Knowledge, Uptake and Barriers to Pap Smear Test among Female Workers in the Rivers State University Teaching Hospital, Nigeria

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Abstract:

Background: Early screening for cervical cancer is a key intervention in reduction of maternal deaths. Health care workers have a significant role to improve cervical cancer screening practice among women. Their attitude and practice to such an issue might positively or negatively influence people they come into contact with.

Objective: To determine the knowledge, uptake and barriers to Pap smear test among female workers in the Rivers State University Teaching Hospital.

Methodology: A hospital-based cross-sectional study was conducted between September and November 2015. A structured and pre-tested questionnaire was used to collect data from 265 female hospital workers on socio-demographic characteristics, knowledge of Pap smear, attitude towards, as well as utilization of Pap smear test. The data obtained were analyzed using SPSS version 20.0.

Results: Of the 265 respondents, 237 (89.4%) were aware of Pap smear while 28 (10.6%) had no knowledge; of those that had knowledge only 40 (16.9%) had Pap smear test done at least once previously. There is significant difference in the knowledge of Pap smear among the professionals and those with tertiary education. Common sources of information about Pap smear were Books (58.2%) and Medical Workers (50.6%). Most common reason for not wanting to be screened was No interest (43.6%).

Conclusion: Although the knowledge of Pap smear is high, the uptake is low among hospital workers. To improve utilization, public health education on the need for health workers to take up screening is crucial as it will impact positively on the general populace.

Key Words: Cervical cancer, Screening, Pap smear, Healthcare workers,

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Introduction:

Cervical cancer remains a major health issue among women in developing countries especially in Sub-Saharan Africa. It is the second most common malignancy in women worldwide [1]; however it is the most common cause of cancer related morbidity and mortality in women in the developing countries [2]. Cervical cancer is the commonest malignancy of the female genital tract in Nigeria, accounting for 70.5% of gynecological malignancies in Maiduguri, 59.2% in Kano, 77% in Zaria, 60% in Ilorin, 74% in Jos and 74.6% in Benin [3][4][5][6][7][8]. Data from Kenya [9], Zimbabwe [9], and Ghana [10] have shown that cervical cancer accounted for 57.8%, 70-80% and 80% of gynecological cancers respectively.

Various screening methods are available for detecting the pre-invasive lesions of the cervix; however the Pap smear is the gold standard and has become the main stay of population based prevention programmes. It is the most effective prevention technique available today and is used worldwide [11]. Regular screening with Pap smear reduces the mortality from cervical cancer [28].

Systematic screening programmes being implemented by developed countries have resulted in the reduction of morbidity and mortality from cervical cancer [11] [12][13]. It has been reported that both organized and opportunistic cytological screening tests have lowered the incidence rates of cervical cancer [14]. Various factors like non availability, poor quality of care provided, poor accessibility, fear and hopelessness concerning diagnosis of cancer, perception of tests as being unnecessary, lack of adequate information to the women, as well as cultural and behavioral barriers are responsible for the very low level of cervical cancer screening uptake in developing countries [15][16][17]. The Pap smear test is readily available in our Centre on physician referral and compulsorily for all postpartum mothers at the six weeks visit.

Studies have reported high level of awareness of cervical cancer and cervical cancer screening tests among health workers in Nigeria, as seen in Abuja, Ilorin, Jos and Enugu [2][6][7][18]. However, surveys among non-health workers showed poor knowledge and utilization of cervical cancer screening tests [19] [20][21]. Health care workers were anticipated to be knowledgeable about cervical cancer screening compared to non-health care workers and consequently to persuade cervical cancer screening among women [22]. Their attitude and practice to such an issue might positively or negatively influence people they come into contact with.

We therefore decided to determine the knowledge, uptake and practice of cervical cancer screening using the Pap smear test among female health workers in the Rivers State university teaching hospital.

Methodology:

This descriptive, hospital based, cross-sectional, questionnaire based study of 265 female health workers in the Rivers state university teaching hospital was carried out between September and November 2015. Female health workers refer to all Professional health staff of the hospital; Doctors, Nurses, Laboratory scientists, Pharmacists and Physiotherapist; and Non-Professional staffs such as administrative staff, Cleaners, Maids and Porters.

A pretested, structured, self-administered questionnaire was used for this study. The questionnaire contained questions which sought to determine the socio-demographic characteristics of the respondents and their knowledge, attitude and utilization of Pap smear as a screening device for cancer of the cervix. The instrument was pretested on 40 study participants who were working in another health facility that was not part of the actual study. Findings from the pretest were used to modify the instrument in terms of clarifying the questions.

