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Assessment of Cervical Cancer Pap Smear Utilisation for The Detection of Cervical Cancer Among Women in A Private University in Ogun State: Implication for Health Policy

Author(s), CHINENYE-JULIUS, Augusta Ezinne (B.Sc., MPH)
AKINYEMI, O.O (MBBS, MIPH, MPH, MBA, FWACP*)*,
ODUYOYE, Omobola Oyebola (B.Sc., MPH*)*,
AND
OKAFOR, Ngozi Anthonia (*RN, RM, RPHN, PhD)*

Abstract:

The study assessed cervical cancer pap smear utilisation for the detection of cervical cancer among women in a Private University in Ogun state. This study specifically examined if the respondents are vulnerable to cervical cancer; the knowledge level of respondents regarding Pap smear test; the perception about Pap smear test among the respondents; the influence of demographic and other related factors on knowledge about Pap smear test; and the influence of demographic and other related factors on utilization of Pap smear among the respondents. The study design for this research was a cross sectional study. The total number of 387 female faculty and staff members (both teaching and non-teaching) of Babcock University was selected by Balloting for the study. The instrument for this study was a questionnaire which was well-structured to contain questions that elicited sufficient information from the respondents. The instrument was validated by experts and the internal consistency of the instrument was ascertained. Descriptive and inferential statistics were used to analyse the data

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collected. The findings of the result showed that the respondents have a good knowledge about Cervical Cancer but vulnerable to Cervical Cancer. The result also indicated overall poor perception of the respondents with respect to Pap smear screening while factors which positively influenced respondent knowledge included religious belief and perception. In addition, the findings shows that the factors which positively influenced uptake level included respondents' religion, number of previous births, and access to information via mass media. It was recommended among others that cervical cancer screening should be introduced as one of the medical screening activities for new faculty and staff members and also a routine health checkup especially for women should be conducted.

Keywords: Assessment, Cervical Cancer, Pap Smear, Utilisation,

About Author

Author(s): CHINENYE-JULIUS, Augusta Ezinne (B.Sc., MPH)
Department of Public Health,
School of Public and Allied Health,
Babcock University, Ilishan-Remo, Ogun State, Nigeria.

AKINYEMI, O.O (MBBS, MIPH, MPH, MBA, FWACP*)*
Department of Health Policy and Management,
Faculty of Public Health,
College of Medicine,
University of Ibadan, Nigeria

ODUYOYE, Omobola Oyebola (B.Sc., MPH*)*
Department of Public Health,
School of Public and Allied Health,
Babcock University, Ilishan-Remo, Ogun State, Nigeria.

And

OKAFOR, Ngozi Anthonia (*RN, RM, RPHN, PhD)*
Department of Public Health Nursing,
School of Nursing Science,
Babcock University, Ilishan-Remo, Ogun State, Nigeria.

Introduction

Cervical cancer is the uncontrolled growth of cells on the cervix (the mouth of the uterus/womb) (WHO, 2006). Cells on the cervix start to grow gradually and abnormally over several years, it often takes like 10 to 20 years for invasive cancer to develop after the precancerous lesions are identified. Cervical cancer is sexually transmitted and is caused by the human papilloma virus (HPV). Thus there is a strong connection between cancer of the cervix and sexually transmitted infections (STIs). According to WHO (2008), the risk factors for cervical cancer development include frequent births, early sexual experience before age of 16 years, and presence of other STI's such as Herpes Simplex and Human Immune Deficiency Virus (HIV) infection. One of the most efficient ways of preventing and monitoring cervical cancer is screening which contributes to early diagnosis (WHO, 2008). Success of cervical cancer screening initiatives depends on high participation of the target population, which in turn is determined by the women's understanding and perceptions, cultural and other socio-economic issues (Omeonu, Agbede & Emea, 2014).

