



Research Paper

Perceived Susceptibility, Benefits, Barriers and Severity of Cervical Cancer Screening Among Women in FCT Abuja

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ABSTRACT

Background and Aim: Cervical cancer has become a public health problem that has constituted a burden to women in different regions across the world. It is the fourth most common cancer in women. About 570 000 women were diagnosed with cervical cancer worldwide, and 311 000 women died from the disease (1). When promptly diagnosed, cervical cancer is one of the most successfully treatable forms of cancer. Thus, this study assessed the perceived susceptibility, benefits, barriers and severity of cervical cancer screening among women in FCT Abuja.

Methods: The study adopted a quantitative design, a cross-sectional survey method, to retrieve data from the 320 respondents in the general outpatient department of Asokoro District Hospital Abuja. A self-designed questionnaire was used for data collection, which was pre-tested on thirty-two (32) women attending CardioCare Specialty Hospital, Garki, Abuja with a resultant Cronbach's alpha coefficient for section B: subsection 1 (Perceived Benefits) – 0.84; subsection 2 (Perceived susceptibility) – 0.78; subsection 3 (Perceived severity) – 0.86; subsection 4 (Perceived barriers) - 0.82. The statistical package for social sciences (SPSS) version 21 was used to analyze data. The researcher used descriptive statistics, Pearson Product Moment Correlation, and chi-square statistical analysis fixed at the 0.05 level of significance.

Results: The study's findings revealed that the level of perceived susceptibility to cervical cancer and perceived benefit of cervical cancer screening among women attending Asokoro District hospital in Abuja were both found to be above average, respectively. In addition, the level of perceived severity of cervical cancer among women attending Asokoro District hospital was observed to be poor. The study revealed that long waiting time in the hospital, fear of the outcome of the screening, not having enough information about the disease and screening services, the embarrassment of exposing one's private part for regular check-ups to detect cervical cancer, and concerns that the test would be painful and unpleasant were identified as barriers to cervical cancer screening among women attending Asokoro District hospital. Moreover, no significant relationship between perceived susceptibility, perceived benefit and adherence to cervical cancer screening were elicited, respectively.

Conclusion: The study concluded that understanding the perceived susceptibility, benefits, barriers and severity of cervical cancer screening among women will help identify their screening behaviour and factors that may influence their behaviour towards cervical cancer screening. Therefore, it was recommended that public education of the entire population is essential to increase participation in the screening programme. And this can be achieved through massive awareness campaigns on mass media, electronic media, and all media platforms to sensitize the entire population on Cervical Cancer Screening and prevention.

KEYWORDS: Cervical Cancer Screening, Perceived Susceptibility, Perceived Severity, Perceived Benefit, Perceived Barriers, Adherence

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I. INTRODUCTION

Cervical cancer is one of the significant public health problems. It is the fourth most common cancer among women of reproductive age and the overall seventh most common cancer (2). Cervical cancer is the most

common HPV-related disease, and nearly all cases of cervical cancer can be attributable to HPV infection. Although most HPV infections resolve by themselves and most pre-cancerous lesions tend to resolve automatically, there is a risk that HPV infection may become chronic and pre-cancerous lesions progress to invasive cervical cancer in all women at a later time (3). It is estimated that cervical cancer takes about 15 to 20 years to develop in women with normal immune systems (3).

Cervical cancer takes about 5 to 10 years to develop in women with lowered immunity, such as women with untreated HIV infection. There are some risk factors for HPV persistence and development of cervical cancer, which include: include the type of HPV – its oncogenicity or cancer-causing power; level of immunity; co-morbidity with other sexually transmitted microorganisms, such as those that are linked to herpes simplex, chlamydia and gonorrhoea; parity of the woman (number of babies born) and young age at first birth; and tobacco smoking (3).