Methodology, purpose of the study and assurances of confidentiality were fully explained to the participants and research assistants who assisted in data collection and the participants were asked for

their voluntary participation before administration of the questionnaires. A total of 285 female workers of the hospital on the Nominal role were identified at their work places and given the questionnaires. 20 workers who did not voluntarily agree to participate and did not return their questionnaire were excluded. 265 volunteered, properly completed and returned their questionnaires; and these formed the basis of the analyses.

The collected questionnaire were checked manually for its completeness, coded and entered into Microsoft Excel, then exported to SPSS version 20.0 for statistical analysis. Descriptive and summary statistics were presented in tables and figures. Where necessary, Chi-Square and Fisher's exact test were used as a test of significance. A p-value of <0.05 was regarded as significance.

Results:

There were 265 respondents in all. As expected majority 232 (87.5%) of the respondents had tertiary education, 140 (52.9%) were married and 160 (60.4%) were younger between 18 – 35 years. Table 1 shows the age, marital status and educational level distribution of the respondents.

Table 1: Demographic characteristics of female hospital workers (N=265)

Demographic variables	Frequency(N)	Percentage (%)
Age category		
18 – 35 years	160	60.4
36 – 50 years	89	33.6
> 50 years	16	6.0
Marital status		
Single	113	42.6
Married	140	52.9
Divorced/Widowed	12	4.5
Educational level		
Primary	6	2.3
Secondary	27	10.2
Tertiary	232	87.5

Of the 265 respondents, 105 (39.6%) were Nurses, 61 (23.0%) were Doctors, 27 (10.2%) were Medical Laboratory Scientists, 26 (9.8%) were Pharmacists and 4 (1.5%) were Physiotherapist (making up the professionals group of 223). Non-professionals (42) consisted of Admin staffs 22 (8.3%) and Casuals (consisting of cleaners, maids & porters) 20 (7.6%). See Figure 1.