The World Health Organization (WHO) reported that cervical cancer is the second most frequent cancer in women, with more than 500,000 new cases occurring yearly and 270,000 deaths due to cervical cancer every year. By the year 2019, the worst hit areas were parts of Asia, Sub Saharan Africa, the Caribbean, and Central and South America with the rate of more than 40 cases per 100,000 women; compared with less than 10 per 100,000 women in North America and Europe (WHO, 2020). Cervical cancer was also reported to be the most common female cancer in East Africa affecting 44 per 100,000 women and the highest female cancer related mortality accounting for 35 per 100,000 women (WHO, 2020).

Cervical cancer is a malignant disease of the cervix commonly occurring in child bearingwomen under the age of 40 (Castellsagué, et al., 2011), which are still in their active reproductive and economically productive age. Cancer of the cervix is preventable and a major aspect of its prevention is the early detection of the pre malignant form by cervical screening (Ajenifuja & Adepiti, 2008). The long transition time from a premalignant lesion to frank cancer of the cervix is a long time for early detection and nearly complete cure even in secondary health care centres yet it is a leading cause of death and illness among women in developing countries, as earlier stated, and the second most frequent cancer in Nigeria (WHO, 2020). Poor health education and awareness of major debilitating health issues in Nigeria has been the key reason for poor prevention practices especially among women. In addition, cost of health care and health insurance scheme, perceived social stigma are major setbacks for rural and urban low income women in seeking preventive health care services such as the Pap smear screening.

Current report indicates that over 30 million women in Nigeria are at risk of developing cervical cancer yearly. It is against this backdrop that this study seeks to assess cervical Pap smear utilization, with respect to preventing cervical cancer, among women in Ogun state. This study specifically:

1. examined if the respondents are vulnerable to cervical cancer;
2. examined the knowledge level of respondents regarding Pap smear test;
3. determined the perception about Pap smear test among the respondents;

4. investigated the influence of demographic and other related factors on knowledge about Pap smear test; and
5. investigated the influence of demographic and other related factors on utilization of Pap smear among the respondents.

Research Questions

The following research questions were raised for this study

1. Are the respondents vulnerable to Cervical Cancer?
2. What is the knowledge level of respondents regarding Pap smear test?
3. What is the perception about Pap smear test among the respondents?

Research Hypotheses

The following research hypotheses were formulated for this study

1. Demographic and other related factors will not significantly influence knowledge about Pap smear test among the respondents?
2. Demographic and other related factors will not significantly influence utilization of Pap smear among the respondents?

Methodology

The study design for this research was a cross sectional study. The total number of 387 female faculty and staff members (both teaching and non-teaching) of Babcock University was selected by Balloting for the study. The instrument for this study was a questionnaire which was well-structured to contain questions that elicited sufficient information from the respondents adequately to analyze the stated objectives of this study. Face and content validity was carried out by presenting the instrument to experts to critique and this was done to standardize the instrument. Pre-test and reliability test was also conducted in a university setting of similar characteristics to test the instrument for internal consistency.

Analysis of data was done based on the set objectives; both descriptive and inferential statistics were used. The psychometric scale measurement was employed to assess respondent's knowledge of cervical cancer, perception for Pap smear screening, utilization or uptake level for CPS and vulnerability to cervical cancer. Except for perception which was accessed on a 4- point likert scale, all variables were dichotomous and coded 0 corresponding to wrong response while 1 corresponded to correct response. All the responses were aggregated to create a scale measuring knowledge and vulnerability to cervical cancer, utilization/uptake of Pap smear screening and their perception about Pap smear screening. Multiple regression analysis was used to test the hypotheses at 0.05 level of significance.

Results

Research Question 1: Are the respondents vulnerable to Cervical Cancer?

Table 1: Distribution of respondents by Vulnerability to Cervical Cancer (N=387)

Vulnerability Statements	Frequency	Percentage
I am an adult with children and have not done screening for cervical cancer (pap smear test)	285	73.5
Relative has suffered from cervical	4	1.0

cancer in the past		
Less than 16 years of age at first sexual experience	22	5.7
Smoke once in a while	0	0
Have smokers around and exposed to the smoke	29	7.5
Had sexually transmitted diseases in the past	21	5.4
Had sex with more than one person in the past 1 year	30	7.8

Measuring respondents' vulnerability to Cervical Cancer as presented in Table 1. Result shows that the majority of the respondents (74%) have not done the Pap smear screening even though they are adults of child bearing age.

