Journal of Community Medicine and Primary Health Care. 27 (2) 59-66

JOURNAL OF
COMMUNITY HEALTH
& PRIMARY HEALTH CARE

Cervical Cancer Knowledge and Screening Practices among Women of Reproductive Age in Benin City, Edo State.

Obi A.I.

Department of Community Medicine, Igbinedion University, Okada , Edo State and
Department of Community Medicine, Igbinedion University Teaching Hospital, Okada, Edo State.

KEYWORDS

Benin City
Cervical Cancer
Cervical Cancer, Screening
Reproductive Age
Women

ABSTRACT

BACKGROUND
Cervical cancer remains a major public health challenge in developing countries including Nigeria and contributes significantly as a major cause of death among women of reproductive age. This study was conducted to assess knowledge and cervical cancer screening practices among women of reproductive age in Benin City, with a view to planning programs to improve cervical cancer screening uptake in our environment.

METHODOLOGY
A descriptive cross sectional study design was utilized for this study involving researcher administration of semi-structured questionnaires to 235 consenting women of reproductive age (15-49years) attending immunization clinics in Benin City. The data collected were analyzed using IBM Statistical Package for Social Sciences (SPSS) version 22.0 with statistical significance set at $p<0.05$ and 95% Confidence Interval.

RESULTS
The mean age and parity of respondents studied was 28.8 ± 7.4 years and 2.19 ±1.85children respectively. One hundred and thirteen (48.1%) of the women studied were aware of cervical cancer with 57(50.4%) having good knowledge of cervical cancer. Furthermore, in relation to cervical cancer screening only 31(27.4%) of respondents studied had previously been tested. In relation to knowledge on cervical cancer, primary level of education (OR=0.095; 95% CI=0.019 – 0.475) was the only significant predictor identified, while parity (OR=0.157; 95% CI=0.025 – 0.969) was the only significant predictor identified that influenced screening practice.

CONCLUSION
This study identified poor knowledge of cervical cancer and low practice of cervical screening among women of reproductive age. There is need to create and strengthen cervical cancer awareness campaign and screening practices among women.

Correspondence to:
Obi Andrew Ifeanyichukwu
Department of Community Medicine, Igbinedion University, Okada,
Edo State and Department of Community Medicine,
Igbinedion University Teaching Hospital,
Okada, Edo State.
E-mail: drandrewobi2006@gmail.com
Tel; +2348023447122.

INTRODUCTION

Cancer of the cervix is one of the most frequently occurring reproductive cancers among women globally, attributed predominantly to human Papilloma virus infection with an estimated 529,000 new cases occurring annually.[1-5] Eighty percent of new cases occur in low-resource countries of Africa, Latin America and Southeast Asia.[2] Cervical cancer is a leading cause of mortality worldwide (representing 13% of all female cancers) with an estimated 270 000 women deaths reported every year and 85% of these deaths occur in the developing world.[3,6]

In Nigeria each year approximately 10,000 women develop cervical cancer out of which 8,000 die predominantly due to late presentation.[7] Records from University College Hospital, Ibadan cancer registry indicated that cervical cancer incidence is high; representing 18.2% of total malignancies reported in 2007. Evidence of decline in incidence of cervical cancer has been observed from countries like the United States where there are established screening protocols.[8]

Cervical cancer therefore is a preventable

disease and curable at the latent pre-invasive stage and so early detection remain key to preventing progression to life threatening advanced stage of the disease, through appropriate screening investigation such as Papanicolaou test (Pap Smear test) as early as from 21 years with frequency of repeat test varying from once a year till once in five years in the absence of abnormal result findings. [9] In resource poor settings the World Health Organization (WHO) and International Agency for Research on Cancer (IARC) recommends the adoption of alternate screening method based on visual Inspection with Acetic acid (VIA). [10-13] Research has revealed that a major prognostic determinant of cervical cancer is the stage at patient presentation.[14] The absence of a standard policy or protocol for cervical cancer screening in Nigeria further compounds this problems due to unavailability of screening services and at best if available sporadic services are provided in selected centers. This is worrisome as all sexually active women are at risk for cervical cancer from human Papilloma viral infections.[15] The high cost of screening services cost makes it inaccessible and affordable to many women, this has contributed to the increased morbidity and mortality associated with late presentation with diminished chance of survival especially in developing countries like Nigeria.[7,16-17]

Over the years studies report that awareness and uptake of cervical cancer screening services have remained poor due to poor awareness of the need. [18-23] Furthermore, several factors have been reported to influence cervical cancer screening practices such as level of awareness, educational status, financial capability, location, presence of health care facilities.