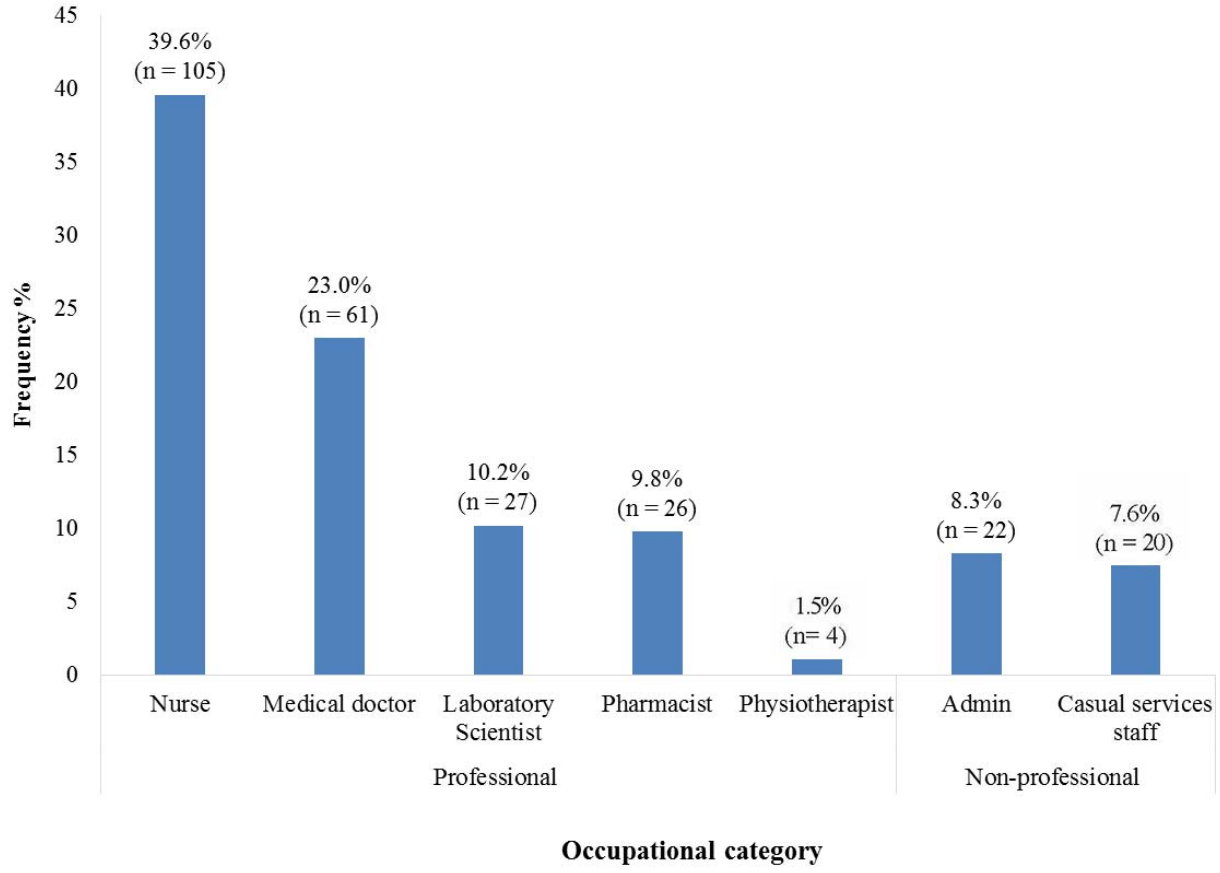

Fig 1: Distribution of occupational category of the female hospital workers in the study

Of the 265 respondents, 237 (89.4%) were aware of Pap smear while 28 (10.6%) had no knowledge; of the 237 (89.4%) respondents that had knowledge of the test, only 186 (78.5%) had correct knowledge of the test as a screening tool for cervical cancer, while 51 (21.5%) had vague but incorrect (not precise) knowledge. The source of information about Pap smear included Books/Literature 138 (58.2%), From Medical Workers 120 (50.6%), Mass Media 10 (4.2%), Friends/Relatives 5 (2.1%) and Internet 1 (0.4%). See Figure 2 and 3.

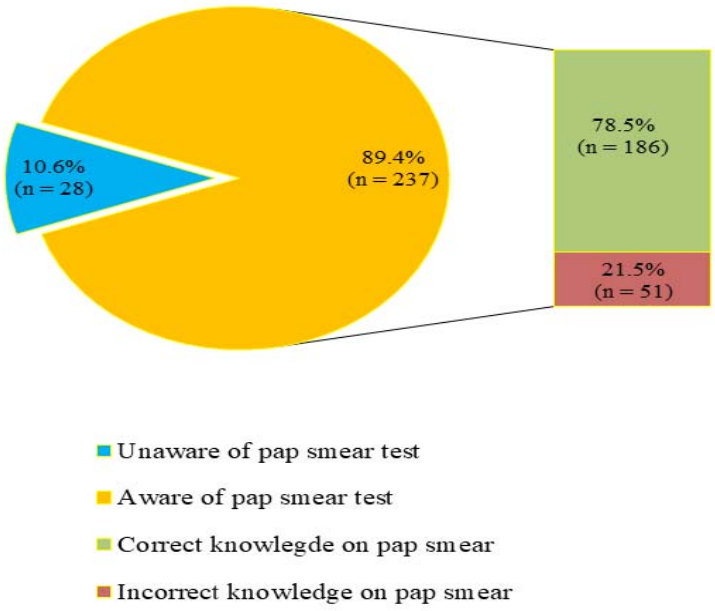

Fig 2: Distribution of awareness and knowledge on Pap smear test among female hospital workers.

