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Participation in highly subsidised cervical cancer screening by women in Enugu, South-east Nigeria

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Summary

The current study was designed to evaluate the level of participation in a highly subsidised cervical screening in a resource-poor country. A total of 989 cervical smears performed on 932 women in Enugu, south-east Nigeria, over a 10-year period (January 1995–December 2004) was reviewed. The level of participation in cervical screening was very low, as < 1% of the targeted women population participated. Almost 68% of the participants were referred for the screening and the majority (52.3%) were from lower social classes because the programme was highly subsidised. A total of 646 (65.3%) smears were normal. Of the abnormal smears, 193 (19.5%) had non-specific inflammatory changes, 136 (13.8%) showed dyskaryotic cells while 14 (1.4%) had neoplastic changes. A total of 57 (6.1%) women had more than one cervical cancer screening and they were characterised by increasing age, up to 59 years, higher social classes and contraceptive users in lower social classes. To reverse the low level of participation in cervical cancer screening in developing countries, there is a need to provide highly subsidised (if not free) cervical cancer screening services, which must be followed by sustained cervical cancer awareness campaign.

Keywords

Cervical cancer, Nigeria, screening

Introduction

The Papanicolaou (Pap) smear introduced in 1943 for the detection of pre-invasive lesions in the cervix remains the most cost-effective approach to cervical cancer screening worldwide. The value of such screening in developed countries has been proven with the recorded decrease in incidence and mortality from cervical cancer by about 80% (Nieminen et al. 1995). In such developed countries, there are organised screening services, which are provided free of charge to all women aged 20–64 years (Patnick 2000).

Nigeria, like many other developing countries where cervical cancer still remains a leading cause of cancer-related death, has no organised screening services because of limited financial and manpower resources (Olatunbosun et al. 1991). The few screening centres available are costly (Ayinde et al. 1998), limiting the services to the privileged ones. Other factors identified for poor utilisation of screening services included underestimation of its importance, procrastination, lack of physician referral and gender of practitioner (Nieminen et al. 1995; Harlan et al. 1991; Bakemeier et al. 1995).

In an effort to make the cervical cancer screening services accessible and affordable, the Medical Women Association of Nigeria in Enugu, South-east Nigeria established a highly subsidised cervical cancer-screening centre in Enugu in the late 1980s. A 10-year review of the screening exercise in the centre is presented, evaluating

the extent of utilisation of the facility, characteristics of participants and the level of abnormal smears.

Materials and methods

The Medical Women Association Centre in Enugu, Nigeria provides highly subsidised (50% reduction in cost) cervical cancer screening facilities for women in Enugu and environs. Enugu, a cosmopolitan town, is the capital of Enugu state in south-east Nigeria. It has an estimated population of half a million people, 40% of whom are women aged 18 years and above. A trained nurse who collects cytological smears and sends them to the pathologist carries out the screening programme, which started 17 years ago. An endocervical swab is also collected for microbiological studies. Any organisms cultured were treated according to sensitivity results and the smears are repeated if the initial results were inflammatory.

This study was a retrospective, descriptive analysis of data from the Pap smear Registry of the centre over a 10-year period (January 1995–December 2004). Information extracted from the registry-included sociodemographic characteristics of participants, results of the smears and distribution among various age ranges. The information was analysed by simple percentages. The χ^2 test is used as appropriate to test the level of significance in the difference observed between the two groups. A p value

of <0.05 was taken as significant. Graph Pad Prism software was used in the analysis.

Results

The 989 cervical smears obtained from 932 women who participated in cervical cancer programme were reviewed. A total of 57 (6.1%) of the women had more than one cervical cancer screening within the 10-year period. The sociodemographic characteristics of the 932 participants were shown in Table I. The majority of the participants aged 30–49 years (65.4%), grandmultiparous (51.3%) and married (97.2%) women. Most (67.8%) of the participants were referred from hospital or clinic for the screening. Women in lower social classes tended to be more frequently screened and non-contraceptive users were in the majority (61.4%). Increasing maternal age up to 59 years, higher social classes and contraceptive use showed statistically significant association with a tendency to have more than one cervical smear ($p < 0.05$). Also, contraceptive use significantly influenced the number of participants in lower social classes that had more than one cervical screening but not those in higher social classes (Figure 1).

A total of 646 (65.3%) smears taken during the period were normal. Of the abnormal smears, 193 (19.5%) had non-specific inflammatory changes and 150 (15.2%) smears demonstrated abnormal cytology, of which 136 (13.8%) showed dyskaryotic cells and the remaining 14

(1.4%) had neoplastic changes. Distribution of women with positive smears according to age (Table II) showed that the age range 40–69 years accounted for 85.4% ($n = 128$) of participants with abnormal cytology.

