Cervical Cancer Screening in Uyo, South-South Nigeria

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Abstract

Context: Cervical Cancer is the commonest female genital tract malignancy in the developing world. Though preventable by early detection and treatment of pre-invasive disease, majority of patients in Nigeria still present with advanced disease.

Objective: To review the cervical cancer screening exercise of the Medical Women Association of Nigeria and determine the incidence of pre-malignant lesions of the cervix during the study period (1996-2001).

Study Design: A descriptive study of women who participated in the exercise and the results of the pap smear.

Results: During the exercise 332 women were screened, but only 276 smears (83.1%) were adequately taken and consequently reported. Majority of the smear (75.7%) were normal smears, Cervical Intraepithelial Neoplasia (CIN) was found in 33 smears (12%) and invasive cancer in 1 smear (0.36%). Majority of women with CIN were multiparous and in their 4th and 5th decades of life.

Conclusion: The prevalence of CIN is high, thus there is need for routine cervical cancer screening of all sexually active women. Where this is not feasible due to cost and logistics, selective screening of high risk women and use of visual inspection with acetic acid is recommended.

Key Words: Cervical, Cancer, Screening, Medical Women

Introduction

Cervical cancer is the commonest female genital tract malignancy in the developing world[1-3] and is responsible for an estimated 231,000 deaths annually, 80% of which occur in developing countries[3,4]. This is unfortunate because cervical cancer is usually preceded by prolonged, pre-malignant phase known as cervical intraepithelial neoplasia (CIN) which if detected and treated appropriately will prevent invasive disease[5]. Experience from centres with established screening programmes have shown that cervical

Cancer screening effectively reduces the incidence and mortality from invasive disease[1,5]. To ensure that most women benefit from cervical screening services, most developed countries have put in place effective screening programmes. In Nigeria, there are few established screening programmes and the awareness and utilization of such facilities is poor, thus the majority of patients with cervical cancer present in advanced stages.

To tackle the problem in this environment,

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the Medical Women Association of Nigeria (Akwa Ibom State Branch), embarked on a cervical cancer awareness and free screening exercise in the late 1990s. The purpose of this paper is to review this cervical cancer screening exercise, determine the prevalence of pre-malignant lesions of the cervix during the study period and thus join the advocacy for routine cervical cancer screening of all sexually active women.

Materials and Methods:
The monthly cervical cancer screening exercise organized by the Medical Women's Association of Nigeria, Akwa Ibom State Branch between June 1996 to July 2001 was reviewed. This exercise was carried out in three centres within Uyo the State capital. These centre were:-

1. St Lukes Hospital, Anua
2. University of Uyo Medical Centre
3. University of Uyo Teaching Hospital (Formerly Federal Medical Centre)

These screening exercises were free of charge and open to all sexually active women irrespective of age. Baseline information was obtained from these women on a request form and they were counseled on the risk factors for cervical malignancy and what to do in the event of an abnormal smear. These cervical smears were then taken by female medical doctors who had volunteered for the exercise.
An unlubricated bivalve speculum was used to visualize the cervix and the smear was obtained with a wooden Ayre's spatula placed over the cervical os and rotated through 360 degrees. The collected cervical cells were then immediately smeared onto a thin glass slide previously labeled with the patient's name and identity number and fixed in 95% alcohol. The slides were then transported to the histopathology department of the University of Uyo Teaching Hospital where they were stained using the Papanicolaou technique and reported by a consultant histopathologist.
The women were usually given 4-6 weeks appointment to come back for their results. During this visit, they were counseled and those with an abnormal smear were referred to a gynaecologist for further assessment.

Results:
During this period, 332 women were screened , but only 276 smears (83.1%) were reported. Fifty-six smears (16.9%) were inadequate or improperly taken and were excluded from further analysis. All the women screened were or had been sexually active. There was no indication of a previous cervical smear by any of them prior to the exercise.
The peak of the screening exercise was in the year 2000 where 81 smears (29.3%) were reported (Table 1). The ages of the women

Table 1: Report of the Cervical Cytology

Year	1996	1997	1998	1999	2000	2001	Total	(%)
Normal Smears	34	11	41	10	65	48	209	(75.7)
Inflammatory Smears	6	5	5	-	5	8	29	(10.5)
Atrophic Smears	-	-	-	1	2	1	4	(1.4)
CIN I	1	4	4	-	3	2	14	(5.1)
CIN II	1	1	3	1	5	4	15	(5.4)
CIN III	1	2	-	-	1	-	4	(1.4)
Invasive Cancer	1	-	-	-	-	-	1	(0.4)
Total	44	23	53	12	81	63	276	

screened ranged from 17 to 77 (mean 43.5 ± 3.4 years) and the parity from 0-7.

