Research article

Cervical Cancer Screening Using Visual Inspection with Acetic Acid and Papanicolaou Smear in a Cancer Screening Centre -

Isikhuemen ME[1]*, Daniyan ABC[2], Sunday-Adeoye I[2], Ekwedigwe KC[2] and Eliboh MO[2]

[1]*Department of Obstetrics and Gynaecology, University of Benin Teaching Hospital, Benin City, Edo State, Nigeria*
[2]*National Obstetric Fistula Centre, Abakaliki, Nigeria*

*Address for Correspondence: Isikhuemen ME, Department of Obstetrics and Gynaecology, University of Benin Teaching Hospital, Benin City, Edo State, Nigeria, Tel: +234-805-063-8600; E-mail: maradona4real2002@yahoo.com

Cite this article: Isikhuemen ME, Daniyan ABC, Sunday-Adeoye I, Ekwedigwe KC, Eliboh MO. Cervical Cancer Screening Using Visual Inspection with Acetic Acid and Papanicolaou Smear in a Cancer Screening Centre. Int J Cancer Cell Biol Res. 2018; 3(1): 009-0012.

ABSTRACT

Background: Cervical cancer is the most common gynaecological cancer among women in developing countries. Papanicolaou (Pap) smear is a well-recognized method of screening for premalignant lesions of the cervix. Its use has been successful in reducing the incidence of cervical cancer in developed countries. Visual Inspection with Acetic Acid (VIA) remains useful in resource constrained settings. The study reviews cervical cancer screening findings (Pap smear and VIA) among women presenting for screening at the National Obstetric Fistula Centre, Abakaliki, South-East Nigeria.

Method: This was a retrospective study. The case records of 316 patients who had undergone cervical cancer screening between August 2012 and March 2013 were reviewed. Analysis of data was done using SPSS statistics version 21.

Results: A hundred and six (33.5%) of patients screened were within ages 30-39 years, and 238 (75.3%) were married. Only 2.4% had a pap smear in the past. Two hundred and seventy seven (87.7%) had normal findings on vaginal examination while 8 (2.5%) had abnormal contact bleeding. Majority (66.5%) were negative on visual inspection with acetic acid. Pap smear results showed that 0.6% had dysplasia while 26.6% had inflammatory changes.

Conclusion: The study showed that results of cervical cancer screening using VIA and pap smear are comparable.

Keywords: Pap smear; Cervical cancer; Cervical screening; VIA

INTRODUCTION

Cervical cancer is the most common female genital tract cancer in developing countries [1]. Annually there are 14,089 cases of cervical cancer in Nigeria and the number of women estimated to be at risk of cervical cancer in Nigeria is 50.3 million [2]. Despite the disease burden, there are still no effective and well organized screening programmes for cervical cancer in our country. There is also no standardized National Screening Guideline for cervical cancer in Nigeria. Cervical cancer is largely preventable through effective screening programmes.

Recognised methods for screening and early detection of premalignant lesions of the cervix include Visual Inspection with Acetic Acid (VIA), Papanicolaou (Pap) smear and HPV DNA [3-5]. The Papanicolaou smear is well recognised in the history of medicine as a successful screening test for cervical carcinoma [4,6]. This recorded success is attributed to its low cost, simplicity and low false-negative rate [4].

Persistent infection with human papilloma virus usually causes almost all cases of cervical cancer [7] Other risk factors include early coitarche, multiple sexual partners, immunosupression, tobacco use, low socioeconomic status, high parity and use of oral contraceptives [1].

A study done in Abakaliki, Nigeria revealed that the prevalence of squamous cell abnormalities on Pap smear was 11.2% [8]. In that study, risk factors for cervical squamous cell abnormalities were smoking, high parity, history of vaginal discharge/itching and living in rural areas. Another study on the pattern of Pap smear test results among Nigerian women attending clinic in a teaching hospital revealed that the prevalence of abnormal Pap smear and CIN was 22.6% and 11.5% respectively and the commonest symptom at presentation was vaginal bleeding [9].

Our aim in this study was to review cervical screening findings (Pap smear and VIA results) among healthy women presenting for cervical cancer screening at the National Obstetric Fistula Centre, Abakaliki.

MATERIALS AND METHODS

This study was conducted at the National Obstetric Fistula Centre, Abakaliki, South-East, Nigeria from August 2012 to March 2013. The centre is a major health facility for the management of vesicovaginal fistula in Southern Nigeria. The centre has a 96 bed capacity. It is also involved in rehabilitation and research with regards to obstetric fistula. The centre also has a unit dedicated to screening and management of premalignant lesions of the cervix. It is the National Cancer Screening Centre for the South East Geopolitical Zone of Nigeria.

