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Effect of Previous Information on Cervical Cancer on Perception and Acceptability of Pap Smear Screening among Female Health Workers in Selected Departments of General Hospital, Idanre, Ondo State, Nigeria

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Abstract:- Early detection and prompt treatment of cancer and pre-cancerous conditions provide the best possible protection against cancer. The study was conducted to assess the effect of previous information on cervical cancer perception and acceptability of pap smear screeningamong female health workers in selected departments of General Hospital, Idanre, Ondo state. A descriptive cross-sectional research design was used for the study. A simple random sampling technique was used to select hundred (100) respondents out of all the health workers in the hospital. A self-designed questionnaire was used to elicit information from respondents. Data were analyzed using Statistical Package for Social Sciences (SPSS) software version 25. at 0.05 level of significance. Descriptive data were summarized using frequencies and percentages while Chi-square analysis was used to test the relationship between knowledge, socio demographic characteristics and acceptance of Pap smear. Findings revealed that the respondents have good knowledge about cervical cancer (91.9%) and pap smear screening (82.5%). Also, all of the respondents had good perception about pap smear screening but acceptability is very poor because of the following reasons; lack of awareness (12%), fear of pain (17%), lack of awareness (12%), fear of pain (17%), lack of time (27%), fear of embarrassment if cancer is detected (13%), and not at risk of cervical cancer (13%). Knowledge of pap smear screening, profession and educational level have a statistically significant association with the acceptance of pap smear screening ($p < 0.05$). Health workers should act as an agent of change in the society by being in the fore-front of pap smear screening programmes.

Keywords:- *Perception, Acceptability, Pap smear screening, Female healthcare workers.*

I. INTRODUCTION

Globally, cervical cancer is second to the breast cancer as the commonest female cancer [1]. According to the Worldwide cancer data of the World Cancer Research Fund [2], there are 569,847 new cervical cancer diagnosed alone in 2018. In the fact sheet of IARC [3], Nigeria has a population of 50.33 million women ages 15 years and older who are at risk of developing cervical cancer. It was indicated that every year in Nigeria, 14943 women are diagnosed withcervical cancerand 10403 die from the disease. About 3.5% of women in the general population are estimated to harbor cervical Human PapillomaVirus (HPV)-16/18 infection at a given time, and 66.9% of invasive cervical cancers are attributed to HPVs 16 or 18 [3].

Although, these figures differ greatly from those reported in developed countries where cervical malignancy has been drastically reduced to the barest minimum; this has been attributed to effective cervical screening using predominantly, the Papanicolaou (Pap) cervical smear [4]. Furthermore, [5] stated that the incidence of cervical cancer is higher in the underdeveloped countries than in developed countries. In underdeveloped countries, most women with cancer of the cervix usually present late to the hospital unlike in the developed countries where most of the women present early and cure can be realistically expected [5]. This is partly due to education and empowerment of women, which means that in developed countries, they present early once there are symptoms or as part of screening programmes for cervical cancer.

The cervical Pap smear is a relatively cheap, effective cervical cancer screening program for the detection of carcinoma of the uterine cervix at the precursor stage. Pap smear consists of taking a sample from the transformation zone of the cervix, smearing on a glass slide and reviewing for atypical cells after staining [6]. All the screening methods for cervical cancer, the Pap smear is acknowledged to have commendable sensitivity and specificity as well as positive

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predictive value and compare favorably with other screening methods such as visual inspection with acetic acid (VIA), cervicogram, colposcopy, and HPV screening[4].

Health workers especially nurses are often times looked upon as "role models" in health related issues. Nurses play a major role in enlightening the public on the availability and need for cervical cancer screening services. They are informed individuals who are expected to have more information and knowledge about several health related issues and also act as role models in uptake of preventive services but studies have documented otherwise. In a study on cervical cancer screening perception and utilization among health workers in Abakaliki by [7], all the respondents (100%) showed a good knowledge of cervical cancer as all were aware that cervical cancer is a preventable disease of public health concern. However, utilization of cervical cancer screening was poor in this study as only 20.6% had ever undergone screening. In another similar study among female nurses, 93% were aware of pap smear while the practice is low [8]. Furthermore, in another study in Abuja, 97.5% of female health workers were aware of cervical cancer screening while only 23.5% had ever undergone pap smear[1].