Globally, cervical cancer is ranked as the fourth most common cancer found in women, with about 570 000 estimated new cases in 2018, representing 7.5% of all female cancer mortality. Out of the estimated cases, more than 311 000 deaths from cervical cancer occur every year, and more than 85% of these occur in low and middle-income countries. Women who have a lowered immune system tend to develop cervical cancer faster (4).

According to Morounke, Ayorinde, Benedict, and Adedayo, cervical cancer is the second most common cancer in Nigeria and second to breast cancer among its female population. Currently, statistics in Nigeria indicate that about 14,943 females are diagnosed with cervical cancer annually, while 10,403 mortality are reported (5). Globally, it is projected that by 2030, cervical cancer will result in over 443,000 deaths in women annually, with the majority of these deaths likely to occur in sub-Saharan Africa (6; 7).

In high-income countries, programmes are in place which enables girls to be vaccinated against HPV and women to get screened at a regular interval. Cervical cancer screening allows pre-cancerous lesions to be identified at stages when they can easily be treated effectively. However, in low and middle-income countries, there seems to be limited access to these preventative measures. Thus cervical cancer is often picked up accidentally at an advanced stage and when symptoms had developed. In addition, access to treatment (for example, cancer surgery, radiotherapy and chemotherapy) for such late-stage cervical cancer disease are very limited, resulting in a higher death rate in these countries (3). According to the World Health Organization, the high global mortality rate from cervical cancer (Age Standardized Rate: 6.9/100,000 in 2018) could be reduced when effective intervention programmes are instituted (3).

In Nigeria, cervical cancer screening stands at 7.2% of all eligible women of childbearing age, 5.2% in rural areas, and 10.8% in urban areas (3). These very low percentages provide evidence that women in Nigeria continue to be vulnerable to dying prematurely from a disease that can be prevented. It is important to understand the reasons behind the underutilization of cervical cancer screening services. In poorly resourced settings, especially in developing countries, cervical cancer is a major cause of mortality and morbidity as access to services offering cervical cancer screening and vaccination is limited (8; 2).

It is estimated that more than 80% of cases of cervical cancer in developing countries are detected in late stages due to lack of screening services (9). Also, reported screening coverage remains low in communities where the majority of the women have never undergone pelvic examination (10). In such low resource settings, the most feasible strategy for cervical cancer screening is visual inspection with acetic acid (VIA) or visual inspection with Lugol's iodine (11).

Though cervical cancer screening has consistently shown to be effective in the reduction in the incidence rate or the occurrence of new cervical cancer cases and mortality from the disease, however, cervical screening attendance rates are still far from satisfactory in many countries (12; 13; 14; 15). Studies have shown that the reduction in cervical cancer screening is due to limited facilities, staff shortage, insufficient knowledge about cervical cancer, and illiteracy. Also, the uptake of cervical cancer screening is poor among women who live in the places where the screening facilities are available (16; 15). other challenges of cervical cancer screening in developing countries include limited access to health quality services and laboratories, lack of screening programs, limited or nonexistent awareness among populations and health workers, and inadequate referral and follow up (13; 15).

Despite preventive cervical cancer screening services offered in Nigeria, reported screening coverage remains low (10). Only a meagre 7.2% of the women needing such services take advantage of them (3). The researcher is seeking to address the need to determine the factors associated with health beliefs that deter the utilization of preventive cervical cancer screening by Nigerian women. Identifying these factors may help reduce the number of deaths from cervical cancer..

