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Knowledge Of Cervical Cancer Screening Among Antenatal Women Visiting Primary Health Care Centres In Rivers State

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ABSTRACT
Knowledge of cervical cancer screening is an essential determinant for its acceptance and practice among women. This study examined the knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State. The descriptive survey research design was adopted for the study. The population for the study consists of all the five hundred and fifty-five thousand, six hundred and fifty-one (555,651) women attending antenatal clinics in Rivers State. Sample size of 798 was determined using Taro Yamane formula. A multi-stage sampling procedure was used to select the sample. The instrument for data collection was a structured questionnaire with a reliability coefficient of 0.78. The completed copies of the questionnaire were retrieved, coded and analyzed using Statistical Package for Social Sciences (SPSS) version 23.0. The descriptive statistics of percentage, frequency count and mean were used for demographic characteristics of the participants and research questions. While inferential statistics of chi-square set at 0.05 alpha level was used to test the hypotheses. The finding of the study showed that majority of the respondents were knowledgeable about cervical cancer screening. The result shows that there was no significant relationship between socio-demographic factors such as age ($p>0.05$), education ($p>0.05$), religion ($p>0.05$) and knowledge of cervical cancer screening. It was concluded that the antenatal women visiting primary health care centres in Rivers State had good knowledge towards cervical cancer screening. It was recommended that, the Ministry of Health should make efforts to promote cervical cancer screening among women by establishing well-organized cervical cancer screening units in primary health care centres.
Keywords: Knowledge, Cervical Cancer Screening, Primary Health Care Center, Ante-natal Women

INTRODUCTION
Knowledge towards cervical cancer screening is an essential determinant for its acceptance and practice among women. Considering the absence of a population-based screening programme in Nigeria and the exclusion of the human papillomavirus (HPV) vaccine in the national vaccination schedule, awareness of cervical cancer screening becomes important to heighten its practice among women. According to the National Cancer Institute (2019), cervical cancer is a disease in which malignant (cancer) cells form in the cervix which is the lower, and narrow end of the uterus. Bosch (2008) stated that, virtually all cervical

cancers are caused by persistent infection with Human Papillomavirus (HPV), most commonly HPV types 16 and 18. The World Health Organization (2013) recommended cervical cancer screening tests for precancerous lesions and women at risk, because most of the cancers have no symptoms. This screening includes the conventional Papanicolau (Pap) test, liquid based cytology, visual inspection with acetic acid or lugols iodine (VIA or VILI) and Human papiloma virus (HPV) testing for high risk HPV types.

Globally, cervical cancer is the third most frequent cancer among women and the most common malignancy of the female genital tract in the developing countries (International Cancer Organization, 2016). In sub-Saharan Africa, 34.8 new cases of cervical cancer are diagnosed per 100,000 women annually and 22.5 per 100,000 women die from the disease. According to the Cervical Cancer Global Crisis Card, Nigeria ranks 5th among countries with regards to death count from cervical cancer (Cervical Cancer Free Coalition, 2017). The high burden of cervical cancer in developing countries, like Nigeria, is due both to a high prevalence of HPV infection and the lack of effective cervical cancer screening programmes (Ndikom & Ofi, 2012). In cases where effective screening programmes are available, negative health-seeking behavior of the populace and poor knowledge have led to poor utilization of such services. Moreso, several reasons have been implicated for the poor cervical cancer screening practice among women.

Age is one major epidemiological variable which influences several health issues including cervical cancer screening, that is, age at first intercourse and age at first pregnancy. Figures from the Ibadan Population Based Cancer Registry (IBCR) covering a two-year period 2009-2010 show that cervical cancer age standardized mortality rate (ASR) was 36.0 per 100,000 (Elima, Maria, Olufemi, Emmanuel, Toyin & Festus, 2012) which is higher than in most developed countries. The American Cancer Society (2017) stated that, women who were younger than 17 years when they had their first full-term pregnancy are almost two times more likely to get cervical cancer later in life than women who waited to get pregnant until they were 25 years or older. Also, women younger than 20 years old rarely develop cervical cancer. The risk goes up between the late teens and mid-30s. Women past this age group remain at risk and need to have regular cervical cancer screenings.