Prognosis can be improved if screening is embraced and widely employed. For this, it is important that the healthcare workers are educated and well aware so that they can influence the beliefs and actions of the general public on cervical cancer screening methods. Also, there hasn't been any known study carried out on the perception and acceptability of pap smear among female health workers in the study area. The study, therefore, assessed the perception and acceptability of pap smear screening among female health workers in selected departments of General Hospital, Idanre, Ondo state.

A. Study Objectives

- To assess the knowledge of female health workers in General Hospital, Idanre on cervical cancer and pap smear screening.
- To evaluate the perception of pap smear screening among female health workers in General Hospital, Idanre.
- To determine the level of acceptability of pap smear screening among female health workers in General Hospital, Idanre.

B. Hypotheses

- There is no significant relationship between knowledge of respondents on pap smear screening and acceptability of pap smear screening.
- There is no significant relationship between socio demographic characteristics of respondents and the acceptability of pap smear screening.

II. METHODS AND MATERIALS

A. Study Population

The study population comprisesfemale health workers in General Hospital Idanre, Ondo state, Nigeria. There were one hundred and sixteen (116) female health workers in the hospital.

B. Design

A descriptive cross-sectional research design was used to assessthe perception and acceptability of pap smear screening among female health workers in selected departments of General Hospital, Idanre, Ondo state.

C. Sampling size and sampling technique

A sum of 100 respondents was recruited for the study based on 116 number of female health workers in the facility using Slovins (1973) (formula =N/(1+Ne2), and the addition of 10% attrition rate. A simple random sampling technique was used in selecting respondents who met the criteria for the study and consented were recruited for the study.

D. Instrument for Data Collection

A self-designed questionnaire was used to obtain information from the respondents with five sections.Section A is on the socio-demographic data of respondents consisting of nine (9) questions, section B; knowledge of cervical cancer consisting of twelve (12) questions, section C; knowledge of pap smear screening consisting of eight (8) questions, section D; perception of pap smear consisting of eight (8) questions and section E; acceptance of pap smear screening consisting of six (6) questions. The questions on knowledge were measured through a Yes and No response with Yes coded as '1' and No as "0" for positively placed words and reversed for negatively placed words respectively. The percentage of scores were determined; when the percentage score is 0-49 it is rated as Poor and 50-100 is rated Good. Section on perception was measured through a 4-point likert scale with Strongly agree, Agree, Disagree and Strongly disagree equivalent to 4, 3, 2, and 1 respectively for positive words and reversed for negative words. Mean scores of above 2.5 was regarded as good perception and below was regarded as poor perception. Acceptability of pap smear screening was measured base on the practice, recommendation and referral of people for the service as a health worker.

E. Data Analysis

Data were entered into a computer and analyzed using Statistical Package for Social Sciences (SPSS) software version 25. The data were summarized using frequency distribution tables and percentages. Hypotheses were tested using Pearson chi-square. All hypotheses were tested at 0.05% level of significance.

F. Ethical consideration

Ethical approval was obtained from the ethical committee of the General Hospital, Idanre, Ondo State. Informed consent was obtained from the participant before administering the questionnaires. Respondents were informed that participation is voluntary and that all information provided will be made confidential.

