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ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF PAP SMEAR AMONG FEMALE CLINICAL MEDICAL STUDENTS AT CHUKWUEMEKA ODUMEGWU OJUKWU UNIVERSITY TEACHING HOSPITAL, AMAKU, AWKA, ANAMBRA STATE

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Abstract: **Cervical cancer continues to kill too many women worldwide, especially the poorest; a disease that is both preventable and treatable. The objective of this study is to assess the knowledge, attitude and practice of pap smear among female clinical medical students at Chukwuemeka Odumegwu Ojukwu University Teaching Hospital, Amaku, Awka, Anambra State. This study was carried out using a descriptive survey design on clinical medical students who are female at COOU in 2022. The inclusion criteria were clinical medical students who are female and are ready to respond to the questionnaire. The study participants were selected through a simple random sampling method. Data were collected via face-to-face interviews by one trained interviewer using a structured questionnaire. SPSS version 28.0 was used for data analysis and chi-square test to determine the relationship between knowledge and attitudes and practice. From the result, Greater percentage of the respondents believed that PAP smear is able to detect all the female genital cancer. 81 (72%) of the students also highlighted that PAP smear screening is very expensive. 69 (62%) of the participants explained that discomfort in the genital tract is one major reason for not having PAP smear. The student believes that lack of knowledge about the PAP smear is a likely reason for not having PAP smear. More than half of the participants are of the opinion that the negligence despite having knowledge about PAP smear is also another practice that would encourage not having PAP smear. The findings of this research show an immediate need to intervene to promote and encourage females to get PAP smears on a regular basis in order to detect cervical cancer at an early stage. Given that lack of knowledge and fear of test results are the most common reasons for women not going for PAP smear checks, doctors and other medical providers should view every contact with women as an opportunity to educate and motivate them to get regular Pap smears. In conclusion, there is need for more information to be circulated among the clinical medical students of COOU so as to improve their knowledge bank, practice and positive attitude towards pap smear.**

Keywords: **female clinical medical students, knowledge and attitudes and practice.**

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1. INTRODUCTION

Cervical cancer is the most common gynecological cancer leading to death (1) in Africa, especially in sub-Saharan Africa in countries like Nigeria (3). Cervical cancer is caused by human papillomavirus infection (4). Human papillomavirus (HPV) is one of the most prevalent sexually transmitted infections for which >100 genotypes have been identified to date, of which at least 13 are carcinogenic. High-risk HPV types are 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, and 58, and HPV 16 and HPV 18 are responsible for 70% of cervical cancers and precancerous lesions. Although most HPV infections are asymptomatic, the virus can cause vaginal, penile, anal cancer, various types of benign and malignant tumors on the skin and mucous membranes such as common warts on the skin, anogenital warts, oral and pharyngeal papillomas and recurrent respiratory papillomatosis. (5) Most human papillomavirus infections are harmless and resolve spontaneously, but persistent high-risk human papillomavirus infection (especially type 16) can cause cancer of the cervix, vulva, vagina, anus, penis, and oropharynx.

Chronic infection of the cervix uteri with human papillomavirus (HPV), particularly the HPV16 and HPV18 subtypes, can lead to the development of low-grade and high-grade cervical squamous intraepithelial lesions (LSILs and HSILs, respectively). (3) The risk of developing cervical HR-HPV infection increases with the number of lifelong sexual partners, smoking intensity (4), immunosuppression, low socioeconomic status, and long-term use of oral contraceptives (8). The risk is also higher in women with an early sexual debut and a history of using hormonal contraceptives. Changes in the vaginal microbiota, such as *Bacterial vaginosis*, are associated with cervical HR-HPV infection. Co-infections with sexually transmitted infections (STIs) such as *Trichomonas vaginalis* are associated with HPV infection. Infection with Chlamydia trachomatis can also increase the risk of developing cervical cancer. (4) Although the vast majority of women with high-risk HPV infection do not develop cancer, persistent infection (>2 years) with high-risk HPV types is generally recognized as the primary causative factor in the development of cervical cancer. In immunocompetent women, progression to invasive cervical cancer typically occurs 10 to 20 years after primary infection.

