

CLINIC VISITS AND CERVICAL CANCER SCREENING IN ACCRA

R. M. K. ADANU¹, J. D. SEFFAH¹, R. DUDA², R. DARKO³, A. HILL⁴ and JOHN ANARFI⁵

¹Department of Obstetrics and Gynaecology, University of Ghana Medical School, PO Box 4236, Accra, Ghana
²Department of Surgery Beth Israel Deaconess Medical Center, Harvard Medical School, USA,

³Department of Surgery, University of Ghana Medical School, PO Box 4236, Accra, Ghana ⁴Department of Population and International Health, Harvard School of Public Health, USA and ⁵Institute of Social Statistical and Economic Research, University of Ghana, Legon, Ghana

Author for correspondence: Prof Richard M. K. Adanu

Email: rmadanu@ug.edu.gh

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SUMMARY

Objective: To determine the factors that increase the chances of a woman in Accra having a Pap smear and whether women who have recently visited clinics have higher chances of having had Pap smears.

Design: A cross-sectional study

Methods: A representative sample of women in Accra, Ghana was interviewed and the clinical and demographic factors influencing cervical cancer screening was assessed.

Results: Out of 1193 women with complete data, only 25 (2.1%) had ever had a Pap smear performed though 171 (14.3%) had their last outpatient clinic visit for either a gynaecological consultation or a regular check up. Simple logistic regression showed that a high educational level, high socioeconomic status and a history over the past month of postmenopausal or intermenstrual bleeding significantly increased the odds of ever having a pap smear. Neither monthly income nor last clinic visit for a gynaecological consultation or regular check up increased the odds of having a pap smear. Multiple logistic regression showed that a high educational level and experiencing postmenopausal or intermenstrual bleeding were the most important determinants of ever having a Pap smear.

Conclusion: While we wait for a national program for cervical cancer screening, there is a need for clinicians to put more individual effort into ensuring that asymptomatic women are screened for cervical cancer.

Keywords: cervical cancer, cervical cancer screening, Pap smear, Accra, Ghana

INTRODUCTION

Cervical cancer is the commonest gynaecological malignancy seen at the Korle Bu teaching hospital, being reported to make up 64% of gynaecological malignancies seen at the hospital.¹ Cervical cancer is however known to be a preventable disease. Cervical cancer is strongly associated with Human Papilloma Virus (HPV) infection, which can be acquired through sexual intercourse.²

This implies that prevention of cervical cancer can be achieved through the same measures recommended for prevention of HIV and sexually transmitted infections (STIs) and also through cervical cancer screening. Abstinence from sexual intercourse, having only one sexual partner and consistent correct condom use are the methods recommended to prevent STIs. Cervical cancer screening in many hospitals in Accra is done by Papanicolaou (Pap) smear and visual inspection of the cervix with acetic acid (VIA).^{3,4} Cervical cancer screening procedures are able to detect pre-malignant lesions of the cervix which can be treated and so prevent progress to cervical cancer. Pre-malignant cervical lesions are generally asymptomatic, hence the need for cervical cancer screening programmes that target healthy women.

Ghana currently does not have a national cervical cancer screening programme. In the absence of this, most of the cervical cancer screening that takes place in the country can be described as opportunistic screening, where doctors request Pap smears or VIA for patients who are seen in clinics for either general medical examinations or for consultations unrelated to cervical cancer. There has been a lot of public education in Ghana on cervical cancer and medical students are regularly taught about the lethal nature of cervical cancer and the importance of cervical cancer screening. Despite this education previous studies have shown very low rates of patronage of cervical cancer screening services.⁵⁻⁷

In the absence of a national cervical cancer screening programme it is necessary to assess the effectiveness of doctors in the performance of opportunistic screening. A previous study has shown that very few women have regular medical check-ups⁵ and so one area in which opportunistic screening could be maximized is when women visit general and gynaecology clinics for curative services since Pap smears could be performed easily by general duty medical officers who have been trained to carry out the procedure.

The Women's Health Study of Accra (WHSA) is a representative study of women in Accra performed in 2003 to determine the burden of disease among women. There have been a number of publications from this study on different health issues.⁶⁻¹¹ This paper is a sub-analysis of the WHSA data focusing on the determinants of women in Accra having a Pap smear. The WHSA did not inquire about VIA since it was not available in many hospitals at the time of the study.

The aim of this sub-analysis is to determine the factors that increase the chances of a woman in Accra having a Pap smear and whether women who have recently visited clinics have higher chances of having had Pap smears.

SUBJECTS AND METHODS

This study was a population-based cross-sectional survey that was conducted in 2003.⁸ Using the data from the Ghana 2000 census, the 1731 enumeration areas in Accra were stratified by socio-economic status and 200 were selected with probability proportional to population size within the socio-economic strata. Each household in the selected strata was visited in order to compile a list of women aged 18 and older who were usually resident in the household. A random sample of 17 women per enumeration area was selected for the survey. A total of 3183 women were interviewed at home, with a questionnaire, by trained interviewers between March and September 2003. The interview included questions on demographic characteristics, lifestyle habits, living conditions, general health and reproductive health. The questions on reproductive health included questions on family planning, abortion, deliveries, gynaecological surgeries, gynaecology consultations and cervical cancer screening.