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III. RESULTS

A. Sociodemographic Data of the Respondents

Table 1 shows that majority of the respondents (47%) were between 31 and 40 years, 18% between 20 and 30 years, 27% between 41 and 50 years while 8% were between 51 and 60 years. Distribution across profession shows that more than half of the respondents were nurse/midwife (51%), 15% being pharmacists, 10% lab scientists, 9% health records, 4% medical doctors while the remaining 11% belongs to all other categories of health workers in the hospital. More than half of the respondents had diploma certificates (56%), 38% possess bachelor's degree while only 6% had masters' degree. Vast majority (88%) practices Christianity and a larger percentage were Yoruba (90%). Almost all of the respondents were married (96%) and 35% three children. 12% had their first sexual intercourse before the age 20, and 88% currently have only one sexual partner.

Variables		Frequency (N=100)	Percent
Age(in years)	20-30	18	18.0
	31-40	47	47.0
	41-50	27	27.0
	51-60	8	8.0
Profession	Medical doctor	4	4.0
	Nurse/midwife	51	51.0
	Pharmacist	15	15.0
	Lab scientist	10	10.0
	Health records	9	9.0
	Others	11	11.0
Highest educational level	Diploma	56	56.0
	Bachelor's degree	38	38.0
	Masters	6	6.0
Religion	Islam	12	12.0
	Christianity	88	88.0
Ethnicity	Yoruba	90	90.0
	Igbo	8	8.0
	Hausa	2	2.0
Marital status	Single	4	4.0
	Married	96	96.0
Parity	One	10	10.0
	Two	36	36.0
	Three	35	35.0
	more than three	17	17.0
	None	2	2.0
Age at first intercourse	< 20 years	12	12.0
	20-24 years	52	52.0
	25-29 years	34	34.0
	never had sex	2	2.0
Number of sexual partners	None	4	4.0
	One	88	88.0
	Two	4	4.0
	more than two	4	4.0

Table 1: Sociodemographic Characteristics of Respondents

B. Knowledge of Cervical Cancer among Respondents

A majority (90%) of the female health workers have heard about cervical cancer before. On the causes of cervical cancer, 82% disagreed that excess alcohol intake is a cause, 90% affirmed that human papillomavirus infection and multiple sexual partners are causes, 86% agreed that early exposure to sex and 64% opined that use of certain birth control pill. 94% affirmed that abnormal vaginal bleeding, foul smelling discharge from the vagina and post coital bleeding were signs of cervical cancer while 81% indicated leg pain and back pain. However, only 21% indicated that cervical cancer can be prevented by immunization.

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Variables		N =100		Strength of Knowledge
		Yes N(%)	No N(%)	
Have you heard of cervical cancer?		90(90%)	10(10%)	Good
Causes of cervical cancer include:	Excess alcohol intake	18(18%)	82(82%)	Good
	Human papillomavirus infection	90(90%)	10(10%)	Good
	Multiple sexual partners	90(90%)	10(10%)	Good
	Early exposure to sex	86(86%)	14(14%)	Good
	Use of certain birth control pill	64(64%)	36(36%)	Good
Signs of cervical cancer include	Abnormal vaginal bleeding	94(94%)	6(6%)	Good
	Foul smelling discharge from the vagina	94(94%)	6(6%)	Good
	Leg pain and back pain	81(81%)	19(19%)	Good
	Post coital bleeding	94(94%)	6(6%)	Good
Cervical cancer can be prevented by immunization		21(21%)	79(79%)	Poor

Table 2: Knowledge of Respondents on Cervical Cancer

Poor = 0-49%, Good = 50-100%

C. Knowledge of Respondents On Pap Smear Screening

In table 3, 90% of the respondents have heard about pap smear screening and almost al, (98%) affirmed that detection of cervical cancer through pap smear helps in treatment. 85% and 60% affirmed that pap smear screening helps in detecting human papilloma virus infection and precancerous state of cervical cancer respectively while 43% erroneously indicated that it helps in detecting sexually transmitted diseases. However, all of the respondents disagreed that pap smear screening cures cervical cancer. Half (51%) indicated that pap smear screening prevents cervical cancer. Furthermore, three-quarter of the respondents (75%) indicated that a positive pap smear result means cervical cancer is about to start. 74% of the respondents knew that other screening test for cervical cancer is HPV testing, 65% indicated Visual inspection with acetic acid, 94% indicated colposcopy while 45% erroneously mentioned blood test.