Research Question 2: What is the knowledge level of respondents regarding Pap smear test?

Table 2: Assessment of the knowledge of women regarding cervical cancer (N=387)

Knowledge statements	Frequency	Percentage
Heard of cervical cancer before	313	80.9
Cervical cancer tends to occur in midlife.	282	72.9
Pain during sexual intercourse and bleeding during sexual intercourse is a Likely sign of cervical cancer	241	62.3
Cervical cancer is more common in old women	172	44.4
Cervical cancer can be inherited	178	46.0
Certain drugs taken, lifestyle or diet during pregnancy can predispose female babies to risk of cervical cancer later in life	232	59.9
Cervical cancer can lead to death	354	91.5
The risk of having cervical cancer can be minimised through regular screening (Pap smear test)	351	90.7
Cervical cancer is as deadly as breast cancer	358	92.5
Those with a low socio-economic status are those that suffer from cervical cancer more	286	73.9
Cervical cancer is not one of the most preventable human cancers	250	64.6
Having sexually transmitted diseases can make one susceptible to cervical cancer	300	77.5
Cervical cancer pap smear screening is needed for early detection of cervical cancer	345	89.1
Heard of a vaccine taken for the prevention of cervical cancer	230	59.4

Rating of knowledge:		
Good knowledge	305	78.8
Poor knowledge	252	65.1

Results in Table 2 show the respondents' responses to statements measuring their level of knowledge about Cervical Cancer. Majority of the respondents (81.0%) have heard of cervical cancer. Furthermore, most of the respondents' accepted that Cervical Cancer can lead to death (92.0%), Cervical Cancer is as deadly as breast cancer (74.0%) and not very preventable (65.0%). Also they believe having sexually transmitted disease can increase the risk for Cervical Cancer (78.0%). However, 91.0 percent agreed that having the Pap smear screening can minimize the risk for Cervical Cancer and thus needed for early detection (89.0%). When these statements are disaggregated into good and poor knowledge, 78.8 percent of the respondents responded positively to the statements measuring good knowledge thus demonstrating relatively good knowledge with respect to these statements while 65.1 percent of the respondents responded positively to statements measuring poor knowledge thus demonstrating relatively poor knowledge with respect to these statements.

Research Question 3: What is the perception about Pap smear test among the respondents?

Table 3: Assessing the perception of women on pap smear screening

S/N	Perception statements N= 387	Agree		Disagree	
		Freq	%	Freq	%
	Cervical cancer is a pestilence and cannot infect me once I've prayed so I don't need the test	263	68.0	124	32.0
	Only promiscuous women are vulnerable to Cervical cancer so I don't need the test	254	65.6	133	34.4
	Will do the test only if I feel symptoms of Cervical cancer	249	64.3	138	35.7
	The test should be for those still having children	235	60.7	152	39.3
	Don't see how regular screening can help me prevent cervical cancer	231	59.7	156	40.3
	Don't feel sick so I don't need the test	229	59.2	156	40.8
	Husband will not allow me to do the test	228	58.9	159	44.1
	Pap smear test does not have to be a repeated episode	218	56.3	169	43.7
	The test procedure invades privacy thus humiliating	191	49.3	196	50.7
	Screening center for Pap smear test is not accessible to me	204	42.7	183	57.3

Result in Table 3 shows that more than 50 percent of the respondents agreed to almost all the statements (statement 1 to 8) indicating poor perception about Pap smear screening. However, more than 50 percent of the respondents disagreed with statements 9 and 10 indicating good perception with respect to these statements. In particular, 57 percent of the respondents disagreed that the screening center for Pap smear test was not accessible to them.