For this sub-analysis, data on cervical cancer screening by the women interviewed were entered into Stata 8 software. Entries with incomplete data were dropped from the analysis and both simple and multiple logistic regressions were performed to determine significant determinants of ever having a pap smear performed. Statistical tests used were chi square tests for categorical data and the t test for comparing means. The independent variables studied were age, age at first intercourse, lifetime number of sexual partners, educational status, marital status, socio-economic status, history of abnormal vaginal bleeding and last visit to clinic being on account of gynaecological symptoms. A p value of 0.05 was considered as significant in the analysis.

RESULTS

Out of the total of 3183 women interviewed, 1899 (59.7%) either did not answer the question on cervical

cancer screening or stated that they did not know whether they had ever had a Pap smear performed. Of the remaining 1284 respondents, 91(7.1%) were dropped because of incomplete data. The analysis was therefore restricted to 1193 respondents.

Table 1 Selected demographic characteristics of women from the 2003 Women's Health Study of Accra

Characteristic	Value/ Number	Percent- age
Mean Age(yrs)	48.1	n/a
Mean age at first intercourse(yrs)	18.9	n/a
Mean lifetime number of partners	2.4	n/a
Highest Educational level		
Never been to school	362	30.3
Primary education	121	10.1
Junior secondary education	500	41.9
Senior Secondary education	133	11.2
Tertiary education	77	6.5
Marital status		
Never married	148	12.4
Currently married	475	39.8
Wid- owed/Divorced/Separated	515	43.2
Ever married/current status unknown	55	4.6
Socio-economic status		
Highest socio-economic group	243	20.4
Fourth socio-economic group	248	20.8
Middle socio-economic group	225	18.9
Second socio-economic group	246	20.6
Lowest socio-economic group	231	19.4
Income		
Not in formal employment	278	23.3
Less than GHC 30 per month	301	25.2
GHC 30 – GHC 50 per month	244	20.5
GHC 50 – GHC 100 per month	289	24.2
Above GHC 100 per month	81	6.8

n/a – not applicable

The demographic characteristics of the 1193 respondents are shown in Table 1. The mean age was 48.1 years (SD 17.7). About 30% of the respondents had no formal education and 20% belonged to the highest socio-economic group.

The mean age at first intercourse was 24.4 (sd 20.5) with the mean number of lifetime sexual partners being 2.4. One hundred and seventy one (14.3%) of the respondents had their most recent clinic visit for either a general check-up or a gynaecological consultation. One hundred and twenty five women (10.5%) had a complaint of experiencing an abnormal vaginal bleed at the time of the last clinic visit.

Only 25 respondents (2.1%) reported ever having had a Pap smear examination performed. Table 2 shows the comparison between the women who had a Pap smear performed and those who did not. The women who had ever had a Pap smear performed were of significantly higher educational status and higher socio-economic group than those who had never had a Pap smear. Of the 1168 women who had never had Pap smears performed, 164 (14.0%) had their last clinic visit for a general check-up or for a gynaecologic consultation. Whereas 28% (7/25) of women who had ever had a Pap smear had a complaint of abnormal vaginal bleeding on the last clinic visit, the corresponding percentage among women who had never had a Pap smear was 10.1%. There was a statistically significant difference in the proportion of women with abnormal vaginal bleeding in both groups.

Table 3 shows a stratification of the Pap smear history of the respondents by a complaint of abnormal vaginal bleeding on the last clinic visit.

Tables 4 shows the results of the simple and multiple logistic regressions performed. A woman from a low socio-economic group had an 86% reduction in the odds of ever having a Pap smear while having no formal education reduced a woman's odds of ever having a Pap smear by 91%. Although having one's last clinic visit for a gynaecological consultation or for a regular check-up did not significantly affect a woman's chance of having had a Pap smear, a complaint of abnormal

vaginal bleeding increased the odds of having a Pap smear almost four-fold. However upon controlling for the factors indicated in Table 4, only educational status and a complaint of abnormal vaginal bleeding on the last clinic visit significantly affected the odds of having a Pap smear performed.