Variables		Yes N(%)	No N(%)	Strength of Knowledge
Have you heard of Pap smear screening?		90(90%)	10(10%)	Good
Early detection of cervical cancer through pap smear helps in the treatment		98(98%)	2(2%)	Good
Pap smear is done every other year		79(79%)	21(21%)	Good
There is no age limit to pap smear		69(69%)	31(31%)	Poor
Pap smear helps in	detecting of sexually transmitted diseases	43(43%)	57(57%)	Poor
	detecting human papillomavirus infection	85(85%)	15(15%)	Good
	detecting precancerous state of cervical cancer	60(60%)	40(40%)	Good
	cure cervical cancer	0(0.0%)	100(100%)	Good
	prevent cervical cancer	51(51%)	49(49%)	Good
A positive pap smear result means	Full-blown cancer of the cervix	19(19%)	81(81%)	Good
	Cervical cancer is about to start	75(75%)	25(25%)	Good
	Cancer of the breast	0(0.0%)	100(100%)	Good
	infection	0(0.0%)	100(100%)	Good
Other screening for cervical cancer include	Human papillomavirus (HPV) testing	74(74%)	26(26%)	Good
	Visual inspection with acetic acid (VIA)	65(65%)	35(35%)	Good
	Colposcopy	94(94%)	6(6%)	Good
	Blood test	45(45%)	55(55%)	Poor

Table 3: Knowledge of Respondents on Pap Smear Screening

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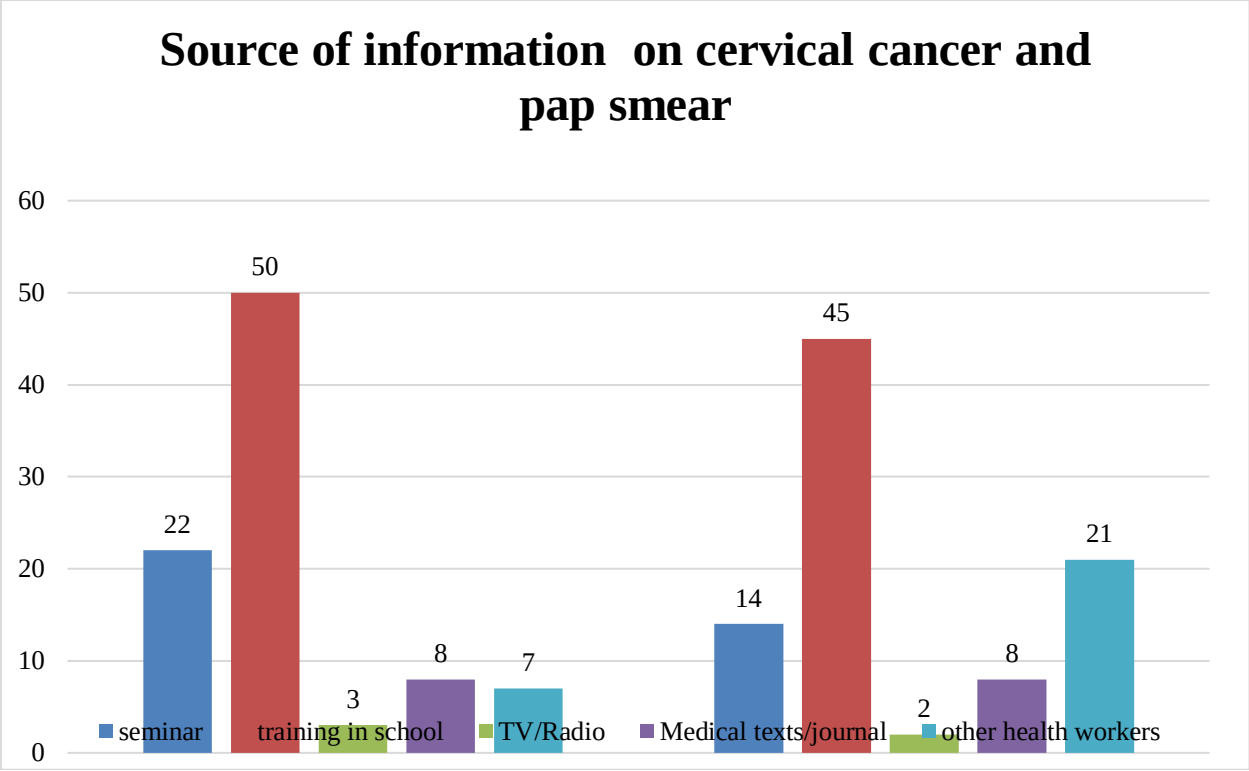