Cervical cancer and its precursor lesion is the most important gynecological detection of human immunodeficiency virus HIV). Women with HIV are three times more likely to develop cervical cancer. HPV infections are very common due to their transmission nature, but very few infections progress to become malignant and lead to cervical cancer. HPV is the leading cause of cervical cancer, but some risk factors are thought to be associated with the progression of cervical cancer. The most important and most widespread risks are multiple sex partners and frequent use of oral contraceptives. At the same time, if oral contraceptives are used in girls under 17, having sex before the age of 17 may further increase the risk of cervical cancer. Both of these risks are associated with high levels of hormones, thus accelerating the progression of cervical cancer. Circulating levels of estrogen and progesterone are elevated due to multi parity and use of long-term oral contraceptives. Elevated levels of estrogen cause acidification of the cervix, which ultimately facilitates squamous metaplasia. (6)

According to the World Health Organization (WHO) and the International Union (IUN) against cancer, 24.6 million people are living with cervical cancer worldwide. In 2002 and 2008, 7.6 million people died from cancer. Cervical cancer is the fifth and second most common malignancy in men and women worldwide. A total of 715,000 new cases of cervical cancer and 542,000 deaths from cervical cancer have been estimated in Africa. (6) Cervical cancer is the second most common cancer in women in Nigeria. In 2018, West Africa had 31,955 new cases of cervical cancer, and Nigeria accounted for almost half (14,943). In the same year, there were also 10,403 deaths (28 deaths per day) from cervical cancer in the country. (2)

The majority of women with cervical cancer experience a long asymptomatic phase until and unless clinically manifested. Therefore, regular and proper cytological screening, i. e. the detection and removal of abnormal tissue or cells in the cervix needed to treat cervical neoplasia to prevent progression of a precancerous lesion to malignant and active cancer. Screening efforts in developing countries are suspected to be very limited, as it has not yet been confirmed whether these screening strategies are cost-effective in developing countries, where cervical cancer is the most common cancer along with breast cancer. It is a common type of cancer in low-income countries because poor women are less likely to be screened as they are more at risk of common cervical cancer risks such as: Smoking and unsafe sex. (6)

Cervical cancer, like other cancers, is a preventable disease due to the long pre-invasive stage. Early detection and appropriate treatment are possible when robust screening is performed. (9) Screening is an important step in preventing cervical cancer. The burden of disease and global health inequalities would be reduced by improving the effective coverage

of screening to reduce the prevalence of cervical cancer. (6) Early cervical epithelial changes can be identified by a Pap smear, which is the primary screening test to detect precancerous cervical intraepithelial neoplasia and the early stage of invasive cervical cancer. (9) Pap cytology has done much to reduce the prevalence of cervical cancer; Incidence and death rate worldwide. (6) The overall sensitivity of the Pap test for detecting a high-grade squamous intraepithelial lesion (HSIL) is 70.80%.5 Pap screening performed in conjunction with an HPV DNA test increases the sensitivity for early detection precancerous lesions. (9)

In May 2018, the World Health Organization (WHO) called for a global initiative to eliminate cervical cancer as a public health problem. Achieving this goal requires global expansion of effective human papillomavirus (HPV) vaccination and cervical cancer screening and treatment. Cervical cancer screening was evaluated by the International Agency for Research on Cancer (IARC) Handbooks program in 2005, and a re-evaluation was deemed timely given the major advances in the field since then. (8). Cervical cancer is largely preventable, both through vaccination and through screening for precursor lesions with proper follow-up and treatment. As a secondary goal, screening can lead to early detection of cancer, which can allow for earlier treatment and a reduction in the risk of death from cervical cancer. Prevention of cervical cancer and death by screening typically relies on a multi-step process that includes screening, triage of patients with positive screening results, confirmation by biopsy, and treatment of patients with precancerous lesions. The provision of screening and treatment is possible in many countries through population-based (organized) or non-population-based (unorganized) programs or through opportunistic screening. (8)