Discussion

It is of concern that despite the highly subsidised cervical cancer screening services provided for these women, only 932 (about 0.47% of estimated population) avail themselves of this opportunity for screening. Poor preventive health consciousness may be a major factor and a campaign was mounted to make the populace aware of the existence of such facility. Previous studies (Ayinde et al. 1998; Harian et al. 1991) attributed cost and poor physician referral as major factors responsible for non-utilisation of screening services. The higher percentage of participants in lower social classes in this highly subsidised programme lent credence to the assertion that cost may be a factor in utilisation of the screening facilities. The number of participants is likely to increase further if a free screening exercise is provided because, even at this highly subsidised rate, the cost is still beyond the reach of the very poor in the society. Also, the majority (67.8%) of participants in this study were referred cases. The married women in this study were more likely to utilise cervical screening facilities than single women. The poor response of the single women to cervical screening may be because of the erroneous belief that cervical cancer affects only married women.

Table I. Sociodemographic characteristics of 932 participants

Characteristics	Those that had more than one screening				Total		Statistics
	Yes		No		n	(%)	
	n	(%)	n	(%)			
Age (years)							
20–29	1	1.2	77	98.8	78	8.4	
30–39	6	2.1	274	97.9	280	30.0	
40–49	30	9.1	300	90.9	330	35.4	$\chi^2 = 22.33$
50–59	18	11.4	140	88.6	158	17.0	df = 4
60–69	2	3.1	63	96.9	65	6.9	$p = 0.0002$
70–79	0	0	21	100.0	21	2.3	
Parity							
0	4	3.4	112	96.6	116	12.5	
1–2	14	10.0	126	90.0	140	15.0	$\chi^2 = 5.299$
3–4	12	6.1	186	93.9	198	21.2	df = 3
≥ 5	27	5.6	451	94.4	478	51.3	$p = 0.1512$
Marital status							
Single	1	3.8	25	96.2	26	2.8	$\chi^2 = 0.2400$
Married	56	6.2	850	93.8	906	97.2	$p = 0.6242$
Social class (Oyedepi 1985)							
I	21	30.9	47	69.1	68	7.3	
II	18	11.5	138	88.5	156	16.7	$\chi^2 = 96.73$
III	7	3.2	213	96.8	220	23.6	df = 4
IV	6	2.7	218	97.3	224	24.0	$p < 0.0001$
V	5	1.9	259	98.1	264	28.3	
Contraceptive use							
No	23	4.0	549	96.0	572	61.4	$\chi^2 = 10.39$
Yes	34	9.4	326	90.6	360	38.6	$p = 0.0013$
Referred from clinics							
Yes	38	6.0	594	90.0	632	67.8	$\chi^2 = 0.0364$
No	19	6.3	281	93.3	300	32.2	$p = 0.8486$

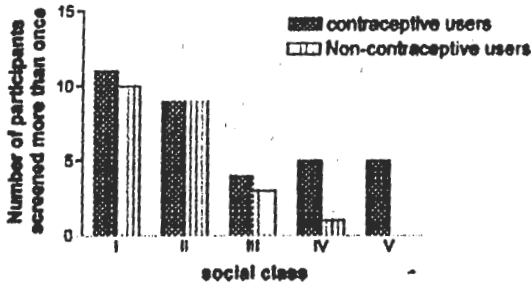


Figure 1. The relationship between social class and contraceptive use among participants that were screened more than once.

Table II. Age distribution of women with abnormal cytological smears

Age group (years)	n	(%)
20-29	4	2.7
30-39	6	4.0
40-49	42	28.0
50-59	46	30.7
60-69	40	26.7
70-79	12	8.0

The study demonstrated an increasing prevalence of abnormal cytology with increasing age of participants, which is in contrast with study in developed countries (Lawson et al. 1998). The difference is largely due to well-organised widespread screening (Patnick 2000), resulting in detection and treatment of abnormal smears at an earlier age. Unfortunately, this study noted a remarkable decrease in the frequency of cervical screening after 50 years, when most of these abnormal smears were detected. The low participation of women in higher social classes in this exercise has been documented in other African countries (Wellensiek et al. 2002) but this contrasted with reports from developed countries (de-Sanjose et al. 1997). Lack of appropriate information on the need for regular screening for cervical cancer may be a major factor for low participation in this highly subsidised screening programme. However, the few women in higher social classes that participated tended to have regular screening. The implication is that if they understand and appreciate the importance of the screening exercise, they are more likely to participate regularly. For participants in lower classes, contraceptive users (Parazzini et al. 1990) tended to have more regular screening than non-contraceptive users. This may be because the former group that are in regular contact with health workers are more likely to get appropriate information and be referred for cervical cancer screening.

The 15.2% of abnormal cytology in this study is comparable with results from other developing countries (Thistle and Chirenje 1997) but far higher than figures from developed countries (Nieminen et al. 1995). Efficient, free cervical screening (Nieminen et al. 1995) with computerised call and recall of women when they are due for the next screening exercise may account for the difference.

We conclude that the mere provision of subsidised cervical cancer screening services is not sufficient to reverse the high incidence of cervical cancer, which has remained the most common female malignancy, and a leading cause of death among women in developing countries. There is a need to follow-up such services by sustained cervical cancer awareness campaigns, improvement of socioeconomic circumstances of women and motivation of healthcare provider to provide appropriate information to patient.

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