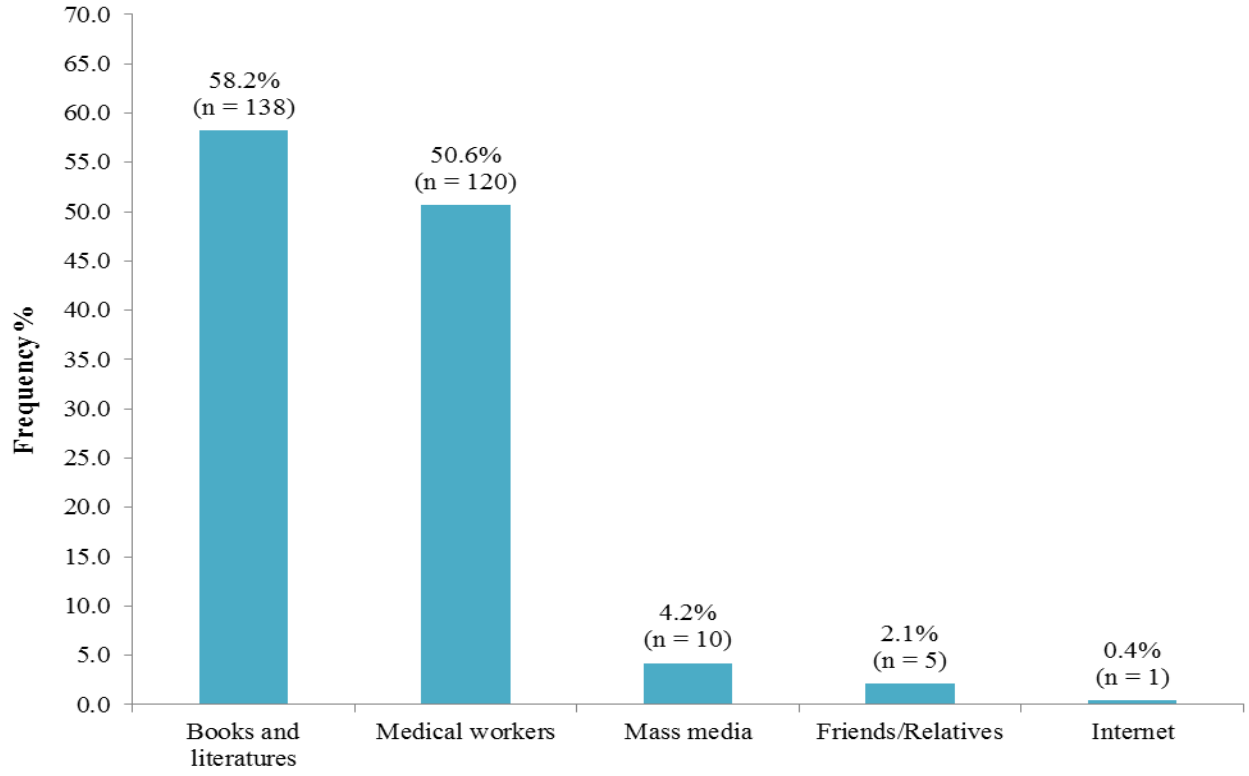

Fig 3: Sources of information about Pap smear test among respondents who are aware of pap smear test (N=237). ***N.B-Multiple responses apply***

The following aspect of the result deals with those with knowledge of Pap smear test (237). Of these, only 40 (16.9%) had Pap smear test at least once previously. Six (15.0%) once every year; Six (15.0%) once every 2-3 years; Three (7.5%) once every 5 years and the majority, 25 (62.5%), only once in their lifetime. Of those who have had Pap smear done previously, 37 (92.5%) had normal results and 26 (65.0%) say they were the main influence on their uptake of the test (see table 2).

Table 2: Uptake of Pap smear among female hospital workers with Pap smear awareness (N = 237)

Variables	Frequency (N)	Percentage (%)
Done pap smear		
Yes	40	16.9
No	197	83.1
Frequency of pap smear uptake (N = 40)		
Once per year	6	15.0
Once in 2 – 3 year	6	15.0
Once in 5 year	3	7.5
Once in lifetime	25	62.5
Last pap smear test finding (N = 40)		
Normal	37	92.5
Inconclusive	3	7.5
Influence to uptake pap smear (N = 40)		
Self	26	65.0
Medical workers	11	27.5
Husband	3	7.5

Of the 197 (83.1%) who had not been screened previously, the reason for not wanting to be screened included No interest 86 (43.6%), Not being sexually active 35 (17.8%), No access to the facility 27 (14.7%), Fear of outcome of test result 17 (8.6%), Not able to make out time to go for test 16 (8.1%), Cannot afford the cost 12 (6.1%) and waiting for after childbirth 2 (1.0%). See figure 4.