Fig. 1: Showing the source of information on cervical cancer and pap smear screening

From the bar chart above, 22% heard information on cervical cancer through a seminar, 50% through class teachings while in school, 3% through TV/Radio, 8% through medical textbooks while 7% through other health workers. On pap smear screening, 14% first heard from a seminar, 45% while in school, 2% through TV/Radio, 8% through medical textbooks while 21% heard from other health workers.

D. Perception of Pap Smear Screening Among Respondents

From the table 4, 9% agreed that they don't need pap smear screening because they are not promiscuous, 17% disagreed while 74% strongly disagreed. 1%, 4%, 35% and 60% strongly agreed, agreed, disagreed and strongly disagreed that their culture forbids women from undergoing pap smear. Furthermore, majority affirmed that regular pap smear screening can prevent development of cervical cancer (80%) while others (20%) disaffirmed. Almost all (99%) disaffirmed that cancer has no cure, hence no need for screening. Furthermore 97% disaffirmed that there's no time for screening while 24% either strongly agreed or agreed that pap smear screening expose a woman to some STIs. However, 79% indicated that pap smear is not too costly. 38% agreed that they are scared of being diagnosed of cancer through pap smear, 17% disagreed while 45% strongly disagreed.

Statement	SA	A	D	SD	Remarks
I don't need pap smear because am not promiscuous	0(0.0%)	9(9%)	17(17%)	74(74%)	Good
My culture forbids women undergoing such test	1(1%)	4(4%)	35(35%)	60(60%)	Good
Regular pap smear screening can prevent development of cervical cancer	64(64%)	16(16%)	16(16%)	4(4%)	Good
Cancer has no cure therefore the screening is not important	0(0.0%)	1(1%)	38(38%)	61(61%)	Good
I don't have time to get a screening because it takes much time	1(1%)	2(2%)	49(49%)	48(48%)	Good
Cervical cancer screening can expose a woman to some STIs	11(11%)	13(13%)	29(29%)	47(47%)	Good
Pap smear screening is too costly	1(1%)	20(20%)	39(39%)	40(40%)	Good
I am scared of being diagnosed of cancer through Pap smear	0(0.0%)	38(38%)	17(17%)	45(45%)	Good

Table 4: Perception of Pap Smear Screening Among Respondents

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E. Acceptability and Practice of Pap Smear Screening Among Respondents

From table 5, only 45% have had pap smear screening done before with 33(73.3%) of them having it done at a government hospital and 12(27.7) during a health outreach.34(75.6%) did it as part of routine checkup, 9(20%) were instructed by other health workers and 2(4.4%) were forced to have it done. Furthermore, 94% of the respondents indicated that as a health worker they will recommend pap smear screening to females while only 32% have ever referred someone for pap smear screening.