Parity is the number of live-born children a woman has delivered. According to Ifemelumma, Anikwe, Okorochukwu, Onu, Obuna, Ejikeme and Ezeonu (2019), parity is associated with increased chances of being screened for cervical cancer among women. This may be because as the women increase in the number of children born, they are more likely to approach health care facility for antenatal care and different types of reproductive morbidities when opportunistic screening is also done. On the other hand, nulliparous women may scarcely visit a health facility for reproductive morbidities, some resort to quakes even when they are at risk hence, depriving theirself of opportunities to receive professional advice from healthcare workers as regards their reproductive health issues.

Religion is a system of belief and practice by which individuals indicate their recognition of the existence of a god or gods. Religious affiliation could influence the choices of health practices among women. Religion has a strong force in determining several health behaviours in a large context across the globe. Some women may have low knowledge towards cervical cancer because of their religious affiliation as they may not belief that they can have such illness as cervical cancer hence, needless screening for it

Education influence several aspects of life and health including cervical cancer screening. Education exposes an individual to several information and awareness about vast life issues which facilitates informed decision about health issues. According to Jassim, Obeid and Nasheet (2018), educational status was significantly associated with practice of cervical cancer screening as educated women knew that a Pap smear was necessary even in the absence of signs and symptoms and are more likely to practice it. Therefore, this study will assess the knowledge, towards cervical cancer screening among antenatal women visiting primary health care centres in Rivers State.

Statement of the Problem

Cervical cancer can have very high human, social and economic costs. It has devastating effects and commonly affects women in their prime. Challenges of cervical cancer screening in developing countries include limited access to health services and laboratories, no screening programs, limited or nonexistent awareness among populations and health workers, and poor referral and follow up. Several women die in

Rivers State due to cervical cancer. This in most cases was not as a result of the disease but due to late diagnosis of the disease. Most cancers including cervical cancer do not exhibit serious symptoms to give signal that it is developing, this makes many women affected with cervical cancer not to know their status until the disease grow to its late stage and become so threating to life before they decide to visit a doctor. At this stage, it becomes difficult for them to manage it cum the high cost of treatment involved which many could not afford thereby leading to death. This is so saddening and calls for urgent public health attention. Therefore, this study assessed the knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State.

Aim and Objectives of the Study

The aim of this study was to assess the knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State. Specifically, the study seeks to:

1. assess the knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State.
2. investigate the influence of socio-demographic factors (age, education and religion) on the knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State.

Research questions

This study provided answers to the following research questions:

1. What is the knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State?
2. What is the relationship between socio-demographic factors (age, education and religion) and knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State?

Hypotheses

The following null hypotheses postulated were tested at 0.05 alpha level:

1. Socio-demographic factors (age, education and religion) will have no significant relationship with knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State.

Conceptual framework

The conceptual framework for this study was discussed under the following sub-headings:

Concept of cancer

Cancer is a large family of diseases that involve abnormal cell growth with the potential to invade or spread to other parts of the body. They form a subset of neoplasms. A neoplasm or tumor is a group of cells that have undergone unregulated growth and will often form a mass or lump, but may be distributed diffusely (Jayasekara, MacInnis, Room & English, 2016). They can also be malignant tumors. Anand, Kunnumakkara, Sundaram, Harikumar, Tharakan, Lai, Sung, and Aggarwal (2008) stated that, cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. The most common types of cancer in females are breast cancer and cervical cancer. They can also be malignant tumors.

Concept of Cervical cancer

Cervical cancer usually develops slowly over time. Before cancer appears in the cervix, the cells of the cervix go through changes known as dysplasia, in which cells that are not normal begin to appear in the cervical tissue. Later, cancer cells start to grow and spread more deeply into the cervix and to surrounding areas. Cervical cancer is a disease in which malignant (cancer) cells form in the cervix. The cervix is the lower, narrow end of the uterus (the hollow, pear-shaped organ where a fetus grows). The cervix leads from the uterus to the vagina (birth canal) (National Cancer Institute, 2019). Bosch (2008) stated that, virtually all cervical carcinomas are caused by persistent infection with Human Papillomavirus (HPV), most commonly HPV types 16 and 18. The two major histologic types of cervical cancer include cervical carcinoma (SCCx) and adenocarcinoma. SCCx is the most common type, representing seventy percent of

cases while Adenocarcinoma, which is more commonly associated with HPV type 18, compromises approximately twenty-five percent of cases.