Pap smear test is required for early detection of cervical cancer. WHO suggests that cervical cancer should be diagnosed in all countries. Diagnosis methods and frequency of cervical cancer may change depending on the situation in the country. It is estimated that a woman's risk of dying from cervical cancer decreases by 5/10,000 from 4/1,000 through the annual pap smear test. However, it is quite difficult to follow women of low and middle socioeconomic level who have been diagnosed with an effective screening program and an abnormal scan test. Therefore, the mortality rate from cervical cancer is much higher in developing countries. (10)

Despite all efforts (pap smear and HPV test, vaccination) to prevent cervical cancer, the rate of performing a pap smear differs in developed and underdeveloped countries. Although 85% of women in developed countries have a Pap smear at least once in their lifetime, in less developed countries the rate is only 5%. (10) Several studies have shown that there are major differences in knowledge, attitudes and practice regarding cervical cancer and pap smear testing. Clinical medical students play a huge role in society as they share information with their family, friends, patients and the general public. So, the need to assess the knowledge, attitude and practice among clinical medical students of the COOU Teaching Hospital regarding Pap smears.

2. MATERIALS AND METHODS

This study was carried out using a descriptive survey design on clinical medical students who are female at Chukwuemeka Odumegwu Ojukwu teaching hospital Awka in 2022. The inclusion criteria were clinical medical students who are female and are ready to respond to the questionnaire. The study participants were selected through a simple random sampling method. Data were collected via face-to-face interviews by one trained interviewer using a structured questionnaire.

Therefore, 112 medical students were involved in our study after using appropriate sample size adopted based on the below sample size formula.

$$\mathbf{n} = \frac{\mathbf{N}}{\mathbf{1+N(q)^2}}$$

Were

n = Sample size

N= Population size

q = Level of precision = 0.05

A 22-item, self-administered questionnaire with four components was employed. Four (4) questions evaluated the demographic profile of the participants, six (6) questions assessed knowledge of pap smear among the participant, five (5) questions explored attitude of the participants as regarding PAP Smear, and five (5) questions evaluated the

practice/respondent reasons for not having PAP Smear. These question items were constructed after doing a thorough literature research on the subject area,

The knowledge questions were completed by all the participants and were categorized in three segments of (Agree, Disagree and Uncertain), while the attitude statements were responded by all of the subject. For those who claimed to have not heard something or may not understand about Pap smears, before bringing up the attitude questions, the researcher explained briefly about Pap Smear.

Validity of the Instruments

The content validity of the questionnaire was determined using the comments of eight experts including gynecologists and midwifery faculty members and its reliability using a test-re-test.

Knowledge questions had three options. To calculate the knowledge score, correct answers were given a score of 1, and incorrect or "unsure" answers were given a score of 0. Attitude statements had five options which were rated on a 0-2 point. To produce a total knowledge and attitudes score, the scores were summed and then converted to 0–100 to make the total scores more informative. A higher score reflects a higher knowledge or better attitude about Pap smears. Total knowledge score was classified into three levels; scores of 0-35 " weak ", scores of >35- 60 level of " moderate " and a score of 61 or higher level is classified as being "strong ". Attitudes score was classified into 0-49 " weak attitude " and 50 and above " good attitude "

We used SPSS version 28.0 for data analysis. The chi-square test was used to determine the relationship between knowledge and attitudes and practice.

3. DISCUSSION OF RESULTS

Most of the participant were between the age range of 31-40 years having approximately 61 (55%) response rate, the majority (93%), approximately up to 50 (45%) of the participant in the study were in final year and most of them were not married. Other characteristics of the participants which include (source of information) is presented in (table 1).