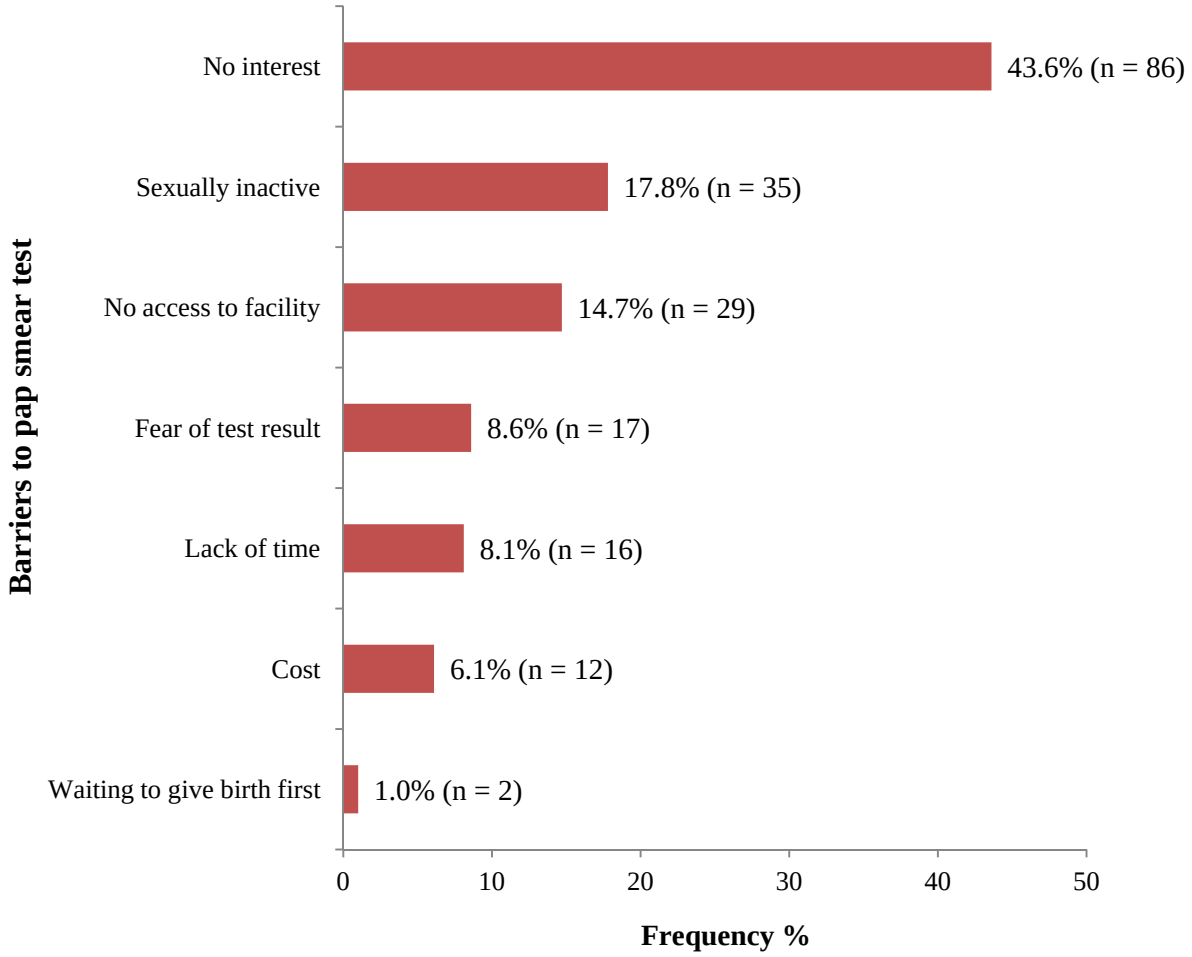

Fig 4: Barriers to uptake of Pap smear test among the female hospital workers (N=197)

Some socio-demographic variables play a crucial role in awareness of Pap smear test. Higher level of education (tertiary education) and occupational category (professionals) were significantly (p=.0001) associated with increased level of awareness of the Pap smear tests. There was however no statistically significant association with maternal age category. Table 3 describes the bivariate analysis of knowledge of Pap smear test according to these socio-demographic variables.

Table 3: Bivariate analysis of knowledge of Pap smear according to age category, educational level and occupational category versus knowledge of Pap smear (N = 237)

	Knowledge of Pap smear		
	Correct	**Incorrect**	**Total**
Variables	**n (%)**	**n (%)**	**n (%)**
Age category			
18 - 35 years	122 (81.9)	27 (18.1)	149 (100.0)
36 - 50 years	54 (71.1)	22 (28.9)	76 (100.0)
>50 years	10 (83.3)	2 (16.7)	12 (100.0)
	Chi-Square = 3.669; P = .166		
Educational level			
Primary	0 (0.0)	1 (100.0)	1 (100.0)
Secondary	6 (40.0)	9 (60.0)	15 (100.0)
Post-secondary	180 (81.4)	41 (18.6)	221 (100.0)
	*Fisher's exact test = 14.852; P = .0001**		
Occupational category			
Professional	176 (81.9)	39 (18.1)	215 (100.0)
Non-professional	10 (45.5)	12 (54.5)	22 (100.0)
	*Fisher's exact P = .0001**		