Test of Hypotheses

Research Hypothesis 1: Demographic and other related factors will not significantly influence knowledge about Pap smear test among the respondents?

Table 4: Regression output of factors influencing respondents' knowledge level for CC

Variable	Beta-coefficients	Std. Error	t-value	Sig.
Constant	29.348**	2.768	10.604	.000
Age	.000	.026	-.010	.992
Religion	-1.799*	.720	-2.500	.013
Education	-.612	.581	-1.054	.293
Marital status	.223	.249	.896	.371
Number of birth	.122	.159	.767	.444
Monthly income	1.958E-006	.000	.885	.377
Perception	-.104**	.032	-3.276	.001
Media source of info	.095	.316	.301	.763
Health facility	.849	.498	1.705	.089
Friends	.891	.581	1.534	.126
Seminar/conference	-.403	.427	-.944	.346
Religious centers	-.607	.620	-.978	.329
F-stat	3.270**			
R^{-2}	0.66			

**sig at 1%; *sig at 5%

The regression results in Table 4 shows the variables which influenced respondents' knowledge level for Cervical Cancer.

The significance of the F- statistics (significant at one percent) shows a good fit for the model. The adjusted R^2 (coefficient of determination) is 0.66 which implied that 66.0 percent of the variations in the dependent variable is determined by the variations in the independent variables.

The results showed that the respondents' knowledge level for Cervical Cancer was significantly and positively influenced by respondents' religion ($P<0.05$) and their perception level ($P<0.01$).

Hypothesis 2: Demographic and other related factors will not significantly influence utilization of Pap smear among the respondents?

Table 5: Regression output of factors influencing respondents' Uptake level for Pap smear screening

	Variables	Beta coefficient	Std. Error	t-value	Sig.
1	Constant	13.412**	2.351	5.706	.000
	Age	.013	.017	.738	.461

Religion	2.261**	.513	4.410	.000
Education	.163	.391	.417	.677
Marital status	.156	.169	.921	.358
Number of birth	.338**	.108	3.132	.002
Monthly income	-1.181E-006	.000	-.795	.427
Perception	-.016	.022	-.752	.453
Media source of info	.530*	.212	2.494	.013
Health facility	.261	.335	.780	.436
Friends	-.563	.392	-1.435	.152
Seminar/conference	.136	.288	.471	.638
Religious centers	-.133	.424	-.314	.753
Vulnerability level	-.330*	.151	-2.185	.030
Knowledge level	.022	.035	.643	.521
F-stat	4.814**			
R^{-2}	0.522			

**sig at 1%; *sig at 5%

The regression results in Table 5 show the variables which influenced respondents' uptake level of Pap smear screening such as demographic variables, respondents' income level, source of information about the screening, respondents' perception, knowledge level and vulnerability to Cervical cancer.

The significance of the F- statistics (significant at one percent) shows a good fit for the model. The adjusted R2 (coefficient of determination) is 0.522 which implied that 52.2 percent of the variations in the dependent variable is determined by the variations in the independent variables.

The results showed that the respondents' level of uptake of Pap smear screening was significantly and positively influenced by respondents' religion ($P<0.01$), number of previous births ($P<0.01$), access to information via mass media ($P<0.05$), Also, the result shows that respondents' vulnerability level ($P<0.05$) negatively influenced the possibility of their participation in screening.

Discussion of Findings

Generally, from the response analysis, the result showed that the respondents have a good knowledge about Cervical Cancer. Ordinarily; the expectation will be that with good knowledge level vulnerability will be low. Comparing the descriptive result for knowledge level with their vulnerability level, result showed that respondents are vulnerable despite the fact that they know about Cervical Cancer. It is likely that their knowledge level is not sufficient to cause appropriate practices that reduce vulnerability. Further analysis showed that the knowledge level of the respondents was still below adequate which must be responsible for their vulnerability to Cervical Cancer.