Assessing the Knowledge of clinical medical students about PAP Smear

For assessing the knowledge of PAP Smear among clinical student who are female at Chukwuemeka Odumegwu Ojukwu teaching hospital, A greater percentage of the students 43 (38%) believed that PAP Smear is not successful in reducing the incidence and mortality of cervical cancer, however 28 (25%) of the participants agreed to this statement item 1. Only approximately 41 (37%) were uncertain about their response regarding this measurement item 1. Considering the second measurement item 2, almost all the female student who participated in the study 97 (87%) agreed that PAP smear is a noninvasive and relatively inexpensive method. 83 (74%) responded that in PAP Smear cervical cells are examined, moreover, approximately 69 (62%) suggested that PAP Smear can be performed with or without a doctor. Greater percentage of the respondents believed that PAP smear is able to detect all the female genital cancer. Conclusively, the aggregate mean **(3.05±1.034)** of assessing the knowledge of PAP smear among clinical student is greater than the minimum accepted mean of 2.0 as suggested by the Likert scale. Other information regarding the knowledge of the participants about PAP smear was presented in (table 2)

Assessing the attitude of clinical medical students about PAP Smear.

In other to assess the attitude of the participants regarding PAP Smear among clinical student who are female at Chukwuemeka Odumegwu Ojukwu teaching hospital, The attitude of the greater participants 52(46%) suggest that having PAP Smear is a very painful session, whereas only about 38 (34%) of the participants were could not ascertain if the PAP smear session is painful or not. It is very obvious that most of the responses 69 (62%) indicate that the students would be worried if diagnosed of cervical cancer. This attitude towards PAP Smear could lead to a negligence by the participants to ascertaining the current status as regards cervical cancer. Other attitude preventing more than half of the participants 71 (63 %) from having PAP Smear was seen to be prioritizing other things. 81 (72%) of the students also highlighted that PAP smear screening is very expensive. This information is seen as presented in (table 3). In conclusively, the aggregate mean **(3.31 ± 1.317)** of assessing the attitude of PAP smear among clinical student is greater than the minimum accepted mean of 2.0 as suggested by the Likert scale.

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Assessing the practice/reasons of not having PAP Smear.

Some of the reasons why the participants are not having PAP Smear was highlighted in this section, most respondents about 52 (46%) as indicated in item 12 were imagining that PAP smear is a painful process and was a reason why they wouldn't like to have PAP smear. Also 69 (62%) of the participants explained that discomfort in the genital tract is one major reason for not having PAP smear. The student believes that lack of knowledge about the PAP smear is a likely reason for not having PAP smear. More than half of the participants are of the opinion that the negligence despite having knowledge about PAP smear is also another practice that would encourage not having PAP smear). In conclusively, the aggregate mean **(3.29 ± 0.671)** of assessing the practice of PAP smear among clinical student is greater than the minimum accepted mean of 2.0 as suggested by the Likert scale. This information is seen as presented in (table 4).

Table 1: Demographic characteristics of the respondents

Variable	Category	n (%)
Age		
	20-30 years	37 (33.03%
	31-40 years	61 (54.5%)
	41-50 years	14 (12.5%)
	>50 years	===
Level of Study		
	3rd year	19 (16.9%)
	4th year	43 (38.4%)
	Final year	50 (44.6%)
Source of Information		
	Family and friends	11 (9.8%)
	Online and resources materials	21 (18.8%)
	Health professionals	59 (52.7%)
	Social media	21 (18.8%)
Marital status		
	Single	68 (60.7%)
	Married	44 (39.3%)

Table 2: Knowledge Of Pap Smear Among Female Clinical medical students

	Measurement Item	Agree	Disagree	Uncertain
Item 1	PAP Smear is not successful in reducing the incidence and mortality of cervical cancer	28 (25%)	43 (38.4%)	41 (36.6%)
Item 2	PAP smear is a noninvasive and relatively inexpensive method	97 (86.6%)	03 (2.7%)	12 (10.7%)
Item 3	In PAP Smear cervical cells are examined	83 (74.1%)	11 (9.8%)	18 (16.1%)
Item 4	There is no need to have PAP Smear if it is not administered by a doctor	15 (13.4%)	69 (61.6%)	28 (25%)
Item 5	If a patient is having a normal PAP Smear, She does not need PAP Smear in the future.	02 (1.7%)	99 (88.4%)	11 (9.8%)
Item 6	PAP Smear is able to detect all the female genital cancer	43 (38.4%)	29 25.9%)	40 (35.7%)