**Statistically significant P<0.05*

Discussion:

The key to success of cervical cancer screening programme is awareness and utilization. Unfortunately, this study shows that the vast majority of the respondents (89.4%) were aware of the Pap smear test but utilization was poor (16.9%). This finding on awareness is in keeping with 93.5%, 87%, 79.8% and 94% reported among health workers in Abuja, Ilorin, Nnewi and Maiduguri respectively [2][6][20][23]. It is however higher than the 18.7% reported from Ibadan [24] and 19% reported from Jos [25]; these were however among female teachers and antenatal patients respectively. The differences may be because health care workers are expected to have better access to medical information.

The very low utilization despite the high level of awareness has been postulated to be partly due to low / poor referral by attending physician [2][23]. However, many previous studies have reported a wide disparity between knowledge and utilization of Pap smear screening even among health personnel [2][6][20][23]. The 16.9% utilization of Pap smear in our study is slightly lower than the 23.3% reported from Maiduguri [23], but is much higher than 9.6% reported from the Abuja series [2], 0.3% from Ilorin [6] and 5.7% from Nnewi [20].

Socio-demographic variables like higher level of education (tertiary education) and occupational category (professionals) played a statistically significant role in awareness of Pap smear test in our study; age

category and marital status did not significantly affect the knowledge. The study from Maiduguri [23] also found significant association between higher level of education and knowledge of Pap smear but unlike our study, they also found significant association with increased maternal age and high parity.

Various reasons were given for not wanting to be screened in this study (Fig 4), including being not interested, fear of outcome of test result and not able to make out time to go for test. Previous studies have reported other additional reasons such as not being susceptible to the disease or gave no reason at all [2][6][18][19][25]. This will have negative consequences for screening to effectively detect the disease during the pre-invasive phase and therefore patients may present in advanced stage making treatment or cure difficult. Every opportunity should be utilized to disseminate information of cervical cancer control, particularly uptake of screening tests, at hospital grand rounds, schools of nursing and other paramedical organizations to achieve a more coordinated effort at eradicating these wrong notions.

Also of note is the 12 (6.1%) of the 197 who had not done the Pap smear test previously because it is expensive. It is important to enlighten the populace that it is by far cheaper to be screened for cervical cancer and if detected early with possibility of cure, rather than to wait for it to be advanced, invasive and invariably incurable.

As expected, textbooks/medical Journals (58.2%) and Medical Workers (50.6%) were the most common first sources of information about Pap smear, as was also the case in Aboyeji PA. et al [6]. This demonstrates that potential health workers have some form of introduction to the preventable nature of cervical cancer during their course, although this did not translate to practice in the vast majority of the respondents and is at variance to their knowledge about cervical cancer in general.

The optimal frequency and timing of Pap smear screening remain controversial, as the exact frequency can only be determined by economic resources and individual attitude [26]. The general recommendation is that all women should be encouraged to have a screening test done at least once between the age of 30 and 55 years. Majority of our respondents, 62.5% of the 40, has had screening at least once in their lifetime. However, the Canadian Task Force of cervical cancer screening programme recommends annual screening for sexually active women aged 18-35years, extended to every 5 years from age 35 years and discontinued at age 60 if consistently normal [27].

This study was limited by its cross sectional nature and convenience sampling. It was also limited by the fact that the study was conducted in an urban area, and among health care workers, where socio-economic status of the respondents is better. Community based study in these regards is recommended and this should include rural areas.

Conclusion:

Although the level of knowledge about Pap smear is high among hospital workers in this study, their utilization of the test is very low. Since this group of workers unconsciously and passively act as role models in health related attitude and behavior to members of the larger society, they need to be encouraged on the importance of taking up screening so that they can convince other women they come in contact with in the course of discharging their duties.

On a larger scale, continued public health education is important on the preventable nature of invasive cervical cancer through Pap smear test. However, as there are yet no established systematic screening programmes in most developing countries, increased opportunistic screening should be intensified in an effort to reduce the burden of cervical cancer in the developing world.

Ethical Approval:

As per international standard or university standard ethical approval has been collected and preserved by the authors.

Source of Support: Nil

Conflict of Interest: None

Authors' Contributions: Awoyesuku PA designed the study, performed the statistical analyses and wrote the first draft of the manuscript. Altraide BOA and MacPepple DA assisted in data collection managed the analyses of the study and literature searches. All authors read and approved the final manuscript.

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