All these determine the stage at which patients with cancer present to the health facility. [14,24] This study was therefore conducted to assess knowledge of cervical cancer and screening practices among women of reproductive age in Benin City. The findings will help in the planning of programs to improve cervical cancer awareness, knowledge, screening practices and help minimize late presentation and attendant consequences.

MATERIALS AND METHOD

A descriptive cross sectional study was conducted involving 235 consenting women of reproductive age (15-49 years) attending immunization clinic at Central Hospital Benin City. The hospital provides primary, secondary and specialist health care services to clients within and outside Edo State and offers residency training programs in Obstetrics and Gynecology and Family Medicine.[25]The study was conducted between November and December 2013. The sample size was calculated using Cochran's formulae for descriptive study based on an 11.1% prevalence of cervical cancer screening uptake among women in Abakiliki.[23,26]

Respondents were recruited to participate from the sampling frame consisting of daily Immunization clinic attendees who were then selected daily by simple random sampling technique using a table of random numbers till the required sample size was reached. Interviewer administered semi-structured questionnaires were utilized for the study after obtaining written informed consent from respondents. Ethical approval was obtained from Department of Hospital Services, Edo State Ministry of Health before the commencement of the study. IBM SPSS version 22.0 was utilized for data analysis with statistical tests of association carried out at level of significance set at p 0.05 and 95% confidence interval. Cervical cancer screening practice was assessed based on the history of utilization of any of the two screening tests namely PAP smear and visual inspection with Acetic acid

prior to the time of the survey. Furthermore, cervical cancer awareness meant if the respondent had ever heard of the term cervical cancer or cervical cancer screening prior to the interview.

Knowledge of cervical cancer was then assessed based on a **'23'** point scoring system developed in relation to **'23'** questions on cervical cancer risk factors, mode of presentation of breast cancer, persons to carry out breast cancer screening and finally the benefit of breast cancer screening. Each correct response had a score of**'1'** while**'0'** for any incorrect response. Total score of **'16-23'**was categorized as good knowledge, while **'1-15'** as poor knowledge and **'0'** as no knowledge.

RESULTS

The mean age and parity of respondents studied were 28.8±7.4 years and 2.19±1.85 children respectively, with Christianity 218 (92.8%) being the predominant religion, followed by Islam 15(6.4%) and African Traditional Religion 2(0.8%). One hundred and seventy (72.3%) of respondents were married and 65 (27.7%) single. Also, 103 (43.8%) of respondents had completed secondary level of education, 62 (26.4%) had primary completed level of education, 56(23.8%) tertiary completed level of education while 14(6.0%) had no formal education. Furthermore, in relation to employment status 172(83.2%) of the respondents were employed while 63 (26.8%) unemployed.

One hundred and thirteen (48.1%) of these respondents studied were aware of cervical cancer with health care providers 96(84.9%) being the predominant source of information, followed by media 91 (80.5%), family and friends (37.2%) and least school 11(9.7%). Relating to responses on importance of cervical cancer screening; 96(84.9%) reported it helps detect problem early, 59(52.2%) to help initiate treatment early, 27(23.9%) to prevent complication. Furthermore, relating to risk factors for cervical cancer the following responses were obtained; Early sexual exposure 68 (60.2%), Family history 64 (56.6%), multiple sex partners 58 (51.3%), Genetic factors 54 (47.8%) where the predominant risk factors mentioned by respondents with least being human papilloma virus infection 2(1.8%). Finally in relation to what cervical cancer is majority attributed it as itching of the private part 112(99.1%), followed by growth in the cervix or

Table I: Knowledge of cervical cancer, risk factors, persons to conduct cervical cancer screening and importance of cervical screening (n=113)