Conceptual Framework: Adaptation of the Health Belief Model to the Present Study

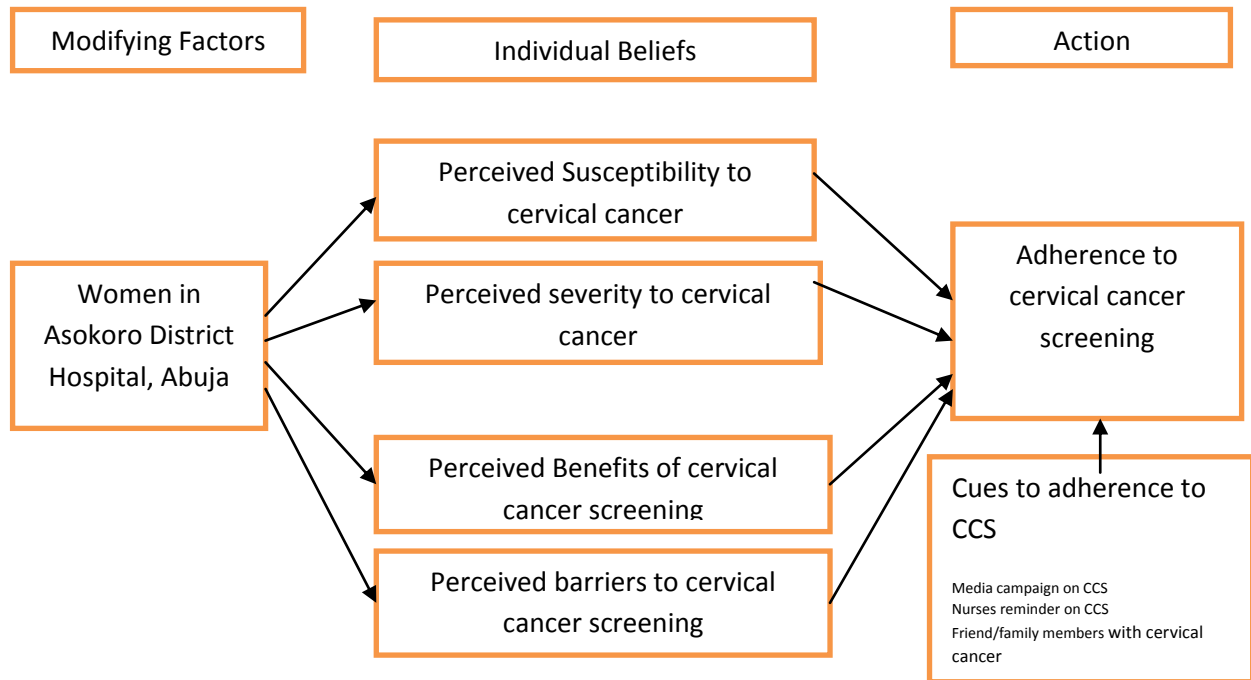


Fig. 1.1: Conceptual model of perceived susceptibility, benefits and barriers to cervical cancer screening, adapted from the health belief model.

Figure 1.1 above depicts the conceptual model for this study adapted from the health belief model. The four significant constructs of the Health Behavior Model were used: perceived susceptibility, severity, benefits, and barriers (middle column). The respondents’ modifying factors (left column), which is their ‘gender,’ affect these perceptions, as do cues to action (right column). When the respondents perceived themselves to be susceptible to cervical cancer or at increased risk for cervical cancer, they are likely to adhere to cervical cancer screening. Respondents who perceived cervical cancer as serious are more likely to adhere to cervical cancer screening. In the same vein, respondents who see cervical cancer screening as beneficial are more likely to adhere to cervical cancer screening than those who do not see much benefit therein.

Perceived barriers are major reasons respondents in this study may not adhere to cervical cancer screening, as they may think doing so may be challenging. Adherence to cervical cancer screening can cost effort, money, and time. Sometimes, respondents’ barriers may not just be a matter of physical difficulty, but social difficulty as well. Perceived barriers to healthy behaviors are the single most powerful predictor of whether people are willing to engage in healthy behaviors. Therefore, for the respondents to adhere to cervical cancer screening, these factors must be considered and addressed, especially the perceived barriers.

