

AWARENESS AND UPTAKE OF CERVICAL CANCER SCREENING WITH PAP TEST AMONG ANTENATAL CLINIC ATTENDEES AT A NIGERIAN TERTIARY HOSPITAL.

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Abstract

Background: The burden of cervical cancer has continued to worsen in developing countries. Available evidence suggests that the lack of awareness and poor utilisation of the Papanicolaou test are significant contributors to the high mortality from the disease. Pregnancy, childbirth and the postnatal clinic visits afford women opportunities of contact with health facilities where cervical cancer enlightenment and the Papanicolaou test can be done.

Objective: To determine the awareness and attitudes towards cervical cancer screening with the Pap test and its utilization among antenatal clinic attendees at the Federal Medical Centre Yenagoa, and to make recommendations relevant to improving cervical cancer prevention in the region.

Materials and Methods: A prospective cross-sectional descriptive study of 300 pregnant women attending the antenatal clinic of the Federal Medical Centre, Yenagoa. A closed-ended interviewer-administered questionnaire was used to collect data. Data analysis was done using SPSS for windows® version 22.0. The level of statistical significance was set at a probability value of less than 0.05 ($P < 0.05$).

Results: Of all the respondents, only 49% were aware of cervical cancer as an entity, 32% knew it was a preventable disease, 28% were aware of the pap test as a screening test for the condition but only 9.3% had done a pap test. Women who were ≥ 25 years of age (odds ratio = 3), with higher (secondary and tertiary) education (odds ratio = 8) and multiparous (odds ratio = 1.67) were more likely to have heard of cervical cancer and also know about the Pap test as a screening test for cervical cancer, but multiparity ($P = 0.01$) was the only statistically significant factor that influenced the uptake of the Pap test. Ninety-six percent of the respondents were willing to do the Pap test if given the opportunity and all the respondents recommended repeated sensitisation about cervical cancer and its prevention including pap test during the antenatal clinic sessions of health talks. Identified barriers to the uptake of the pap test include lack of awareness, cost, long hospital waiting times, perceived unfriendly attitudes of hospital staff and invasion of privacy.

Conclusion: In a developing country like ours, that is fraught with known challenges with provision and utilization of health services, the antenatal and post-natal clinic visits are golden opportunities for healthcare providers to routinely educate women about cervical cancer and offer them opportunities for its screening.

Keywords: Cervical cancer, Mortality, Preventable disease.

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INTRODUCTION

Cervical cancer is a deadly disease. It is the most common genital tract cancer in women in Nigeria and other developing countries and a common cause of death from gynaecological cancers.¹ In Nigeria, every year, 9,922 women are diagnosed of cervical cancer and 8,030 die from the disease.² While cervical cancer

is a preventable disease, it is still a leading cause of death among women in areas where organized screening is not available.³

The incidence is reducing in developed countries but the reverse is the case in developing countries wherein there is progressive increase in its incidence and associated mortality. WHO in 2014

illustrated the great differences found between women living in developed (high-income) versus developing (low- to middle-income) countries and stated as follows: In 2012, 528,000 new cases of cervical cancer were diagnosed worldwide; of these, a large majority, about 85% occurred in developing countries. In the same year, 266,000 women died of cervical cancer worldwide and about 90 percent of the deaths occurred in developing countries.⁴

The main reason for the disparity, as stated by the WHO, is the relative lack of effective prevention, early detection and treatment programs as well as the lack of equal access to such programs. Without these interventions, cervical cancer is usually only detected when it is already at an advanced stage, at which time it is too late for effective treatment, and therefore mortality is high.⁴

While there are many risk factors for the disease which relate to sexual activity (early marriage or early age of first sexual intercourse, multiple sexual partners, long term use of oral contraceptive pills),⁵ the major aetiological factor is persistent infection with oncogenic strains of the sexually transmitted human papilloma virus, that results in cervical cytologic changes which ultimately leads to cervical cancer.³

Cervical cancer is largely a silent disease in its early stages, presenting with symptoms mostly in its late stages. Genital tract examination with histopathologic evaluation of tissue biopsy specimen usually confirms the diagnosis, and treatment could be surgical, chemoradiation or a combination, depending on the stage of the disease.