Variable	Frequency	Percent
What is cervical cancer?		
Swelling or growth in cervix(private part)	86	76.1
Bloody discharge from cervix	47	41.6
Foul smelling discharge from cervix	41	36.3
Itching of private part	112	99.1
Risk Factors of Cervical Cancer		
Family history	64	56.6
Genetic factors	54	47.8
Cigarette smoking	38	33.6
Alcohol consumption	33	29.2
Oral contraceptive usage	43	38.1
Diet	54	47.8
Early onset of sexual exposure	68	60.2
Multiple sex partners	58	51.3
Sexually transmitted infections	43	38.1
Human papilloma virus	2	1.8
Knowledge of person to carry out Cervical Examination		
Doctor	86	76.1
Self	39	31.9
Nurse	27	23.9
Husband	1	0.9
Knowledge of importance of cervical cancer screening		
To detect problem early	96	84.9
To initiate treatment early	59	52.2
To prevent complication	27	23.9
Knowledge of Cervical Cancer		
Good Knowledge	57	50.4
Poor Knowledge	56	49.6
Previous History of Cervical Screening		
Yes	31	27.4
No	82	72.6

Table II: Factors Associated with knowledge of cervical cancer among respondents

Variable	Knowledge of Poor	Cervical cancer Good	Test Statistic	*P*	*OR*	*95%CI*
Educational Status			**2=10.792**	**0.013**		
None	23(53.5)	20(46.5)			1.231	0.103-14.696
Primary Completed	33(47.1)	37(52.9)			**0.095**	**0.019-0.475**
Secondary Completed	34(48.6)	36(51.4)			0.639	0.281-1.456
Tertiary Completed	22(51.2)	21(48.8)			1	
Employment status			**2=0.072**	**0.786**		
Employed	34(48.6)	36(51.4)				
Unemployed	22(51.2)	21(48.8)				
Marital Status			**2=0.429**	**0.512**		
Single	23(53.5)	20(46.5)				
Married	23(47.1)	37(52.9)				
Age Group(Years)			**2=1.970**	**0.579**		
15-24	20(47.6)	22(52.4)				
25-34	23(47.9)	25(52.1)				
35-44	9(50.0)	9(50.0)				
45-54	4(80.0)	1(20.0)				
Parity			**F=1.636**	**0.464**		
Nulliparous	17(44.7)	21(55.3)				
Multipara	34(50.0)	34(50.0)				
Grand multipara	5(71.4)	2(28.6)				
Religion			**F=1.622**	**0.557**		
Christianity	42(49.1)	54(50.9)				
Islam	4(66.7)	2(33.3)				
ATR	0(0.0)	1(100.0)				

Table III: Factors associated with cervical cancer screening practices among respondents

Variable	Breast screening Practice		Test statistic	*P*	*OR*	*95%CI*
	No	Yes				
Educational Status			**F=4.338**	**0.271**		
None	3(100.0)	0(0.0)				
1^0	10(66.7)	5(33.3)				
2^0	42(79.2)	11(20.8)				
3^0	27(64.3)	15(35.7)				
Employment Status			**2=6.336**	**0.012**		
Employed	45(64.3)	25(35.7)				
Unemployed	37(86.0)	6(14.0)				
Marital status			**2=4.338**	**0.037**		
Single	36(83.7)	7(16.3)				
Married	46(65.7)	24(34.3)				
Age group			**F=3.911**	**0.058**		
15-24	34(81.0)	8(19.0)				
25-34	34(70.8)	14(29.2)				
35-44	12(66.7)	6(33.3)				
45-54	2(40.0)	3(60.0)				
Parity			**2=8.403**	**0.015**		
Nulliparous	34(89.5)	4(10.5)			**0.157**	**0.025-0.969**
Multipara	44(64.7)	24(35.3)			0.727	0.150-3.522
Grand multipara	4(57.1)	3(42.9)			1	
Religion			**F=0.724**	**0.759**		
Christianity	77(72.6)	29(27.4)				
Islam	4(66.7)	2(33.3)				
ATR	1(100.0)	0(0.0)				
Level of Knowledge on Cervical Cancer			**2=0.072**	**0.788**		
Poor	40(71.4)	16(28.6)				
Good	42(73.7)	15(26.3)				

private 86(76.1%), bloody discharge 47 (41.6%) and foul smelling discharge 41 (36.3%) from private part. In relation to overall knowledge of cervical cancer 57(50.4%) respondents had good knowledge while 56(49.6%) had poor knowledge while relating to practice of cervical cancer screening 31(27.4%) of the respondents studied had been previously screened for cervical cancer while 82 (72.6%) had not. (Table I).