II. METHODOLOGY

The study is a quantitative design and used a descriptive, cross-sectional survey method to elicit information from women attending Asokoro district hospital, Abuja. The Cochran formula was used in determining the sample size of three hundred and forty nine (317 + 32 (10% attrition) = 349). An adapted self-administered and validated questionnaire was used as an instrument for data collection in this study. The instrument contains 38 items and comprises of two sections: Section A: Socio-Demographic Information - This section contains five (5) items, which consists of respondents’ socio-demographic characteristics (age, academic qualification, occupation, family history of cervical cancer). Section B: Cervical Cancer Screening Health Beliefs - This section is adapted from the different constructs of the Health Belief Model (Rosenstock, 1974; Rosenstock, Irwin, Strecher, Becker, Marshall, 1988) regarding cervical cancer and cervical cancer screening. This section has forty (40) questions/items and is divided into four parts. The researcher made use of a 5 Likert response scale, that is, strongly agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD). The respondents were measured on a 40-point reference scale; with 0 as the lowest score and 4 as the highest. Perceived Benefits of cervical cancer screening - Consists of 9 items. The respondents were measured on a 36-point reference scale, with 0 as the lowest score and 4 as the highest. Perceived susceptibility to cervical cancer among women – Consist of 7 items. The respondents were measured on a 28-point reference scale; with

0 as the lowest and 4 as the highest. Perceived severity of cervical cancer among women – Consist of 10 items. The respondents were measured on a 40-point reference scale; with 0 as the lowest score and 4 as the highest. Perceived barriers to cervical cancer screening - Consists of 7 items.

Validity and Reliability of Instrument: The instrument was validated for both face and content by the other expert in the field and all necessary input and corrections were made. The validated version of the questionnaires was administered to thirty-two (32) women attending CardioCare Specialty Hospital, Garki, Abuja. Subsequently, the collected data were subjected to Cronbach’s alpha statistics to determine the reliability coefficient. The Cronbach’s alpha coefficient for section B: subsection 1 (Perceived Benefits) – 0.84; subsection 2 (Perceived susceptibility) – 0.78; subsection 3 (Perceived severity) – 0.86; subsection 4 (Perceived barriers) - 0.82. This process lasted for four (4) weeks in April 2021, after which the completed survey was retrieved for analysis. Three hundred and twenty (320) of the 349 eligible respondents’ participated in this study, thus representing about 91% response rate.

The retrieved data will be analyzed using Statistical Package for Social Science (SPSS) version 21. The descriptive statistics of frequency counts and percentages will be used for demographic information of the respondents and research questions. Inferential statistics of Pearson product-moment correlation (PPMC) were used to test the hypotheses at a 0.05 alpha level. Ethical clearance for the study will be obtained from the Babcock University Health Research Ethical Committee. Throughout the period of data collection, the respondents were assured of strict confidentiality. Moreover, the women were informed of their liberty to withdraw from the study at any time without any fear of repercussion. An informed consent form was administered to and signed by each participant.

III. RESULTS

Three hundred and twenty (320) of the 349 eligible respondents’ participated in this study, thus representing about 91% response rate.

Respondents Demographical Characteristics

The result of the analysis of the demographic variables (Fig. 3.1) of the study based on age showed that 74 (23.1%) were within the age of 36-40 years, 64 (19.9%) within the age of 26 - 30, 59 (18.5%) between 31-35years, 53 (16.7%) between 41years above, 45 (13.9%) between 21-25 years, and 25 (7.9%) between 16-20years. More than half of the respondents (167, 52.2%) had tertiary education, and all the respondents agreed they have heard of CCS. Also, the table revealed that 14% of the respondents are following the recommended cervical cancer screening schedule with an HPV test alone every five years, or HPV/Pap cotest every five years, or a pap test every three years. All (100%) of the respondents were without a family history.