Concept of Cervical Cancer Screening

Screening is the principal preventive measure used to reduce the burden of cervical cancer. Screening is looking for cancer before a person has any symptoms. This can help find cancer at an early stage. When abnormal tissue or cancer is found early, it may be easier to treat. By the time symptoms appear, cancer may have begun to spread. According to the Centers for Disease Control and Prevention (2007), cervical screening is the process of detecting and removing abnormal tissue or cells in the cervix before cervical cancer develops. Denny, Herrero, Levin and Kim (2015) stated that, the main purpose of cervical cancer screening is the identification of early-stage invasive cancer. This is achieved through use of the conventional cytology-based Papanicolaou smear (Pap smear) to identify cervical cancer precursors that can be removed before progression to invasive cancer. By aiming to detect and treat cervical neoplasia early on, cervical screening aims at secondary prevention of cervical cancer.

Concept of knowledge

Hornby (2001) refers to knowledge as the information, understanding and skills that gained through experience or education. Nnachi (2007) conceptualized knowledge as the ability to understand or comprehend phenomena, the acquisition of positive information by exercise of some capacity which human presumably have in common.

Knowledge is the fact, information and skills acquired in the course of experience or education; the theoretical or practical of understanding a focus. Knowledge can also be defined as familiarity or awareness gained by experience of a condition or detail (oxford dictionary 2016).

Onyekwere (2012) asserted that knowledge implies an understanding of specific facts, terminologies, conventions, ways and means of dealing with specific trends, sequences, classifications and categories, criteria, universal and abstract principles and generalizations and structures knowledge does not stop at knowledge or understanding of phenomena but also involves, application, analysis and evaluation of what is known.

METHODOLOGY

This study was a descriptive survey research design. The target population for this study comprised of all the women attending antenatal clinics in Rivers State. There are about five hundred and fifty-five thousand, six hundred and fifty-one (555,651) women attending antenatal clinics in Rivers State (National Population Commission, 2010; WHO, 2015) which was chosen as the population for the study. The multi-stage sampling procedure was employed to select the sample. First, stratified random sampling technique was used for the existing three geographical zones to get three strata, then secondary simple random sampling technique was used to select two Local Government Areas from each of the stratum to give every LGA equal opportunity of been selected. Thereafter, stratified proportionate sampling technique was used to determine the number of women to be selected from each LGA.

Table 1: Sample size distribution table

S/N	LGA under each senatorial district	Population of antenatal women from the selected LGAs	Proportionate distribution of women to be selected from each LGA
	Rivers East		
1	PHALGA	56728	$\frac{56728}{167692} \times 798 = 270$
2	Okrika	23831	$\frac{23831}{167692} \times 798 = 114$
	Rivers West		
3	ASALGA	23650	$\frac{23650}{167692} \times 798 = 112$
4	Ogba/Ndoni/Egbema	30352	$\frac{30352}{167692} \times 798 = 145$
	Rivers South-East		
5	Eleme	20206	$\frac{20206}{167692} \times 798 = 96$
6	Tai	12925	$\frac{12925}{167692} \times 798 = 61$
TOTAL		167692	798

The instrument for data collection was a structured questionnaire titled: "knowledge, of cervical cancer screening questionnaire (KCCSQ)". The instrument consisted of four sections A and B. Section A elicited responses on demographic data of respondents; Section B measured the knowledge of respondents with response options of true or false. A total of 798 respondents were administered the questionnaires, and introduction letter was attached to the questionnaire, while 761 were retrieved, which represents 95.4% of the total questionnaires distributed immediately after the completion.

To ensure validity of the instrument, the questionnaire with the research objectives will be presented to the three (3) experts in the Department of Human Kinetics, Health and Safety Education, Ignatius Ajuru University of Education, Port Harcourt. The reliability of the instrument was ensured by using 20 copies of the validated questionnaire which was administered on subjects outside the study area (Bayelsa State) but homogenous in characteristics. The instrument was administered to 20 women visiting antenatal care first, and after an interval of two weeks, same copies was re-administered and retrieved from same respondents. Both responses were correlated using Pearson Product moment correlation statistics. A reliability co-efficient of 0.78 was obtained

The descriptive statistics of percentage, frequency count and mean were used for demographic characteristics of the participants and research questions. While inferential statistics of chi-square set at 0.05 alpha level was used to test the hypotheses.