The study involved the review of medical records of 316 women who presented for cervical cancer screening during the study period. The biological, social and cytological findings of these women screened were documented. Women with incomplete records were excluded. All women reviewed for the study had vaginal speculum examination, Pap smear and then visual inspection with acetic acid. Patients with a positive VIA result were offered cryotherapy (see and treat protocol). The two patients with abnormal Pap smear had cervical biopsy followed by cryotherapy. They were eventually lost to follow up. All forms of screening were offered to the patient completely free of charge. Data was analysed using SPSS version 21. Ethical Clearance to review case folders was obtained from the institutions ethical committee.

RESULTS

A hundred and six (33.5%) of patients screened were within ages 30-39 years, with a mean age of 40.7 years Two hundred and sixty-three patients were multiparous (with parity of 2 and above). Most of the women that presented for screening were married (75.3%). These are shown in table 1. Only 2.4% of women in this study have had Pap smear in the past.

Vaginal examination did show 87.7% had normal findings and 2.5% had abnormal bleeding as shown in table 2.

On Visual Inspection by Acetic Acid (VIA) 66.5% were negative as shown in table 3.

Pap smear results showed 50% of patients had normal findings and 26.6% had inflammatory cells. Only 0.6% showed dysplasia on Pap smear. This is shown in table 4. There was no statistical significant difference between Pap smear findings and VIA findings as shown in table 5.

DISCUSSION

Cervical cancer has continued to be a problem for women in developing countries. This is not the case in developed countries as a result of effective screening programmes, particularly the use of Pap

smear. Human Papilloma virus infection transmission appears to be the major causative agent for cervical cancer. Regrettably, screening for cervical cancer and vaccination appears to be in its infantile stage in developing countries like ours.

Our study showed that only a few women have had Pap smear in the past. Similarly, other studies have recorded a low uptake of pap smear despite its awareness [10,11]. Other studies have also documented the reasons for poor cervical screening uptake which includes cost, indifference, absence of symptoms, fear of vaginal examination, failure of doctors to request for the test and some women do not give any reason for not doing this test [1,11-14].

Results of Pap smear taken from screened patients showed 2 (0.6%) had dysplasia. This showed that we had a low incidence of dysplastic lesions among patients in our study. Other local and international studies have recorded a higher rate of squamous/epithelial cell abnormalities [8,9,15,16]. The rather low incidence of dysplastic changes recorded in our study may be explained by the fact that women screened during the study period were actually asymptomatic but came for cervical screening following advocacy

Table 1: Sociodemographic variables.

		n = 316	%
Age	< 20	3	0.9
	20-29	37	11.7
	30-39	106	33.5
	40-49	96	30.4
	50-59	57	18
	> 59	17	5.4
Parity	0	34	10.8
	1	19	6
	2-4	64	20.3
	> 4	199	63
Marital status	Single	17	5.4
	Married	238	75.3
	Divorced/separated	2	0.6
	Widow	58	18.4
Occupation	Farming	182	57.6
	Trader	47	14.9
	Student	12	3.8
	Civil servant	47	14.9
	None	11	3.5
	Artisan	17	5.4

Table 2: Vaginal examination.

	Frequency	Percent
Normal	277	87.7
Bleeding	8	2.5
Lesion	20	6.3
IUCD Thread	2	.6
Discharge	9	2.8
Total	316	100.0

Table 3: Visual inspection with acetic acid.

	Frequency	Percent
Positive	106	33.5
Negative	210	66.5
Total	316	100.0

Table 4: Pap smear findings.

	Frequency	Percent
Normal findings	158	50.0
Inflammatory	84	26.6
Unsatisfactory	72	22.8
Dysplasia	2	.6
Total	316	100.0

Table 5: Pap smear results compared with VIA results.ss

		PAP SMEAR RESULT				Total
		Normal Findings	Inflammatory	Unsatisfactory	Dysplasia	
VIA	Positive	53	31	22	0	106
	Negative	105	53	50	2	210
Total		158	84	72	2	316
$p > 0.05$						

visits. Another reason could be from the fact that majority of the study population were married which may reduce the rate of promiscuity resulting in low transmission rate of human papilloma virus.

From this study, there was no statistically significant difference between findings on Pap smear and VIA. This means VIA may be used in place of Pap smear with similar results. Most women that had a normal Pap smear result also had a normal VIA result. Majority of patients were negative on VIA which is similar to other studies [3,17]. Other studies have similarly shown the usefulness of VIA in screening for cervical cancer and its similarity with Pap smear findings [3,17,18]. This is of particular importance in low resource setting like ours because VIA is cheap and readily available compared to Pap smear which requires more expertise in reporting. Hence this result shows that VIA may be used in low resource settings where Pap smear facilities are not readily available.

This study is limited by the sample size. Also, the study did not report the histology findings of women that had abnormal pap smear.

CONCLUSION

This study showed that a good number of women had normal Pap smear findings. The study also demonstrated that VIA results are similar to Pap smear findings hence use of VIA may be encouraged in a low resource setting. The rate of pap smear uptake is low in our setting.

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