A peculiar characteristic of cervical cancer is that it is preceded by a precursor lesion (CIN) which usually takes a long time (10 – 15 years) before progressing to cervical cancer. This offers a window of opportunity for screening, diagnosis and treatment of such premalignant lesions, thereby preventing progression to cervical cancer.

The Pap test is a screening test, intended for asymptomatic women and aimed at identifying the precancerous lesions that need follow-up and/or

treatment⁶ as well as cancerous lesions in an early stage when curative treatment is feasible. It is estimated that organized screening with the pap test can reduce cervical cancer deaths by 70% or more, prevent not only the loss of large numbers of life years but also the morbidity and costs of treating advanced disease, and in many cases, preserve fertility when it might otherwise be lost.⁶

The World Health Organization (WHO) recommended a screening interval of 3 – 5 years provided the preceding tests are normal.⁷ The level of protection for women aged 35-64 years is about 93.5% for annual screening, 83.5% for screening every 5 years, and 64% for screening every 10 years.^{3,8}

Many developing countries including Nigeria, do not have functional universal/routine screening programs for cervical cancer (which is often times the result of poor legislation and financial allocation for healthcare, poorly distributed and poorly equipped health facilities), and this, combined with the poor health seeking behaviour of the people, makes screening for cervical cancer opportunistic rather than routine. In Nigeria, only few women present themselves early to the hospitals for screening for cervical cancer when cure could be achieved while majority would seek health care for advanced disease when curative treatment is no longer feasible. It was estimated that only about 10% of Nigerian women ever had cervical cancer screening in their lifetime.⁵

An important strategy towards reduction of the incidence and mortality of cervical cancer is by increasing the screening rate of women that have not screened or those that screen infrequently,⁹ In the absence of a functional universal/routine cervical cancer screening program as occurs in most developing countries, a provider-initiated counselling and testing for cervical cancer will ensure that every eligible woman who presents to a healthcare facility for any reason is enlightened about the condition and possibly screened.

For women who hitherto would not have visited health facilities for other reasons, the antenatal and

postnatal clinic visits afford them opportunities of contact with healthcare facilities where enlightenment and screening for cervical cancer can be done.

MATERIALS AND METHODS

This study was conducted at the Federal Medical Centre in Yenagoa, the capital city of Bayelsa State in the South-South region of Nigeria. This was a descriptive cross-sectional survey. This included all pregnant women attending the antenatal clinics of the Federal Medical Centre Yenagoa during the study period. The study was conducted to determine the proportion of pregnant women who were aware of cervical cancer and the Pap test as a screening test for the condition; determine the proportion of women who have had a pap test; and identify barriers to the uptake of the Pap test.

Eligibility criteria included pregnant women attending the antenatal clinics, who were emotionally and physically stable and willing to participate in the study. A total of 300 pregnant women were selected from antenatal clinics for the study. Every consecutive antenatal clinic attendee who satisfied the eligibility criteria and gave consent was recruited until the sample size was obtained.

A closed- ended interviewer- administered questionnaire (developed by the researchers based on extensive literature search on the knowledge and practice of cervical cancer screening.) was used to collect data. The questionnaire was constructed in English language and contained information regarding the sociodemographic data and obstetric profile of the respondents, awareness of cervical cancer and its screening using the Pap test, uptake of the Pap test, as well as perceived barriers to the utilization of the Pap test. The data collection was done on antenatal clinic days of Mondays, Tuesdays, Wednesdays and Thursdays. The data was collected over a period of five consecutive weeks that spanned from May through June, 2018.

DATA ANALYSIS

Data analysis was done using statistical software (SPSS for windows® version 22.0, SPSS Inc.; Chicago, USA). The level of statistical significance was set at a probability value of less than 0.05 ($P < 0.05$).

RESULTS

Maternal socio-demographic characteristics (Table 1)

Three hundred pregnant women participated in the study. Their ages ranged from 20 to 44 years with a mean age of 29.9 years. The modal age group was 30-34 years followed by the 35 – 39 years age group. The majority of the parturients had tertiary level of education (76%); were married (97%) and employed (61%). Christians constituted 96% and the remaining 4% were Muslims. Forty six percent of the respondents were of the Ijaw ethnic group; the rest were Ibo (29%), Yoruba (17%), Hausa (4%) and other Nigerian tribes (4%).