In relation to who carried out the examination; 5 (16.2%) mentioned Self, Doctor 7 (22.6%), Nurse 19 (61.3%) while in relation to place of examination; 20 (64.5%) mentioned Health facility, 5 (16.2%) home and 6 (19.4%) health screening center. The screening results reported by respondents were normal findings for 29(93.5%) while 2 (6.5%) abnormal finding and of these 2(100.0%) none took further action subsequently.

In relation to factors associated with knowledge of cervical cancer among respondents (Table II) it was identified that age grouping in years (p=0.579), marital status (p=0.512), religion (p=0.557), employment status (p=0.789) and parity (p=0.464) of respondents were not significant factors associated with knowledge except educational status of respondents in which primary level of education (OR=0.095; 95% CI=0.019 – 0.475) was the only significant predictor identified.

Finally, in relation to factors associated with cervical cancer screening practices (Table III) it was identified that employment status (p=0.012), marital status (p=0.037) and parity (p=0.015) were the only

significant factors associated with cervical cancer screening practices among respondents while religion (p=0.759), Age grouping of respondents in years in (p=0.058), Educational status (p=0.271) and knowledge of cervical cancer (0.788) were not significant. Further multivariate analysis identified parity (OR=0.157; 95% CI = 0.025 - 0.969) as the only significant predictor of cervical cancer screening practice among respondents studied.

DISCUSSION

This study identified low awareness and poor knowledge of cervical cancer among women. A major interesting finding was that only 1.8% of the respondents correctly identified human papilloma virus infection as the causative agent responsible for cervical cancer. This very low awareness of the link between HPV infection and cervical cancer was also reported in South East, Nigeria [23]. This finding reveals that the general knowledge on cervical cancer was poor in Benin City,as health care providers should have been expected to health educate clients on preventive health intervention such as cervical cancer screening; this is surprising considering the study setting being health facility and urban based.

This study also identified that educational status of respondents significantly predicted knowledge of cervical cancer with respondents with primary level of education being 10 times less likely to have good knowledge when compared to those with tertiary level of education; by extension the level of knowledge increased significantly with increasing educational status of respondents. This buttresses further the important role education can have in enhancing knowledge on health interventions. This poor awareness and knowledge on cervical cancer and cervical cancer screening have also been reported in Nigeria[27,20] and India.[22] The low awareness and poor knowledge on cervical cancer reported in this study is in contrast to those reported in Ilorin, Ibadan, South East Nigeria, Korea and Quatar. [20-21,27-29]

This study also identified low cervical cancer screening uptake of 27.4% among women of reproductive age in Benin City. Majority of respondents studied were screened using the papaniculau (Pap) smear test while others by visual inspection with acetic acid. This low cervical cancer screening uptake might have been a reflection of low level of awareness and poor knowledge on cervical cancer in terms of presentation risk factors, causative agents, the availability, affordability and accessibility of cervical cancer screening services. It is important to also state that the absence of a well-articulated road map and policy frame work to address cervical cancer screening at the national level in Nigeria as have been attested in some studies [30-31] may have contributed appreciably to the poor uptake of cervical cancer screening services identified among respondents in this study and generally in Nigeria.

Further analysis in this study also revealed that cervical cancer screening practices was influenced by the employment status of respondents with employed respondents having a statistically higher uptake when compared to unemployed respondents possibly due to the cost implication associated with screening test. It was also identified that marital status significantly influenced cervical cancer screening uptake with married compared to single respondents having higher screening practice, this is possibly due to the fact that married persons may have completed their family size; as such may be better interested in sorting out their health concerns better in addition to the fact that over time they could have been exposed to a lot of health information from health care providers from several opportunities such Immunization clinics, ante-natal,

relation to parity, grand-multiparous respondents compared to other respondents had higher cervical cancer screening uptake, further multivariate analysis identified parity as the only significant predictor which influenced cervical cancer screening with nulliparous respondents being 6 times less likely to have cervical cancer screening when compared to other respondents. This study also identified that Papanicalau smear as the predominant screening test carried out on respondents followed by visual inspection with acetic acid. The low cervical cancer screening uptake identified in this study have been reported in Nigeria and other parts of the world.[18-22,32-33] Finally, the low uptake of cervical cancer screening identified in this study was in contrast to those reported in Quatar and Kuwait and other developed countries.[30,34]