The results of the cervical smears are shown in Table 1. Majority 209 (75.7%) were negative smears, followed by inflammatory changes/chronic cervicitis (10.5%). Cervical intraepithelial neoplasia (CIN) was diagnosed in 33 smears (12%) and 1 smear (0.36%) was suspicious for invasive cancer which was confirmed by biopsy.

Table 2 shows the age distribution of women with CIN. CIN was most prevalent in women aged 40-49 years (14.6%). No dysplastic changes were found in women

Table 2: Age distribution of women with CIN

Age (Years)	Number Screened	Number positive	(%)
<20	5	-	-
20-29	42	4	(9.5)
30-39	60	8	(13.3)
40-49	82	12	(14.6)
50-59	58	6	(10.3)
60-70	29	3	(10.3)
Total	276	33	(12)

less than 20 years of age. The only case of invasive cancer diagnosed in this study was in a multiparous (Para 6) 40 years old woman.
Majority of the women with CIN lesions were multiparous, 1 woman (3%) was nulliparous and 6 (18.2%) were grand multiparous. The modal parity was Para 3-4. (Table 3).

TABLE 3: Parity and CIN

PARITY	CIN1	CIN11	CIN111	TOTAL	(%)
0	1	-	-	1	(3)
1-2	4	5	-	9	(27.3)
3-4	6	9	2	17	(51.5)
5-7	3	2	1	6	(18.2)

Discussion
The incidence of CIN in this study was 12% and was similar to 11.8% reported in Ibadan[6] and 12.2% of abnormal smears in Enugu[7]. Of importance however is the fact that these relatively high incidences in Uyo and Enugu were obtained in a population of largely asymptomatic women, unlike the study in Ibadan which was hospital based and there were usually indications for the screening. A major draw back however is the small number of women screened in this study when compared with the other two reports.

Early detection of cervical cancer is feasible because the cervix is readily accessible to direct visualization and there is exfoliation of cervical epithelial cell[1,6] .Thus screening procedures such as Pap smears, direct visual inspection of the cervix after application of 5% acetic acid and more advanced procedures like colposcopy and human papilloma virus (HPV) DNA testing are available[1,8,9]. The latter are expensive and are not available in low resource settings. In

Nigeria however, there are no public health programmes organized primarily to screen for pre-malignant lesions of the cervix[5,6]. Although there are facilities for cytology in some Nigerian hospitals, these serve only a limited number of women. The only other screening exercises are carried out by non-governmental bodies such as the Medical Women's Association of Nigeria (MWAN) and such exercises are usually limited by poor funding, inadequate logistics and lack of public awareness[7]. Even among female health professionals, despite being highly aware very few of them have ever had a cervical smear done[10].

Cervical cancer screening has reduced the incidence of invasive cervical cancer and associated mortality when routine screening is done especially on nationwide basis[1,6,7]. There are different screening schedules in different institutions and countries. Yearly screening is advocated in some centres and three yearly screening in others[6]. A well-organized three yearly screening programme has been shown to decrease the incidence of cervical cancer by over 90%1. Mass cervical cancer screening even on a yearly basis in this country would constitute a considerable financial and logistic burden. This situation is worsened by the paucity of trained cytopathologists in the country. The World Health Organization in recognition of the fact that mass cytology screening programmes are simply not feasible in many developing countries is also advocating the use of visual inspection based screening approaches[1,8]. This requires a limited amount of training, but available studies report negative predictive values of over 95%1 and may be suitable for Nigeria. There is however the need to conduct large intervention trails in this country to evaluate the effectiveness of visual inspection with acetic acid.

There is currently an overwhelming epidemiological and experimental evidence supporting the aetiological role of certain serotypes of human papilloma virus (HPV) in the development of CIN and cervical cancer11. This virus is sexually transmitted and it is estimated to take an excess of six years to develop CIN 3 after an initial infection and an average of 13 years to develop cervical cancer from normal cytology[12]. Recent evidence also suggests a strong aetiological role for the Human Immunodeficiency Virus (HIV) as the immunodeficiency state imposed by the virus is also thought to facilitate the development of neoplasia[13]. The prevalence of both viruses in a population is strongly related to the sexual behavioral pattern, thus in the absence of routine mass screening programmes, selective screening of high risk patients including sexual transmitted diseases clinic attendees is recommended[14]. There is a need for proper training on how to obtain cervical smears in order to reduce the number of inadequate smears, training of more cytopathologists and the establishment of more centres with facilities for colposcopy and treatment of CIN lesions. Finally, in view of the sexually transmitted aetiology of CIN and cervical cancer, there is a need for more family education life with emphasis on pre-marital abstinence and mutual fidelity. This will aid in the reduction of early onset of sexual intercourse, multiple sexual partners, multiparty and the prevalence of HPV and HIV which are known risk factors for cervical cancer.

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