Obstetric Profile

Thirty nine percent ($n = 117$) of the respondents were multiparous. The average parity was 2.5 (Range = 0-5). The majority (84%, $n = 252$) booked for antenatal care during the second trimester of pregnancy, 12% ($n = 36$) did so in the first trimester while 4% ($n = 12$) booked during the third trimester. The average gestational age at booking was 23 ± 4 weeks.

Awareness of cervical cancer and Pap test (Table 2)

Forty nine percent ($n = 147$) of the respondents were aware of cervical cancer as an entity and as a deadly disease but only 20% ($n = 60$) knew that the disease is associated with sexual activity. While 21% ($n = 63$) of the respondents were aware of human papilloma virus as a sexually transmitted organism, only 10% ($n = 30$) were aware of it as a causative infective organism in cervical cancer. Thirty two percent ($n = 96$) of the respondents were aware that cervical cancer is a preventable disease but only 28% ($n = 84$) were aware of the

Papanicolaou test as a screening test for cervical cancer.

Factors influencing the awareness of cervical cancer and Pap test (Tables 3 and 4)

Women who were ≥ 25 years of age (odds ratio = 3), with higher (secondary and tertiary) education (odds ratio = 8) and multiparous (odds ratio = 1.67) were more likely to have heard of cervical cancer and also know about the Pap test as a screening test for cervical cancer.

Uptake of the Pap test

Of all the pregnant women attending the antenatal clinic during the study period, only 9.3% (n = 28) had done a pap test; 0.3% (n = 1) had done twice, while 9% (n = 27) had done once. Two hundred and seventy two out of the 300 respondents (90.7%) had never done a pap test.

Factors influencing the uptake of the Pap test (Table 5)

Among the respondents, multiparity (P = 0.01) was the only statistically significant factor that influenced the uptake of the Pap test.

Attitude towards the Pap test

Ninety-six percent (n = 288) of the respondents were willing to do the pap test if given the opportunity and all the respondents (n = 300) recommended repeated sensitization about cervical cancer and its prevention including pap test during the antenatal clinic sessions of health talks.

Barriers to the utilization of the Pap test

As depicted in table 6, among the respondents who had never been screened (n = 272, 90.67% of the total respondents), the identified barriers to the uptake of the pap test include lack of awareness, cost of the test, long hospital waiting times, unfriendly attitudes of hospital staff and invasion of privacy.

Table 1: Maternal sociodemographic and obstetric profile

| | Frequency | Percentage |
|----------------------------|-----------|--------------|
| Age group | | |
| 20-24 | 12 | 4.0 |
| 25-29 | 72 | 24.0 |
| 30-34 | 123 | 41.0 |
| 35-39 | 87 | 29.0 |
| 40-44 | 6 | 2.0 |
| Total | 300 | 100.0 |
| Educational status | | |
| No formal education | 0 | 0 |
| Primary | 9 | 3.0 |
| Secondary | 63 | 21.0 |
| Tertiary | 228 | 76.0 |
| Total | 300 | 100.0 |
| Marital status | | |
| Single | 9 | 3.0 |
| Married | 291 | 97.0 |
| Total | 300 | 100.0 |
| Employment status | | |
| Unemployed | 117 | 39.0 |
| Employed | 183 | 61.0 |
| Total | 300 | 100.0 |
| Religion | | |
| Christianity | 288 | 96.0 |
| Islam | 12 | 4.0 |
| Total | 300 | 100.0 |
| Tribe | | |
| Ijaw | 138 | 46.0 |
| Ibo | 87 | 29.0 |
| Yoruba | 51 | 17.0 |
| Hausa | 12 | 4.0 |
| Others | 12 | 4.0 |
| Total | 300 | 100.0 |
| Parity | | |
| Nulliparous | 72 | 24.0 |
| Primiparous | 104 | 34.7 |
| Multiparous | 117 | 39.0 |
| Grand multiparous | 7 | 2.3 |
| Total | 300 | 100.0 |

Table 2: Awareness of cervical cancer and uptake of Papanicolaou test

| | Frequency | Percentage |
|------------------------------|-----------|--------------|
| Awareness of cervical cancer | | |
| Aware | 147 | 49.0 |
| Not aware | 153 | 51.0 |
| Total | 300 | 100.0 |
| Awareness of Pap test | | |
| Aware | 84 | 28.0 |
| Not aware | 216 | 72.0 |
| Total | 300 | 100.0 |
| Uptake of Pap test | | |
| Done a pap test | 28 | 9.3 |
| Never done a pap test | 272 | 90.7 |
| Total | 300 | 100.0 |