Variables		Frequency (N=100)	Percent	Remarks
Have you had Pap smear screening done before?	yes	45	45.0	Poor
	no	55	55.0	
If yes, where? N = 45	government hospital	33	73.3	
	during a health outreach	12	27.7	
If yes to the above, reason for having it done N = 45	for routine check up	34	75.6	
	instructed by other health workers	9	20.0	
	forced to have it done	2	4.4	
As a health worker will you recommend Pap smear screening to females?	yes	94	94.0	Good
	no	6	6.0	
As a health worker, have you referred someone for Pap smear screening before?	yes	32	32.0	Poor
	no	68	68.0	

Table 5: Acceptability and Practice of Pap Smear Screening Among Respondents

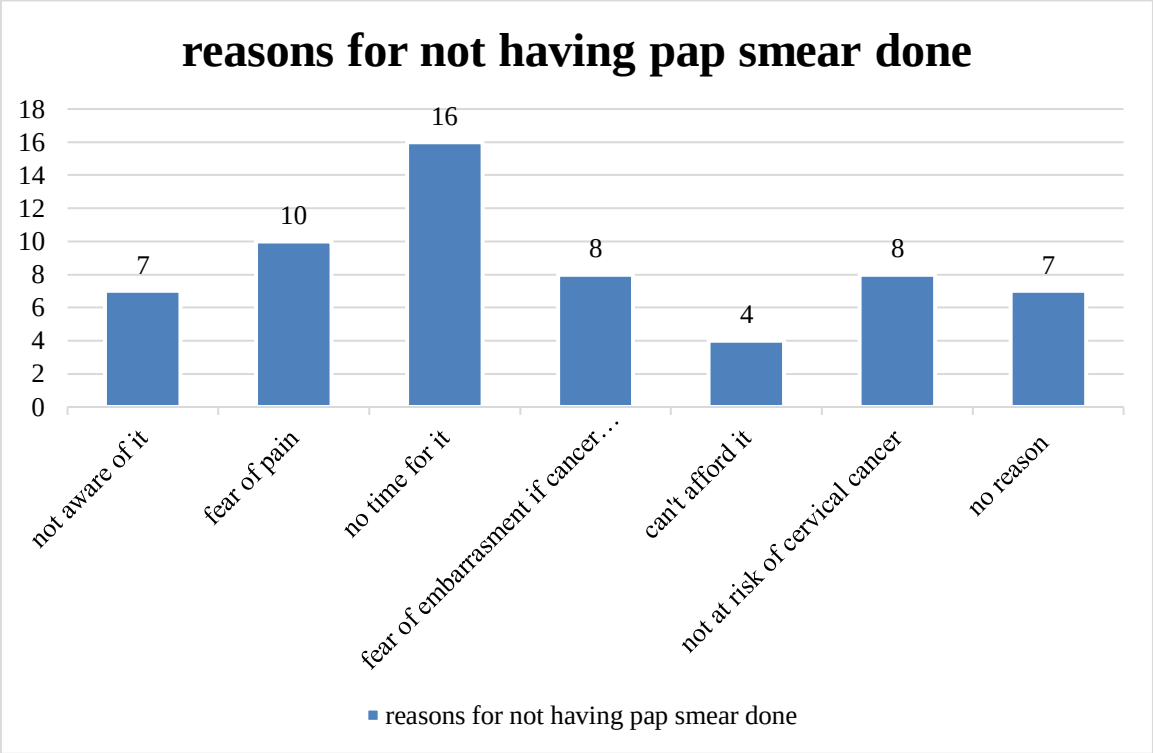

Fig. 2: Showing reasons for not having pap smear screening done among respondents

From the bar chart above 16(27%) said there is no time for pap smear screening, 8(13%) each indicated that they were not at risk of cervical cancer and they were scared of the embarrassment if cancer is detected. 4(7%) indicated that they can't afford the test, 7(12%) indicated that they were not aware of the screening and 10(17%) were scared of pain while 7(12%) had no reason.

F. Hypotheses Testing:

a) Hypothesis One

The relationship between the variables was tested using Pearson Chi-square. The result revealed the chi-square value of 5.263, $p = 0.022$ ($p < 0.05$). This shows that there is a significant relationship between knowledge of respondents on pap smear screening and acceptability of pap smear screening. The hypothesis is therefore rejected.

