
• Because a doctor told me	36/15.8	78/34.2	81/35.5	33/14.5
• Because my mother spoke to me about it	23/10.1	46/20.2	116/50.9	43/18.0
• Because a friend or neighbour spoke to me about it	25/11.0	47/20.6	114/50.0	42/18.4
• Because of members of my family told me to get it	23/10.1	57/25.0	105/46.1	43/18.9
• Because I listened to or read something in the newspaper alternatively, on television or radio program	39/17.1	70/30.7	85/37.3	34/14.9
• Because I saw it on social media Platform (e.g. Facebook, Instagram, WhatsApp and others)	32/14.0	46/20.2	104/45.6	46/20.2
• Because I had genital bleeding	21/9.2	28/12.3	111/48.7	68/29.8
• Because I had pain in my genitals	25/11.0	22/9.6	117/51.3	64/28.1
• Because I had discomfort in my genitals	24/10.5	24/10.5	113/49.6	67/29.4
• Because someone I know well (family, friend, neighbour) had cervical cancer	26/11.4	31/13.6	106/46.5	65/28.5

SA-Strongly Agreed, A-Agreed, D-Disagree, SD-Strongly Disagreed; F/% - Frequency and Percentage

### Discussion

The participants' level of knowledge reported in this study is contrary to previous findings. [15] Despite having over nine out of ten participants with post-secondary educational qualification, one would expect a significant level of knowledge about cervical cancer among them. However, the findings of WHO in the year 2012-13 among six sub-Saharan nations also established a low

level of awareness of cervical cancer, which led to low uptake of CCS uptake [7]. Also, the studies have substantiated this finding and emphasized that the level of CCS uptake among females in Nigeria is very discouraging [16, 17]. The fact that an individual attained a higher level of education does not necessarily culminate in having excellent knowledge about health issues, let alone taking appropriate preventive steps.

The perceived susceptibility reported by the participants has a significant effect on the uptake of CCS, which shows that the perception that one is at risk of cervical cancer could motivate such individual to undertake CCS. On the other hand, individuals might not undertake CCS if they perceive that they are not susceptible to cervical cancer. As a result, significant perceived susceptibility would positively influence the essence of taking preventive measures towards cervical cancer. The findings of previous studies supported this finding. [8, 18] Among perceived barriers on uptake of CCS reported by the participants of this study is the lack of female screeners, which makes it uncomfortable and painful for women to allow men to examine them. Previous studies established that women prefer female physician to perform CCS [19, 20]. Also, the lack of information plays a significant role in the low uptake of CCS. Since they know next to nothing about the availability of CCS, one would not expect them to go for screening. To corroborate this finding, Ndikom and Ofi [14] also found a lack of information as a perceived barrier among the participants. The studies conducted by other researchers established a lack of information as the main predicting barriers of uptake of CCS among African women [16, 21, 22].

Furthermore, perceived benefits reported by the participants had no significant effect on the uptake of CCS. Their perceived benefits did not culminate to practice, which shows that the participants have low perceived benefits of CCS. In other words, they place insignificant value on what they stand to gain from CCS. Other study also reported similar findings among Saudi Arabian women. [20]

The final finding shows that cues to action reported by the participants did not result in uptake of CCS. Though some participants strongly agreed that taking care of their health is a cue to action; 47.8% (n=109) agreed that hearing something about cervical cancer is a cue to action, and 17.1% (n=39) reported getting information from the media while 14.0% (n=32) reported social media as their source. Still, the cues to action reported did not translate into practice. This finding is contrary to the previous work, [23] where significant others and healthcare professionals influenced the uptake of CCS among the respondents.

## Conclusion

Findings from the present study revealed a low level of knowledge about cervical cancer and the level of knowledge had no significant influence on the uptake of CCS. However, the participants' perceived susceptibility significantly modified CCS uptake. Furthermore, perceived barriers had no significant effect on the uptake of CCS. Similarly, perceived benefits had no significant effect on the uptake of CCS.

## Recommendation

The study recommends community-integrated cervical cancer screening program, which will be available, accessible and affordable for all women regardless of their socio-economic

status. Such should be planned with the intention of creating more awareness and increase the present level of knowledge about cervical cancer and its consequences so that women would better comprehend how susceptible they are to the disease and as such take appropriate steps.

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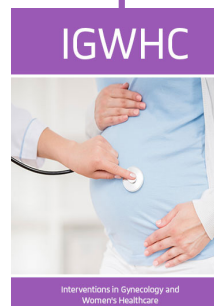
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