Clearly, despite their literacy level, the respondents studied were found to be vulnerable to Cervical Cancer. This must have influenced their perception and uptake of the Pap smear screening. Previous studies have put forward the relationship between literacy and uptake of health related intervention packages and programmes (Ajenifuja & Adepiti, 2008, Aboyeji,

Ijaiya & Jimoh, 2004). However, this study shows that deliberate intervention policy and effort that will afford the women to have interaction with reproductive health professionals and also provide room for follow-up, is of vital importance in reducing the risk of Cervical Cancer. The descriptive results for personal characteristics showed that most of the respondents did not have access to such information or intervention.

Results indicated overall poor perception of the respondents with respect to Pap smear screening. The relationship between knowledge and perception regarding reproductive health issues have been established by previous studies (Yan et al., 2013, Bessler, Aung & Jolly, 2007). In general, the uptake assessment indicated poor Pap smear test uptake among the respondents. This result is consistent with the report of Southern Africa Litigation Centre (SALC, 2012).

Factors which positively influenced respondent knowledge included religious belief and perception. The implication of this is that those who are Christian have higher probability to have more access to information regarding cervical cancer. This result corroborates the earlier discussion on the potential of religious centres providing health information. Also, the higher the perception levels of the respondents the higher their knowledge level.

In the result of the output for factors influencing respondent's uptake of Pap smear screening, significance of the F- statistics (significant at one percent) shows a good fit for the model. The adjusted R^2 (coefficient of determination) is 0.522 which implied that 52.2 percent of the variations in the dependent variable is determined by the variations in the independent variables.

The results showed that the respondents' level of uptake of Pap smear screening was significantly and positively influenced by respondents' religion ($P<0.01$), number of previous births ($P<0.01$), access to information via mass media ($P<0.05$), Also, the result shows that respondents' vulnerability level ($P<0.05$) negatively influenced the possibility of their participation in screening.

The findings shows that the factors which positively influenced uptake level included respondents' religion, number of previous births, and access to information via mass media which implies that increases in these variables will increase their uptake level. Also, the result shows that respondents' vulnerability level negatively influenced the possibility of their participation in screening. Improving access to information via the mass media and encouraging the use of the religious centres thus requires policy attention for improving uptake of Pap smear screening.

Conclusion

The study focused on the assessment of Pap smear utilisation for the detection of cervical cancer among women in a private University in Ogun state. The result obtained showed that the women studied are particularly vulnerable to cervical cancer, with insufficiently adequate knowledge about cervical cancer. Further analysis revealed that their perception and uptake level for Pap smear test is low. This has serious health policy implications. Factors that influenced uptake of Pap smear test were religion, number of birth, media source for health information and vulnerability to cervical cancer.

Recommendations

Based on the findings from this study, the following recommendations as well as policy implication are thus presented;

1. Since the study showed that the respondent favoured media source of information, the institution should utilize the campus media to promote preventive health education and health policy information and communicate health policies relating to cervical cancer.
2. Cervical cancer screening should be introduced as one of the medical screening activities for new faculty and staff members and also a routine health check-up especially for women should be conducted.
3. Special attention by policy makers should be given to intensifying and redesigning the cervical awareness programs targeting women in Nigeria.

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Author(s), CHINENYE-JULIUS, Augusta Ezinne (B.Sc., MPH)**,** AKINYEMI, O.O (MBBS, MIPH, MPH, MBA, FWACP*),* ODUYOYE, Omobola Oyebola (B.Sc., MPH*),* OKAFOR, Ngozi Anthonia (*RN, RM, RPHN, PhD),* (2021). " Assessment of Cervical Cancer Pap Smear Utilisation for The Detection of Cervical Cancer Among Women in A Private University in Ogun State: Implication for Health Policy", **Name of the Journal**: International Journal of Medicine, Nursing & Health Sciences, (IJMNHS.COM), P, 102–113. DOI: www.doi.org/10.5281/zenodo.4763910 , Issue: 2, Vol.: 2, Article: 9, Month: April, Year: 2021. Retrieved from https://www.ijmnhs.com/all-issues/

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