RESULTS AND DISCUSSION OF FINDINGS

Presentation of Data

Fig 1: Age of the respondents

Fig 1 shows the age of the respondents. The result shows that 227(29.8%) of the respondents were aged 20-29 years, 415(54.5%) were aged 30-39 years while 119(15.6%) were aged 40-49 years.

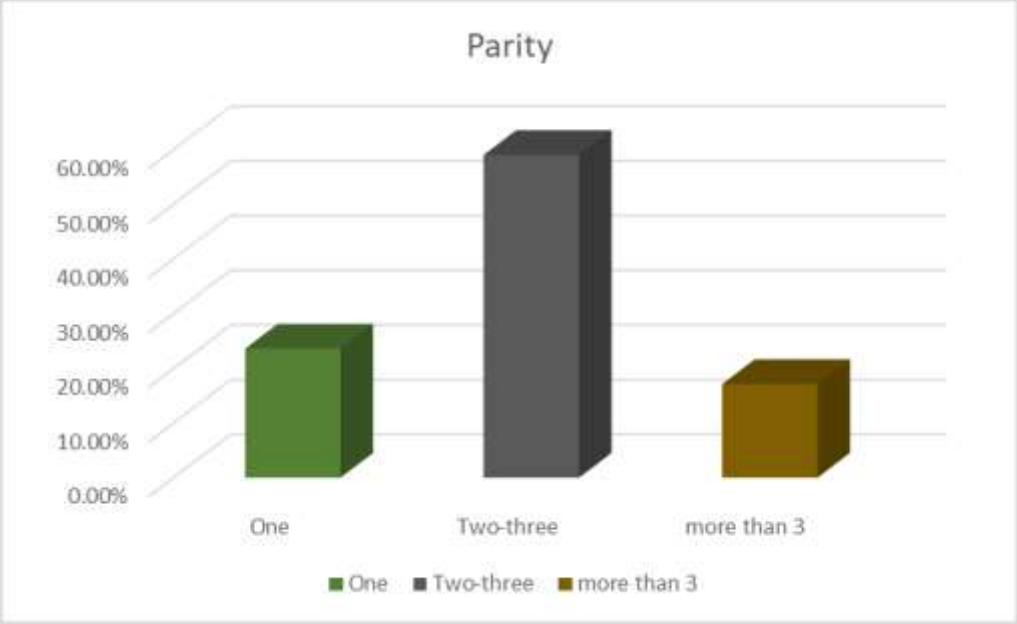

Fig 2: Parity of the respondents

Fig 2 shows the parity of the respondents. The result shows that 176(23.1%) of the respondents had one child, 440(57.8%) had 2-3 children while 130(17.1%) had more than three children.