Table 3: Factors influencing awareness of cervical cancer

| | Aware n (%) | Not aware n (%) | Total N | OR (95% CI) | P-Value |
|---------------------------|----------------|--------------------|------------|-------------------------|-------------|
| <i>Age group</i> | | | | | |
| < 25 years | 3 | 9 | 12 | 0.33 | |
| ≥ 25 years | 144 | 144 | 288 | 3.00 (0.80-11.31) | 0.10 |
| <i>Educational status</i> | | | | | |
| Primary or less | 1 | 8 | 9 | 0.12 | |
| At least secondary | 146 | 145 | 291 | 8.06 (0.99-65.23) | 0.05 |
| <i>Marital status</i> | | | | | |
| Single | 3 | 6 | 9 | 0.51 | |
| Married | 144 | 147 | 291 | 1.96 (0.48-7.98) | 0.35 |
| <i>Employment status</i> | | | | | |
| Unemployed | 52 | 65 | 117 | 0.74 | |
| Employed | 95 | 88 | 183 | 1.35 (0.85-2.15) | 0.21 |
| <i>Religion</i> | | | | | |
| Christianity | 143 | 146 | 289 | 1.71 (0.49-5.98) | 0.40 |
| Islam | 4 | 7 | 11 | 0.58 | |
| <i>Parity</i> | | | | | |
| Nulliparous* | 32 | 40 | 72 | | |
| Primiparous | 41 | 63 | 104 | 0.81 (0.44-1.50) | 0.51 |
| Multiparous | 71 | 53 | 124 | 1.67 (0.93-3.01) | 0.08 |

*Used for comparison

Table 4: Factors influencing knowledge of Papanicolaou test

| | Aware n (%) | Not aware n (%) | Total N | OR (95% CI) | P-value |
|---------------------------|----------------|--------------------|------------|-------------------------|-------------|
| <i>Age group</i> | | | | | |
| < 25 years | 3 | 9 | 12 | 0.33 | |
| ≥ 25 years | 144 | 144 | 288 | 3.00 (0.80-11.31) | 0.10 |
| <i>Educational status</i> | | | | | |
| Primary or less | 1 | 8 | 9 | 0.12 | |
| At least secondary | 146 | 145 | 291 | 8.06 (0.99-65.23) | 0.05 |
| <i>Marital status</i> | | | | | |
| Single | 3 | 6 | 9 | 0.51 | |
| Married | 144 | 147 | 291 | 1.96 (0.48-7.98) | 0.35 |
| <i>Employment status</i> | | | | | |
| Unemployed | 52 | 65 | 117 | 0.74 | |
| Employed | 95 | 88 | 183 | 1.35 (0.85-2.15) | 0.21 |
| <i>Religion</i> | | | | | |
| Christianity | 143 | 146 | 289 | 1.71 (0.49-5.98) | 0.40 |
| Islam | 4 | 7 | 11 | 0.58 | |
| <i>Parity</i> | | | | | |
| Nulliparous* | 32 | 40 | 72 | | |
| Primiparous | 41 | 63 | 104 | 0.81 (0.44-1.50) | 0.51 |
| Multiparous | 71 | 53 | 124 | 1.67 (0.93-3.01) | 0.08 |

Table 5: Factors influencing the uptake of Papanicolaou test

| | Done pap test n (%) | Never done pap test n (%) | Total N | OR (95% CI) | P-value |
|---------------------------|---------------------------|------------------------------------|------------|--------------------------|-------------|
| <i>Age group</i> | | | | | |
| < 25 years | 1 | 11 | 12 | 0.88 | |
| ≥ 25 years | 27 | 261 | 288 | 1.14 | 0.90 |
| <i>Educational status</i> | | | | | |
| Primary or less | 1 | 8 | 9 | 1.22 (0.15-10.14) | 0.85 |
| At least secondary | 27 | 264 | 291 | 0.82 | |
| <i>Marital status</i> | | | | | |
| Single | 1 | 8 | 9 | 1.22 (0.15-10.14) | 0.85 |
| Married | 27 | 264 | 291 | 0.82 | |
| <i>Employment status</i> | | | | | |
| Unemployed | 12 | 105 | 117 | 1.19 (0.54-2.62) | 0.66 |
| Employed | 16 | 167 | 183 | 0.84 | |
| <i>Religion</i> | | | | | |
| Christianity | 27 | 262 | 289 | 1.03 (0.13-8.36) | 0.98 |
| Islam | 1 | 10 | 11 | 0.97 | |
| <i>Parity</i> | | | | | |
| Nulliparous* | 2 | 70 | 72 | | |
| Primiparous | 4 | 100 | 104 | 1.4 (0.25-7.86) | 0.70 |
| Multiparous | 22 | 102 | 124 | 7.55 (1.72-33.14) | 0.01 |