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		level of acceptability of pap smear screening		Total	X^2	df	p-value
		not accepted/poor practice	accepted/good practice				
knowledge of pap smear screening	poor knowledge	14	3	17	5.263	1	0.022
	good knowledge	36	47	82			
Total		50	50	100			

Table 6: Relationship Between Knowledge and Acceptability of Pap Smear Screening Among Respondents

b) **Hypothesis Two**

The relationship between the variables was tested using Pearson Chi-square.

		level of acceptability of pap smear screening		Total	X^2	df	p-value
		not accepted/poor practice	accepted/good practice				
Age(in years)	20-30	10	8	18	4.058	3	0.255
	31-40	24	23	47			
	41-50	10	17	27			
	51-60	6	2	8			
Profession	medical doctor	0	4	4	24.709	5	0.000*
	nurse/midwife	16	35	51			
	pharmacist	10	5	15			
	lab scientist	8	2	10			
	health records	6	3	9			
	others	10	1	11			
Highest educational level	diploma	35	21	56	7.956	2	0.019*
	bachelor's degree	13	25	38			
	Masters	2	4	6			
Religion	Islam	4	8	12	1.515	1	0.218
	Christianity	46	42	88			
Ethnicity	Yoruba	46	44	90	2.044	2	0.360
	Igbo	4	4	8			
	Hausa	0	2	2			
Marital status	single	2	2	4	0.000	1	1.0000
	married	48	48	96			
Parity	one	2	8	10	6.916	4	0.140
	two	21	15	36			
	three	16	19	35			
	more than three	9	8	17			
	none	2	0	2			
Age at first intercourse	< 20 years	6	6	12	2.077	3	0.557
	20-24 years	25	27	52			
	25-29 years	17	17	34			
	never had sex	2	0	2			
Total		50	50	100			

Table 7: Relationship Between Sociodemographic Characteristics and Acceptability of Pap Smear Screening

*significant at $p < 0.05$

From table 7, it can be shown that it is only profession and educational qualifications that were significantly related to acceptability of pap smear screening (p = 0.000 and 0.019 respectively), while age, religion, ethnicity, marital status, parity and age at first intercourse were not significantly related to the acceptability of pap smear screening (p > 0.05).

IV. DISCUSSION

A. Sociodemographic data of respondents

Sociodemographic findings from this study revealed that majority of the respondents were aged between 31 and 40 years while the least age categories among the female health workers was 51 to 60 years. This shows that the respondents for this study were still within the reproductive age in which women are more prone to cervical cancer. Distribution by profession showed that respondents were widely distributed among all health care workers in General Hospital, Idanre with nurse/midwives representing the largest proportion of 51%. This is equivalent what is obtainable worldwide as nurses' form majority of the health care workers. More than half of the respondents had diploma qualification while only few had masters' qualification. Majority of the respondents were married, Yoruba and practiced Christianity; this is due to the research setting which is a Christian dominated area of Ondo state and Yoruba by origin. Most of the participants were para-1 to para-3 which showed that they are childbearing women. Only 12% of the respondents had sexual debut before the age of 20 years while majority had their first sexual intercourse between 20 and 24 years. 88% had only one sexual partners. These findings were in close relation with the study of Biobaku, Fatusi and Afolabi (2015) where it was revealed that majority of their respondents were married, Christians, 18.6% had sex before 20 years and 83.3% were multipara.

B. Knowledge of cervical cancer and pap smear screening

It was revealed that vast majority of the female health workers have heard about cervical cancer and pap smear screening. Furthermore, most of the respondents were aware and knowledgeable on the benefits of pap smear screening and the meaning of a positive results. Overall, 91.9% and 82.4% had good knowledge of cervical cancer and pap smear screening respectively. This is in line with the study of [9] on the awareness and utilization of pap smears among female health workers in Abuja where it was shown that Overall, 58%, 90% and 95.5% had good knowledge of risk factors for cervical cancer, signs of cervical cancers and ways of preventing cervical cancer respectively. Majority had adequate knowledge on the use and importance of pap smear. 97.5% of the respondents have heard of pap smear before with source of information being from colleague (21%), medical literature (40%), seminars (30%) and TV/Radio (8%).