CONCLUSION

This study identified poor knowledge of cervical cancer and low practice of cervical screening among women of reproductive age. Finally, educational status and parity of respondents were identified as significant predictors that influenced knowledge of cervical cancer and cervical cancer screening practices among respondents respectively.

RECOMMENDATION

To create and strengthen cervical cancer awareness campaigns and cervical cancer screening practices among women of reproductive age.

LIMITATION OF STUDY

The findings of this study were based on self-report as it was not possible to validate claims made by respondents in the course of questionnaire administration.

ACKNOWLEDGMENT

I wish to specially appreciate all respondents who participated in this study, my research assistants, and the Management of Central Hospital Benin City for permission to carry out this study.

REFERENCES

1. Hamad HM: Cancer initiatives in Sudan.*Ann Oncol* 2006, 17 (8):32-6.
2. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM: Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. *Int J Canc* 2010, 127(12):2893-2917.
3. WHO/ICO Information Centre on HPV and Cervical Cancer (HPV Information Centre) Summary Report. 3. 2010. Human Papillomavirus and Related Cancers in Nigeria. Accessed 2nd August, 2010 at http://www.who.int/hpvcentre.
4. World Health organization. Comprehensive cancer control. A Guide to Essential Practice. World Health Organization: Geneva; 2006.
5. Mutyaba T, Faxelid E, Mirembe F, Weiderpass E. Influences on Uptake of Reproductive Health Services on Nsangi Community of Uganda and Their Implications for Cervical Cancer Screening. Reprod Heal. 2007;4:4. doi: 10.1186/1742-47 55-4-4.
6. Wittet S, Tsu V: Cervical cancer prevention and the millennium development goals. *Bull* World *Health Organ* 2008, 86(6):488-490.
7. National cancer control programmes, policies and managerial guidelines. 2nd edition, World Health Organization, 2002
8. Spayne Y, Ackerman I, Milosevic M. Seindefield. Cancer: A Failure of Screening. European formal of Public

Health. 2007;18(2):162–65

9. Saslow D, Solomon D, Lawson HW,et al. American Cancer Society' American Society for Colposcopy and Cervical Pathology;and American Society for Clinical Pathology Screening guidelines for the Prevention and early detection of Cervical cancer. Am J Clin Pathol. 2012 ; 137(4):516-542.
10. Goldie SJ, Kuhn L, Denny L, Pollack A, Wright TC. Policy Analysis of cervical cancer screening strategies in low resource settings: Clinical benefits and cost effectiveness. JAMA2001, 27:285 (24):3017-15
11. Denny L, Kuhn L, De Souza M, Pollack AE, Dupree W, Wright TC Jr. Screening and Treatment approaches for cervical cancer prevention in low resource settings: A standardized controlled trial. JAMA 2005,294(17):2173-2181
12. Miller AB, Sankaranarayanan R, Bosch FX, Sepulveda C. Can screening for cervical cancer be improved especially in developing countries? Int J Cancer, 2003; 107(3):337-40
13. Kahesa C, Kjaer S, Mwaiselage J, Ngoma T, Tersbol,B, Dartell M, Rasch V. Determinants of acceptance of cervical cancer screening in Dar es Salaam, Tanzania. BMC Public Health 12:109 Alemayehu
14. http://www.waltainfocom] webcite*Cancer: a threat to Ethiopia than HIV/AIDS, TB and malaria.*
15. Castle PE, Glass AG, Rush BB, et al. Clinical Human Papilloma virus detection forecasts cervical cancer risk in women over 18 years of follow-up. J Clin Oncology. 2012;30(25):3044-50
16. Vizcaino AP, Moreno V, Bosch FX, Munoz N, Barros-Dios XM, Borras J, Parkin DM. International Trends in Incidence of Cervical Cancer.2000 Int J Cancer. 86(3):429-35
17. Wabinga HR, Parkin DM, Wabwire-Mangen F, Nambooxe S. Trends in Cancer Incidence in Kyadondo County, Uganda, 1960-1997. Br J Cancer 82(9):1585-1592
18. Yusufu LMD: Early diagnosis of breast cancer. *Ann Afr Med* 2004, 3(2):95.
19. Carr KC, Sellors JW. Cervical cancer screening in low resource settings using visual inspection with acetic acid. J Midwifery Women's Health. 2004, 49(4):329–337. doi: 10.1016/j.jmwh.2004.02.015.
20. Akujobi CN, Ikechukwu JI, Onunkwo I,et al. Knowledge attitude and Practice of screening for cervical cancer among female students of a tertiary Institute in South Eastern Nigeria. Niger J Clin Pract 2008;11:216-9
21. Nguyem TT, Song IC, Taylor R, et al. Knowledge, Attitude and Practice concerning Cervical Cancer and Screening among Rural and Urban Women in Six Provinces of the Democratic People's Rublic of Korea. Asian Pacific J Cancer Preven 2011;12:3029-33.
22. Shrestha J, Saha R, Tripathi N .Knowledge, Attitude and Practice Regarding Cervical Cance screening among women visiting tertiary centre in Kathmandu. Nepal Journal of Medical Sciences 2013; 2(2):85-90.