Table 2 Comparison between women from the 2003 Women's Health Study of Accra who had a Pap smear and those who did not

Characteristic	Pap smear (%)	No Pap smear (%)	p value
Ever been to school	24 (96.0)	811 (69.4)	0.004
Educated to tertiary level	8 (32.0)	69 (5.9)	<0.001
High socio-economic status	14 (56.0)	229 (19.6)	<0.001
Income above GHC 100	3 (12.0)	78 (6.7)	0.47
Mean age	53.3	48.0	0.14
Age at first intercourse	18.8	18.9	0.67

Table 3 Comparison of women in the 2003 Women's Health Study of Accra by Pap smear status and history of abnormal bleeding

Type of bleeding	Pap smear (%)	No Pap smear (%)	p value
Postmenopausal bleed	3 (12.0)	23 (2.0)	0.001
Intermenstrual bleed	3 (12.0)	35 (3.0)	0.011
Menorrhagia	2 (8.0)	80 (6.9)	0.822

Table 4 Crude and adjusted odds ratios from logistic regression of determinants of Pap smear status among women from 2003 Women's Health Study of Accra

Comparison	Crude odds ratio	Confidence interval	p value	Adjusted odds ratio*	Confidence interval	p value
Low SES vs High SES	0.14	0.03 -0.64	0.01	0.28	0.05 -1.42	0.12
No formal education versus Formal education	0.04	0.01 - 0.70	0.02	0.10	0.01 - 0.87	0.004
Last clinic visit for gynaecology consult versus no gynaecology consult	2.39	0.98 - 5.79	0.06	1.99	0.78 - 5.12	0.15
Abnormal vaginal bleed versus no abnormal vaginal bleed	3.49	1.42 - 8.46	0.01	4.23	1.59 -11.3	0.004

*Age, Age at first intercourse, lifetime number of partners and monthly income were all controlled for in the multiple logistic regression.

DISCUSSION

This study shows that only 2.1% of women in Accra have had a Pap smear performed. A woman is more likely to have a Pap smear if she has had some formal education and is of high socioeconomic status. Of the women who had never had a Pap smear, 14% had their last clinic visit being for a gynaecological consultation. Women who had ever had a Pap smear were more likely to have a history of abnormal vaginal bleeding.

The low patronage of Pap smear services in Accra has been reported in earlier publications.^{5,10,11} This low patronage could be attributed to the absence of a national cervical cancer screening programme. The effect of educational status on cervical cancer screening is confirmed by a recent publication which reports a 12% screening rate among university students.¹²

The Pap smear detects premalignant lesions of the cervix so that a woman can be offered treatment before the disease progresses to invasive cancer. Premalignant cervical lesions are asymptomatic, whereas invasive cancer usually presents with post-coital bleeding. Due to the asymptomatic nature of premalignant cervical disease, the Pap smear is a screening test that is performed for women as part of a general gynaecological examination even in the absence of symptoms that are suggestive of cervical cancer. This study shows that many women who visited clinics with gynaecological symptoms did not have Pap smears performed as part of the general gynaecological consultation. Fourteen per cent of the women who had never had a Pap smear performed had last visited a hospital or clinic for a gynaecology consultation. If a Pap smear had been performed for these women during their gynaecology consultation, the proportion of women in this sample who would have had Pap smears would have increased from 2.1% to 15.8%. There is therefore an obvious problem of missed opportunities in cervical cancer screening in Accra in particular and Ghana as a whole.

One reason why these missed opportunities for cervical cancer screening might be present in Accra could be due to the set-up at gynaecology clinics. In order for a Pap smear to be performed in a public sector hospital, a doctor needs to make a special request for the woman to purchase a Pap smear kit which she brings to the clinic on another visit for the test to be performed. The Pap smear test is not covered by the national health insurance and costs GHC30 (US\$20). Before the Pap smear test can be performed there might be the need for purchase of a disposable speculum at GHC1.50 (US\$1). These costs are prohibitive for a large proportion of Ghanaian women, given the statistic that about 45% of the Ghanaian population lives on less than US\$ 1 per day.¹³ Even though the cost of the Pap smear is a

one-time cost, the average Ghanaian woman might find it difficult to justify spending this amount of money on a preventive health service in the face of competing financial demands. This situation could explain the over-representation of the educated and those of high socio-economic standing among women who have had a Pap smear performed. The ideal situation, in a country without a national cervical cancer screening programme, is one in which every woman who attends a gynaecology consultation has a Pap smear performed as part of the tests for her complaint. This situation can however be easily achieved only when the items for performing a Pap smear are present in the consultation room and the costs are covered by the national health insurance scheme.

The finding that a history of abnormal bleeding is over-represented in women who have had a Pap smear suggests that doctors are requesting Pap smears mainly when women come in with symptoms that raise the possibility of a uterine or cervical malignancy. This practice suggests that the Pap smear is being used as a diagnostic test rather than as a screening test. The difficulty of getting a Pap smear performed and the cost of the procedure could have resulted in a practice where the test is no longer being used as a screening procedure but rather as a diagnostic test. However such a practice will not lead to effectively reducing the incidence of cervical cancer in Ghana.

In order to reduce the incidence of cervical cancer in Ghana there is the need for a national cervical cancer screening programme, established by the Ministry of health and Ghana Health Service which is supported by the national health insurance scheme. However, until this happens there is the need for dialogue between pathology and gynaecology units so that the Pap smear kits can be easily available in gynaecology consulting rooms with arrangements for the recovery of the associated costs. Gynaecology units also need to establish a protocol whereby every new gynaecology patient who is sexually active should have a Pap smear performed as part of the required investigations.

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