Table 3.1: Respondents Demographical Characteristics

		N = 320	
Variables		Frequency	Percentages (%)
Age	16-20	25	7.9
	21-25	45	13.9
	26-30	64	19.9
	31-35	59	18.5
	36-40	74	23.1
	41yrs & above	53	16.7
Educational qual.	No formal educ	-	-
	Primary	24	7.4
	Secondary	129	40.3
	Tertiary	167	52.2
I have heard of CCS	Yes	320	100.0
	No	-	-
Are you following the recommended cervical cancer screening schedule with HPV test alone every five years or HPV/Pap cotest every five years or a pap test every three years.	Yes	45	14
	No	275	86.0
I have a family history of cervical cancer	Yes	-	-
	No	320	100.0

Source: Field study, 2021

Research Question One: What is the level of perceived susceptibility to cervical cancer among women attending Asokoro District hospital in Abuja?

Table 3.2: Level of perceived susceptibility to cervical cancer among women

Levels of perceived susceptibility to cervical cancer screening measured on 36-point reference scale	Category of Scores	Mean ±SD
Good	28 - 36	20.07(55.75%)±3.90
Above average	19 - 27	
Average	18	
Below average	10 - 17	
Poor	0 - 9	

Source: Field study, 2021

Table 3.2 reveals that the level of perceived susceptibility to cervical cancer among women attending Asokoro District hospital in Abuja was above average (55.75%), with a mean score of 20.07 measured on a 36-point reference scale.

Research Two: What is the level of perceived benefit of cervical cancer screening among women attending Asokoro District hospital in Abuja?

Table 3.3: Level of perceived benefit of cervical cancer screening among women

Levels of perceived benefit of cervical cancer screening among women measured on 28-point reference scale	Category of Mean Scores	Mean ±SD
Good	22 - 28	19.89(71%)±4.15
Above average	15 - 21	
Average	14	
Below average	8 - 13	
Poor	0 - 7	

Source: Field study, 2021

Table 3.3 shows that the level of perceived benefit of cervical cancer screening among women attending Asokoro District hospital was above average (71%), with a mean score of 18.89 measured on a 28-point reference scale.

Research Question Three: What are the barriers to cervical cancer screening among women attending Asokoro District hospital in Abuja?

Table 3.4: Barriers to cervical cancer screening among women attending Asokoro District hospital in Abuja.

Items	Frequency (Percentage (%))				
	SD	D	N	A	SA
There are no suitable cervical cancer screening centers around me.	160 (50%)	64 (20%)	-	64 (20%)	32 (10%)
I do not have enough money to pay for the screening.	192 (60%)	64 (20%)	-	32 (10%)	32 (10%)
Long waiting time in the hospital discourages me from screening.	32 (10%)	32 (10%)	-	64 (20%)	192 (60%)
I fear the outcome of the screening.	16 (5%)	32 (10%)	-	48 (15%)	224 (70%)
I do not have enough information about the disease and screening services.	64 (20%)	48 (15%)	16 (5%)	32 (10%)	160 (50%)
I am concerned with the embarrassment of exposing my private part for regular check-ups to detect cervical cancer.	16 (5%)	16 (5%)	32 (10%)	64 (20%)	192 (60%)

I am concerned that the test would be painful and unpleasant.	32 (10%)	32 (10%)	32 (10%)	64 (20%)	160 (50%)
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Source: Field study, 2021

From Table 3.4, the study result shows that long waiting time in the hospital (80%); fear the outcome of the screening (85%); not having enough information about the disease and screening services (60%); an embarrassment of exposing one’s private part for regular check-ups to detect cervical cancer (80%); and concerns that the test would be painful and unpleasant (70%) were barriers to cervical cancer screening among women attending Asokoro District hospital.

Research Question Four: What is the level of perceived severity of cervical cancer among women attending Asokoro District hospital in Abuja?