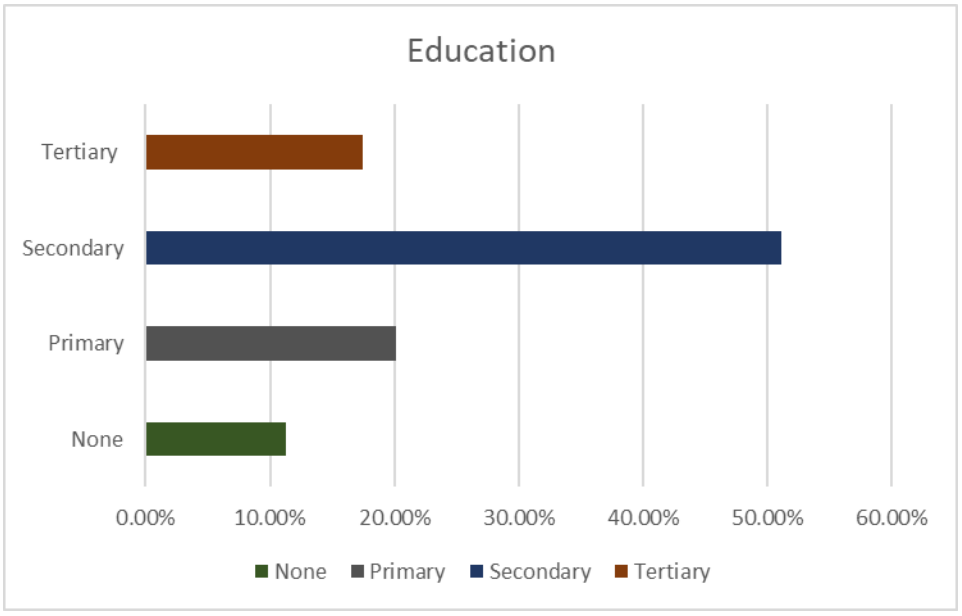

Fig 3: Educational status of the respondents

Fig 3 shows the educational status of the respondents. The result shows that 86(11.3%) had no formal education, 153(20.1%) had primary education, 389(51.1%) had secondary while 133(17.5%) had tertiary education.

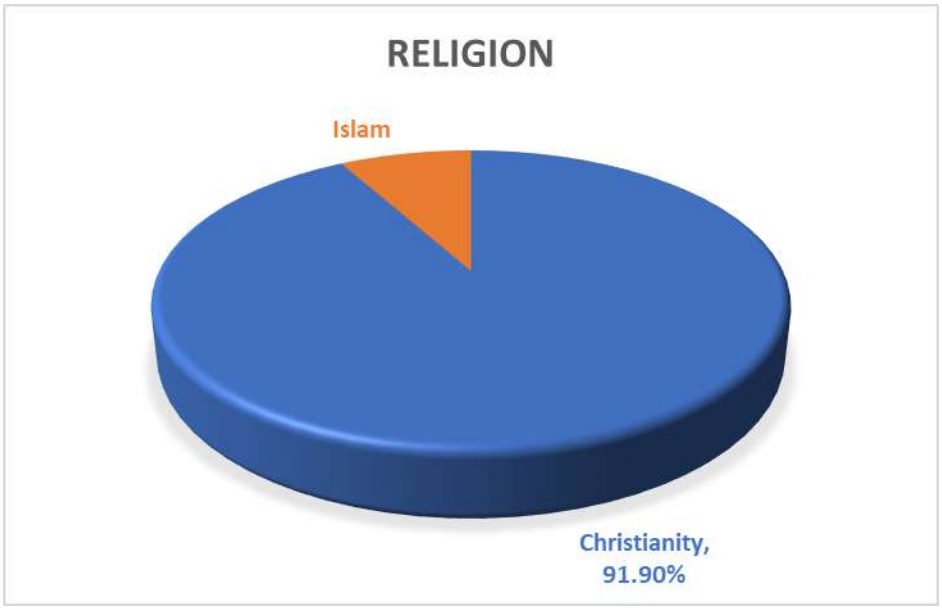

Fig 4: Religion of the respondents.

Fig 4 shows the religion of the respondents. The result shows that majority 699(91.9%) were Christians while 62(8.1%) were Muslims.

Research Question 1: *What is the knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State?*

Table 2: Knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State

SN	Items	Responses	
		Correct F(%)	Incorrect F(%)
1	Cervical cancer screening is the process of detecting and removing abnormal tissue or cells in the cervix before cervical cancer develops	657(86.3)	104(13.7)
2	The purpose of screening is to detect abnormal cells in the cervix	624(82.0)	137(18.0)
3	the cervical cancer screening test is used to check the health of the cells of the cervix	714(93.8)	47(6.2)
4	It is not possible to detect cervical cancer with the screening procedure before symptoms appear	702(92.2)	59(7.8)
5	Pap smear test is the only method of screening for cervical cancer	738(97.0)	23(3.0)
6	Breast-self-examination is one of the screening methods for cervical cancer	635(83.4)	126(16.6)
7	The Pap test is not a helpful screening test for cervical cancer in women who are younger than 21 years	707(92.9)	54(7.1)
8	All women aged 21 years and above should be screened for cervical cancer	715(94.0)	46(6.0)
9	Cervical cancer screening is used to screen for cancer in the cervix even when a person does not have symptoms	719(94.5)	42(5.5)
10	Screening for cervical cancer helps decrease the number of deaths from the disease	717(94.2)	44(5.8)
11	Cervical cancer can be screened by visual inspection with acetic acid (VIA)	674(88.6)	87(11.4)
12	HPV test is one of the methods of screening for cervical cancer	647(85.0)	114(15.0)
13	Ideally, women 25 to 65 years old should receive an HPV test once every 5 years	643(84.5)	118(15.5)
14	Women 65 and older or who had a hysterectomy may stop screening if their HPV test results have been mostly negative over the previous 15 years	720(94.6)	41(5.4)
15	women should not have sex 24 h before having a Pap smear	699(91.9)	62(8.1)