23. Chinaka CC, Udeajah VN. Awareness of Cervical Cancer and Cervical Cancer Screening among women visiting Federal Teaching Hospital Abakiliki, Nigeria. Journal of Medical and Applied Bioscience, 2012;4: 47-66.Anim

24. JT. Breast cancer in sub-Saharan African women. *Afr J Med Sci* 1993; 22(1):5-10.

25. Obi AI. Assessment of Breast Cancer Screening Practices among Women of Reproductive Age in Benin City, Edo State.International Journal of Tropical Disease and Health. 2015;6(4):141-49. Doi:10.9734/IJTDH/2015/15449

26. Cochran WG. The estimation of sample size in: Sampling Technique. 3rd Edition. New York: John Wiley & Sons; 1977:72-88.

27. Onah HE, Ezugwu FO, Eze JN. Cervical cancer screening: A survey of current practice among Nigeria Gynaecologists. Trop J Obstet Gynaecol. 2001;18:78-81

28. Thomas JO, Babarisa IA, Ajayi IO, Fawole O, Ojemakinde KO, Omigbodun AO. Mobilisation for Cervical cancer screening: Lessons from a poor-urban Yoruba community in Nigeria. Afr J Med Med Sci 2005;34: 81-5

29. Al Meer FM, Aseel MT, Al Khalaf J, et al. Knowledge, attitude and practices regarding cervical cancer and screening among women visitng primary health centre in Quatar. East Meditarranean Health Journal 2011; 17: 855-61.

30. Airede LR, Onakewhor JUE, Aziken ME, Ande ABA, Aligbe JU. Carcinoma of the Uterine Cervix in Nigerian Women: The Need to Adopt a National Prevention Strategy. Sahel Medical Journal. 2008; 11(1):1–11.

31. Ezugo K, Camazine B. Beyond Limitations: Practical Strategies for improving Cancer Care in Nigeria. Asian Pacific J Cancer Prev. 2013; 14(5):3363-3368

32. Gharoro EP, Ikeanyi EN. An Appraisal of The Level of Awareness and Utilization of The Pap Smear as A Cervical Cancer Screening Test Among Female Health Workers In A Tertiary Health Institution. Int J Gynecol Cancer. 2006; 16(3):1063–1068.

33. Ayinde OA, Omigbodun AO. Knowledge, attitude and practices related to prevention of cancer of the cervix among female health workers in Ibadan. J Obstet Gynaecol. 2003;23(1):59–62. doi: 10.1080/0144361021000043272.

34. AI Sairafi M, Mohamed FA. Knowledge, Attitude and Practice related to cervical cancer screening among the Kuwaiti Women. Med Princ Pract 2009; 18:35-42.