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Table 3: Attitude of Pap Smear Among Female Clinical medical students

		Agree	Disagree	Uncertain
Item 7	Having a PAP Smear is a very painful session	52 (46.4%)	22 (19.6%)	38 (33.9%)
Item 8	I would be worried if diagnosed with cervical cancer	69 (61.6%)	31 (27.7%)	12 (10.7%)
Item 9	I will be scared if something wrong would be detected when I go for the PAP Smear test	57 (50.9%)	25 (22.3%)	30 (26.8%)
Item 10	Prioritizing other things has been a barrier is a barrier to having PAP Smear	71 (63.4%)	37 (33.0%)	04 (3.4%)
Item 11	Going for PAP Smear screening is very expensive	81 (72.3%)	26 (23.2%)	05 (4.5%)

Table 4: Reasons for not having PAP Smear by the clinical female students

		Agree	Disagree	Uncertain
Item 12	Imagining that PAP Smear is a painful process	52 (46.4%)	22 (19.6%)	38 (33.9%)
Item 13	Discomfort in the genital tract	69 (61.6%)	31 (27.7%)	12 (10.7%)
Item 14	Lack of knowledge about PAP Smear	57 (50.9%)	25 (22.3%)	30 (26.8%)
Item 15	Fear of the test result	71 (63.4%)	37 (33.0%)	04 (3.4%)
Item 16	Negligence despite having knowledge about PAP Smear	81 (72.3%)	26 (23.2%)	05 (4.5%)

4. DISCUSSION OF FINDINGS

These results indicate the knowledge, attitude, and practice about Pap smear. More than half of the clinical student in Chukwuemeka Odumegwu Ojukwu teaching hospital had a significant knowledge about PAP smear. The attitude of these students were greatly influenced by some factors such as the expensive nature of conducting PAP smear, being worried and scared especially when the result turns out positive, and finally the painful session during PAP smear.

The findings of this study, which show a positive association between attitudes and effectiveness, are in line with the results of other studies (11, 12).

Seow et al believe that the means of increasing Pap smear affirmation are culturally ingrained and must address the proper health mindsets and beliefs Such efforts should include not only raising consciousness and perceptions through public education, but also lessening barriers by creating an appropriate surrounding for the delivery of this critical health service (12).

A significant number of clinical medical students in this study, 69 (62%), stated that the Pap smear is uncomfortable and causes discomfort in the genital tract, and they also believed that fear of the test results was a major factor in not having a PAP smear. These negative attitudes are much more prevalent than the 26% and 19% reported in a study of women in Fijian and Hindi, respectively (13).

The findings of this research show an immediate need to intervene to promote and encourage females to get PAP smears on a regular basis in order to detect cervical cancer at an early stage. Given that lack of knowledge and fear of test results are the most common reasons for women not going for PAP smear checks, doctors and other medical providers should view every contact with women as an opportunity to educate and motivate them to get regular Pap smears. The staff should educate their clients on the purpose and significance of this screening, as well as the advantages of early detection and treatment of cervical cancer.

5. CONCLUSION

Despite all efforts towards curbing its prevalence, cervical cancer has proven to be a huge challenge to the health sector of developing nations as it is the second most predominant cancer among females. There are so many risk factors putting virtually all females at risk of HPV infection, which eventually leads to cervical cancer if not properly treated. This is because of poor knowledge and practices alongside negative attitude towards pap smear test a major cervical cancer screening test among females. As a result of this, there is need that the general public is well equipped with information on cervical cancer screening as to reduce the occurrence of the disease. To achieve this, clinical medical students who play a major role in educating the public should be well equipped with proper info so as to pass on the correct information. And also, pap smear test should be made affordable and accessible to all females to eliminate some excuses given for not taking the pap smear test.

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