Table 2 shows the knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State. The result shows that majority 657(86.3%) knew that cervical cancer screening is the process of detecting and removing abnormal tissue or cells in the cervix before cervical cancer develops, 624(82.0%) knew that the purpose of screening is to detect abnormal cells in the cervix, 714(93.8%) knew that the cervical cancer screening test is used to check the health of the cells of the cervix, 702(92.2%) knew that it is not possible to detect cervical cancer with the screening procedure before symptoms appear, 738(97.0%) knew that, pap smear test is the only method of screening for cervical cancer, 635(83.4%) knew that breast-self-examination is one of the screening methods for cervical cancer, 719(94.5%) knew that cervical cancer screening is used to screen for cancer in the cervix even when a person does not have symptoms, 720(94.6%) knew that women 65 and older or who had a hysterectomy may stop screening if their HPV test results have been mostly negative over the previous 15 years while 699(91.9%) women should not have sex 24 h before having a Pap smear.

Research Question 2: *What is the relationship between socio-demographic factors (age, education and religion) and knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State?*

Table 3: Relationship between socio-demographic factors (age, education and religion) and knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State

Socio-demographic factors	Knowledge of Cervical Cancer		Total	r-value	Decision
	Good	Poor	F(%)		
	F(%)	F(%)			
Age				**.052**	***VLR**
20-29 years	175(77.1)	52(22.9)	227(100)		
30-39 years	293(70.6)	122(29.4)	415(100)		
40-49 years	85(71.4)	34(28.6)	119(100)		
Total	**553(72.7)**	**208(27.3)**	**761(100)**		
Education				**-.002**	***VLR**
None	66(76.7)	20(23.3)	86(100)		
Primary	109(71.2)	44(28.8)	153(100)		
Secondary	276(71.0)	113(29.0)	389(100)		
Tertiary	102(76.7)	31(23.3)	133(100)		
Total	**553(72.7)**	**208(27.3)**	**761(100)**		
Religion				**-.053**	***VLR**
Christianity	503(72.1)	196(28.0)	699(100)		
Islam	50(80.6)	12(19.4)	62(100)		
Total	**553(72.7)**	**208(27.3)**	**761(100)**		

Table 3 shows the relationship between socio-demographic factors (age, education and religion) and knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State. The result shows that there was a very low relationship between age (r-value = .052), education (r-value = -.002), religion (r-value = -.053) and knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State.

Testing of Hypotheses

Hypothesis 1: Socio-demographic factors (age, parity, education and religion) will have no significant relationship with knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State.

Table 4: Chi-square test showing the relationship between Socio-demographic factors (age, education and religion) and knowledge of cervical cancer screening among antenatal women visiting primary health care centres

Socio-demographic factors	Knowledge of Cervical Cancer		Total	df	X^2-value	p-value	Decision
	Yes	No	F(%)				
	F(%)	F(%)					
Age				**2**	**3.221**	**.200**	**Accepted**
20-29 years	175(77.1)	52(22.9)	227(100)				
30-39 years	293(70.6)	122(29.4)	415(100)				
40-49 years	85(71.4)	34(28.6)	119(100)				
Total	**553(72.7)**	**208(27.3)**	**761(100)**				
Education				**3**	**2.538**	**.469**	**Accepted**
None	66(76.7)	20(23.3)	86(100)				
Primary	109(71.2)	44(28.8)	153(100)				
Secondary	276(71.0)	113(29.0)	389(100)				
Tertiary	102(76.7)	31(23.3)	133(100)				
Total	**553(72.7)**	**208(27.3)**	**761(100)**				
Religion				**1**	**2.163**	**.141**	**Accepted**
Christianity	503(72.1)	196(28.0)	699(100)				
Islam	50(80.6)	12(19.4)	62(100)				
Total	**553(72.7)**	**208(27.3)**	**761(100)**				

Table 4 shows the chi-square test of significant relationship between socio-demographic factors (age, education and religion) and knowledge of cervical cancer screening among antenatal women visiting primary health care centres. The result shows that there was no significant relationship between socio-demographic factors (age (X^2-value = 3.221, df = 2, p>0.05), education (X^2-value = 2.538, df = 3, p>0.05) and religion (X^2-value = 2.163, df = 1, p>0.05) and knowledge of cervical cancer screening. Therefore, the null hypotheses which states there was no significant relationship between socio-demographic factors (age, education and religion) and knowledge of cervical cancer screening among antenatal women visiting primary health care centres in Rivers State was accepted.