Table 3.5: Level of perceived severity of cervical cancer screening among women

Levels of perceived severity of cervical cancer among women measured on 40-point reference scale	Category of Mean Scores	Mean ±SD
Good	31 - 40	9.88(25%)±3.16
Above average	21 – 30	
Average	20	
Below average	11 – 19	
Poor	0 - 10	

Source: Field study, 2021

Table 3.5 shows that the level of perceived severity of cervical cancer among women attending Asokoro District hospital was poor (25%), with a mean score of 9.88 measured on a 40-point reference scale.

Research Question Five: What is the level of adherence to cervical cancer screening among women attending Asokoro District hospital in Abuja?

Table 3.6: Level of adherence to cervical cancer screening among women attending Asokoro District hospital in Abuja.

Item	Percentage Responses	
	Yes	No
Are you following the recommended cervical cancer screening schedule with HPV test alone every five years or HPV/Pap cotest every five years or a pap test every three years.	45 (14%)	275 (86%)

Source: Field study, 2021

From table 3.6, the level of adherence to cervical cancer screening among women attending Asokoro District hospital in Abuja was found to be 14%. This implies that 45 (14%) of the respondents followed the recommended cervical cancer screening schedule with an HPV test alone every five (5) years or HPV/Pap cotest every five (5) years or a pap test every three (3) years, while 86% were not adherent.

Testing of Hypotheses

H₀1: There is no significant relationship between perceived susceptibility and adherence to cervical cancer screening.

Table 3.7: Relationship between the perceived susceptibility and adherence to cervical cancer screening

Relationship between the perceived susceptibility and adherence to cervical cancer screening		Perceived susceptibility
Adherence to CCS	Pearson Correlation	.513
	Sig. (2-tailed)	.060
	N	320

Source: Field study, 2021

The results in Table 3.7 revealed no significant relationship between perceived susceptibility and adherence to cervical cancer screening with a p-value of .060. Thus, the alternative hypothesis, which states that “There is significant relationship between perceived susceptibility and adherence to cervical cancer screening,” was rejected.

H₀₂: There is no significant relationship between perceived benefit and adherence to cervical cancer screening.

Table 3.8: Relationship between the perceived benefit and adherence to cervical cancer screening

Relationship between the perceived benefit and adherence to cervical cancer screening		Adherence to CCS
Perceived Benefit	Pearson Correlation	.507
	Sig. (2-tailed)	.480
	N	320

Source: Field study, 2021

The study result in Table 3.8 revealed no significant relationship between perceived benefit and adherence to cervical cancer screening with a p-value of .480. Therefore, the alternative hypothesis, which states that “There is significant relationship between perceived benefit and adherence to cervical cancer screening,” was rejected.

IV. DISCUSSION OF FINDINGS

The level of perceived susceptibility to cervical cancer among women attending Asokoro District hospital in Abuja was found to be above average (55.75%). This result is in tandem with the research findings on the attitudes towards Cervical Cancer Screening among University of Botswana Female Students by Roy et al. (17). They reported that the overwhelming majority of their participants expressed a positive attitude towards screening. Similarly, numerous studies have consistently reported a good attitude towards cervical cancer screening among women.

The level of perceived benefit of cervical cancer screening among women attending Asokoro District hospital in Abuja was above average (71%). This study finding agreed with findings from studies carried out in Mexico, Latin American countries of Bolivia, Brazil, Ecuador, Guatemala, Nicaragua, Peru, and Caribbean countries of Trinidad and Tobago and the Dominican Republic, where the majority of women of childbearing age from various socio-demographic backgrounds were largely aware of the importance of the Pap test even though some of them did not have regular Pap tests (18; 19).

The result from this present study shows that long waiting time in the hospital (80%), fear the outcome of the screening (85%), not having enough information about the disease and screening services (60%), an embarrassment of exposing one’s private part for regular check-ups to detect cervical cancer (80%), and concerns that the test would be painful and unpleasant (70%) as barriers to cervical cancer screening among women attending Asokoro District hospital. This study result is similar to many studies that reported fear of report of having cancer (20), inadequate knowledge about the disease (21), embarrassment (22), pain (23), financial constraints (21; 22), and long waiting time at the hospital (22) as major barriers to cervical cancer screening.