C. Perception of pap smear among respondents

It was shown that most of the respondents either agreed or strongly agreed to the positive statements of pap smear such as pap smear screening can prevent the development of cervical cancer while majority like wisely disagreed or strongly disagreed to negative statements such as culture forbids pap smear, cancer has no cure, so no need for screening and so on. Overall, all of the respondents had good perception towards pap smear screening as this may be due to the nature of their profession. These findings agree with the study of [7] on the perception and utilization of cervical cancer screening among health workers in Ebonyi where most of the respondents (89.2%) identified pap smear as a screening modality, while only 74.5% were aware of the HPV vaccine. 59.8% perceived being above 21 years of age or sexually active as an indication to be screened for cancer cervix. They further indicated that most participants have good perception towards pap smear screening.

D. Acceptability and practice of pap smear screening among respondents

Findings revealed that less than half of the female health workers in General Hospital, Idanre have ever had pap smear screening done before with most of them having it done in a government hospital and few during health outreach. Reasons cited by the remaining respondents for not having it done include no time for pap smear screening (27%), 8(13%) each indicated that they were not at risk of cervical cancer and they were scared of the embarrassment if cancer is detected. 4(7%) indicated that they can't afford the test, 7(12%) indicated that they were not aware of the screening and 10(17%) were scared of pain while 7(12%) had no reason. Overall, there is a poor rate of acceptability of pap smear screening as a means of preventing cervical cancer. The rate of utilization of pap smear in this study is a bit similar to what was obtained in previous studies. Utilization rate of 23.5% [1] and 20.6%[7]was reported respectively. The most common reason for non-screening among the respondents of [7] was that they had not thought of it (28.4%) and 10.8% ascribe their non-screening to the fear of the result. The majority,40% had no reason and 30.9% had not thought about it. 3.6% believed that they were not at risk of developing cervical cancer while 8.2% were too busy to screen according to the study of [1].

This study further revealed that there is a significant relationship between profession, educational qualifications, knowledge of respondents on pap smear screening and acceptability of pap smear screening (p < 0.05) while age, religion, ethnicity, marital status, parity and age at first intercourse were not significantly related to the acceptability of pap smear screening (p > 0.05). This is in contrast to the study of [7] where there was significant relationship between age (p = 0.001), marital status (p = 0.001), parity (p = 0.013), year of practice (0.001) and the utilization of cervical cancer screening. This result is in variation with the findings of [9] where there is a significant association between age, marital status and awareness and uptake of pap smear respectively (P=0.00/0.0002 and p=0.0001/0.001).

V. CONCLUSION

Conclusively, this study has shown most female health workers in General Hospital, Idanre had good knowledge and good perception of pap smear screening; however, the rate of practice of pap smear screening is still low with reasons being, fear of pain, lack of time, fear of embarrassment if cancer is detected, and belief that they are not at risk of cervical cancer.

VI. RECOMMENDATIONS

It is therefore recommended that**:**

- development of comprehensive cervical cancer screening strategy throughout the nation comprising of screening centers, increase equipment and facilities for screening and subsidizing the rate.
- mass media, which is an effective, means of communication in particular radios should be utilized during campaigns so that awareness messages can reach a wider audience
- health education to reinforce knowledge of cervical cancer and correcting the wrong perceptions towards cervical cancer prevention will have a positive influence on its acceptance and practice.
- adoption of alternative screening services aside from pap smear such as Visual Inspection under acetic acid (VIA) may also be necessary to widen and broaden coverage of cervical cancer screening.

- **Conflict of Interest**: None

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