Summary of major findings

1. The finding of the study showed that majority of the respondents were knowledgeable about cervical cancer screening.
2. The result shows that there was no significant relationship between socio-demographic factors (age (X^2-value = 3.221, df = 2, p>0.05), education (X^2-value = 2.538, df = 3, p>0.05) and religion (X^2-value = 2.163, df = 1, p>0.05) and knowledge of cervical cancer screening.

DISCUSSION OF FINDINGS

Knowledge of cervical cancer screening

The finding of the study showed in Table 2 that majority of the respondents were knowledgeable about cervical cancer screening as 624(82.0%) knew that the purpose of screening is to detect abnormal cells in the cervix, 714(93.8%) knew that the cervical cancer screening test is used to check the health of the cells of the cervix. This finding is encouraging because knowledge has been identified as a prerequisite for any health practice. The finding of this study is similar to that of Dulla, Daka and Wakgari (2017) which showed that majority of the respondents knew the procedure for the screening of cervical cancer. The similarity found between the two studies can be explained by the fact that the previous study was carried out among female health care workers who are expected or seen as custodian of knowledge of vast health issues whereas the present study was carried out among women attending antenatal clinics which implies that, the health care workers who are knowledgeable about cervical cancer screening may have been committed to making such information available to the antenatal women hence, the similarity between the two studies. However, the findings of this study is at variance with several other studies. The finding of this study is at variance with that of Al-meer, Aseel, Al-khalaf, Al-kuwari and Ismail (2011) which showed that the respondents who are women visiting primary health care in Qatar had poor knowledge of cervical cancer screening. The finding of this study is also different from that of Ahmed, Sabitu, Idris and Ahmed (2013) which showed that only few of the respondents were knowledgeable about cervical cancer screening. The variation found between the two studies might be due to the fact that the sample size for the previous study was much lesser than the one for the present study.

Socio-demographic factors and knowledge of cervical cancer screening

The result shows that there was no significant relationship between socio-demographic factors (age (X^2-value = 3.221, df = 2, p>0.05), education (X^2-value = 2.538, df = 3, p>0.05) and religion (X^2-value = 2.163, df = 1, p>0.05) and knowledge of cervical cancer screening. This finding is unexpected and thus surprising because factors particularly education which exposes one to vast information and a source of enlightenment was expect to influence vast health issues which was not the outcome in this study. The finding of this study is in tandem with that of Aweke, Ayanto and Ersado (2017) which showed that good knowledge and socio demographic factors were not statistically significant with poor knowledge score for cervical cancer screening (p>0.05). The similarity found between the present study and the previous one might be due to the homogeneity of the characteristics of the population studied. The finding of this study is at variance with that Al-meer, Aseel, Al-khalaf, Al-kuwari and Ismail (2011) which showed that socio-demographic factors such as age and education had a significant relationship with knowledge of cervical cancer screening. The finding of this study is also at variance with that Bansal, Pakhare, Kapoor, Mehrota and Kokane (2015) which showed that socio-demographic factors such as age and education were significant predictors of knowledge of cervical cancer screening. The variation found between the two studies might be due to the variation in the sample size, and location of the different studies.

CONCLUSION

Based on the findings of the study, it was concluded that the antenatal women visiting primary health care centres in Rivers State has good knowledge of cervical cancer screening.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. The Ministry of Health should make effort to promote cervical cancer screening among women by establishing well-organized cervical cancer screening programme primary health care services.
2. The primary health care board should adapt cervical cancer screening package by integrating it with other reproductive health services like antenatal and postnatal care services.
3. There is the need for health educators to establish a sustainable awareness campaign about cervical cancer screening through the media and other channels of communication.
4. Women also have a role to play by making conscious and voluntary effort to be screened by presenting their self for the screening.

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