In addition, negative personal experiences, such as bleeding, experiencing pain, or receiving negative feedback from others, had been identified as barriers to having a Pap smear (24). Another reported perceived barrier preventing some women from participating in routine Pap testing was fear of an abnormal test result, which was perceived as living with an incurable disease, thought to be a death sentence by many (25). Several studies has shown that level of education, low monthly income, unlikely chance of having cancer, lack of knowledge, and fear test outcome were significantly associated with cervical cancer screening intention (26; 27).

The level of perceived severity of cervical cancer among women attending Asokoro District hospital was poor (25%). This means that the respondents in this study do not perceive cervical cancer as severe and may not likely adhere to cervical cancer screening even though 52.2% had tertiary education. This study result is similar to a survey on the severity of cervical cancer among adult females in Quebec, which revealed that 57% of women were afraid of developing cervical cancer sometime in their life, and 93% thought cervical cancer has serious consequences. However, the study concluded that cervical cancer-related anxiety and perceived seriousness did not vary by age group or level of education (28).

The majority (86%) of the women in this study were not following the recommended cervical cancer screening schedule with an HPV test alone every five years or HPV/Pap cotest every five years, or a pap test every three years. This result implies that only about 14% are adherent to the recommended cervical cancer screening. This study result is similar to the findings in other urban centres in the country (29; 30; 31) and another developing country (32). This study result shows that the availability of cervical cancer screening

services may not be the only significant factor that can increase the adherence of cervical cancer screening rate in Asokoro, Abuja. The researcher made this assumption that the availability of cervical cancer screening services did not translate to increase women participation and improvement in the screening rate among the target population, despite all claiming to be aware of cervical screening services.

The results revealed no significant relationship between perceived susceptibility, perceived benefit, and adherence to cervical cancer screening, respectively. Therefore, the researcher fails to reject the null hypotheses, as there is insufficient evidence to reject them. This study results are contradicting the health belief model principles. The researcher found that the adherence to cervical cancer screening was not influenced by the perceived susceptibility and perceived benefit domains of the HBM. This finding is supported by Visanuyothin, Chompikul & Mongkoichati, who carried out a cross-sectional study to assess the determinants of cervical cancer screening adherence in urban areas of Nakhon Ratchasima province, Thailand. Their study also fails to show an association between perceived susceptibility, perceived benefits, and cervical screening adherence (33).

Similarly, a cross-sectional study on non-adherence to recommended pap smear screening guidelines and its associated factors among women attending health clinics in Malaysia by Yunus, Mohamed, and Draman, revealed no significant association between the HBM domains and non-adherence to pap smear screening (32). Although the HBM is widely used to examine reasons for problem from the perspectives of patients' beliefs, the researcher study and few more study findings failed to show a significant association between HBM domains and adherence to cervical cancer screening (34; 33; 32). This result shows that peoples' perceptions do not necessarily translate into action.

V. CONCLUSION

The Sustainable Development Goals (SDGs) recognize the need to promptly address the incidence and mortality linked to Non-Communicable Diseases (NCDs), of which cancer contributes a great deal. Cervical cancer has been a significant public health menace to women of all age groups in Sub-Saharan Africa (1). The traumatic situation of cervical cancer in Nigeria is not limited to the high incidence and mortality rate. A more significant concern is the low level of awareness of preventing a woman from having cervical cancer. And this could be achieved through primary prevention (Human Papilloma Virus (HPV) vaccine) and secondary prevention (cervical cancer screening). This action is critical because of the limited infrastructure for effective treatment for invasive cervical cancer, particularly when diagnosed in the late stages. The screening uptake among the women could improve if their screening behaviour and factors that may influence their behaviour and barriers towards cervical cancer screening are identified, and addressed effectively.

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