*Used for comparison

Table 6: Barriers to the utilization of the Pap test**

| | Frequency | Percentage |
|--|-----------|-------------|
| Lack of awareness | 216 | 79.4 |
| High cost | 26 | 9.6 |
| Long hospital waiting times | 13 | 4.3 |
| Unfriendly attitudes of hospital staff | 20 | 6.7 |
| Invasion of privacy | 14 | 4.7 |

** Multiple responses exist, so total percentage exceeds 100

DISCUSSION

The maternal sociodemographic and obstetric profile observed in this study (average maternal age of 29.9 years; hospital patronage from the more educated and affluent women; the predominance of the Ijaw tribe and Christian religion as well as the preponderance of multiparous women) are similar to the reports from an earlier study from the same hospital.¹⁰

Possible explanations for the trend include the higher cost of medical care in tertiary health centres that may make the less affluent women (who often are less educated and live in the rural areas of the state) seek care at primary and secondary health facilities; the predominant tribe and religion in the study area were Ijaw and Christianity respectively, while the predominance of multiparous clients could be a reflection of the age of the respondents.

The average gestational age at booking for antenatal care of 23±4 weeks is also similar to a previous report of 22±7 weeks.¹¹ This however should prompt efforts towards massive enlightenment campaigns for women to register earlier for antenatal care to enable them benefit maximally from the information, counselling, screening and antenatal medical interventions when indicated.

While it is recommended that all women of reproductive age be educated on and made aware of cervical cancer and its prevention, less than half of the respondents in this study were aware of the condition and only a third were aware that the condition was preventable.

Less than a third of the women were aware of Pap test as a screening test for cervical cancer and only 9.3% of the respondents had done a pap test. This is a far cry from the ideal wherein all women of reproductive age ought to be screened for cervical cancer with at least, the Pap test.

This study demonstrated that women who were ≥25 years of age, with higher (secondary and tertiary) education and multiparous were more likely to have heard of cervical cancer and also know about the Pap test as a screening test for cervical cancer. While the age range may indicate that at which many women would conclude higher education, women with higher education would be assumed to be better aware of the condition and the importance of its prevention through screening, for early diagnosis and treatment, and as such present for screening.

In this study, only multiparity significantly correlated with the uptake of the Pap test. Women who had delivered more than once probably had been exposed to antenatal and postnatal education on the importance of screening for the cervical cancer during the course of their previous pregnancies, hence their uptake of the Pap test.

The finding that almost all of the respondents were willing to do the pap test if given the opportunity and that all the respondents recommended repeated sensitization about cervical cancer and its prevention including pap test during the antenatal clinic sessions of health talks is an important motivation for health care givers to reinforce and ensure that such education is given

during the antenatal and postnatal clinic visits and offer women opportunities to have a pap test done. Adequate education and counselling of eligible women as well as friendly attitudes of hospital staff towards women attending healthcare facilities would help eradicate the identified barriers to the uptake of the Pap test. This calls for regular training and retraining of health care providers who offer care to these women.

CONCLUSION

In a developing country like ours, that is fraught with known challenges with provision and utilization of health services, the antenatal and post-natal clinic visits are golden opportunities for healthcare providers to routinely educate women about cervical cancer and offer them opportunities for its screening.

LIMITATION

This was a hospital-based study. The results may not reflect the findings in other tertiary institutions in Nigeria or the West African sub-region.

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CONFLICTS OF INTERESTS

The authors declare that they have no competing interests.

CONSENT

A written informed consent was also obtained from every participating woman and they were assured voluntary participation and confidentiality of information given.

ETHICAL APPROVAL

The research work was examined and approved by the research and ethics committee of the Federal Medical Centre, Yenagoa.

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