

study was low compared to an uptake rate of 71.8% among nurses that were involved in institutional based study involving medical workers in Port Harcourt, Nigeria.¹⁹ The high uptake rate was surprising considering what was obtainable in most of the studies from developing countries.

Furthermore, it was identified that only 3.2% of the respondents repeated the screening for the second time. No respondent did the cervical cancer screening for the third time. This finding depicts the general poor in-depth understanding of details of cervical cancer screening and poor attitude of the respondents to cervical cancer screening. This calls for a change of attitude by nurses for them to better appreciate the need to start and complete their cervical cancer screening programmes as also suggested in other similar studies.⁷

The reasons for non-screening as identified in this study included cost of the screening, non-availability of screening services, fear of complications, indecision, forgetfulness etc. This finding is consistent with some of the identified challenges to cervical cancer screening in the Lagos study⁸ among a similar population where similar socio-economic factors were associated with non-screening. Other challenges as indecision, forgetfulness and inability to identify places where these tests were done may be related to the reasons proffered in previous studies where women were said to be unserious with issues concerning their health and this partly explains presentation of most cases of cervical cancer in their advanced stages.²⁰ Public-hospital-based cervical cancer screening centers in government owned hospitals have failed to increase the uptake of cervical cancer screening as noted in this study. Despite the fact that these nurses work in these facilities with availability of cervical screening capabilities, uptake of cervical cancer screening was still poor. Therefore, increasing the number of friendly cervical cancer screening centers close to where people reside and different from the ones obtainable in our tertiary public hospitals may help increase the uptake of cervical cancer screening.

The persistent issue of high cost of the screening services militating against screening can be tackled by some suggestions noted in other studies like increasing the coverage of National Health Insurance Scheme (NHIS) and making most of the cervical cancer screening measures to

be covered by the NHIS.⁸⁸ Community health insurance can also be utilized by women in communities so as to help them engage in subsidized widespread community cervical cancer screening. Equally, subsidizing the cost of screening and use of outreach programmes by governments, Non-governmental Organizations (NGOs) etc. targeted at cervical cancer screening will increase the uptake of cervical cancer screening. When screening is done among women groups, women tend to serve as reminders for their fellow women and also serve as encouragement for their colleagues to go for cervical cancer screening. Faith-based organizations could also get involved in screening for cervical cancer as women are most likely to believe in cervical cancer screening organized by their different religious bodies than when it is done by government and politicians. Education alone may not be enough to increase both knowledge and uptake of cervical cancer screening among women.²¹ There must be interventions which should be multipronged targeting socio-cultural (attitude), economic (cost) and physical barriers to cervical cancer screening.^{21,22} Similarly, social marketing and aggressive campaign involved in Human immunodeficiency virus /Acquired Immunodeficiency Syndrome (HIV/AIDS) that grossly reduced the spread in Sub-Saharan Africa can equally be employed in cervical cancer prevention to raise both the knowledge and uptake of cervical cancer screening measures.

Furthermore, identified factors positively associated with uptake of cervical cancer screening among the participants were marital status and increasing parity. This showed that the married participants and those with children were more likely to be screened for cervical cancer. These two factors are related to a change in attitude imbibed over time which positively affected the rate of uptake of cervical cancer screening.

The continuous reminders/recommendations by doctors and midwives to the participants each time they go through pregnancy may affect their positive change of attitude towards cervical cancer screening as was equally noted among nurses in a Singapore study.²³ Similar findings were also noted in similar studies in Portland, Jamaica.²⁴ Also increasing cadre of the nurses and the high level of knowledge of the participants positively affected cervical cancer

screening. Increasing knowledge has also been noted to positively affect the uptake cervical cancer and this factor should not be treated in isolation. Other studies on uptake of cervical cancer screening among women also noted similar finding.^{25,26}

Strengths and limitations of the study

This study is strengthened by the multi-centre design and recruitment of the study participants based on the population of nurses at each of the centres. However, the study is weakened by the cross-sectional design in which some of the information sought for were prone to recall bias. This was also a hospital-based study in which its finding may not a true reflection in the wider society.

Conclusion

Awareness of cervical cancer screening among female nurses in Enugu was high, but the uptake was low due to fear of complications and high cost. Uptake can be increased by allaying the fear of complications during counseling and reducing the cost of the procedure.

Recommendation

Multi-sectoral and multipronged approach is necessary to change the attitude and improve

Tables

Table 1. Socio-demographic characteristics of the participants

Age group category (years)	Frequency (n=182)	Percent
15-25	17	9.3
26-35	68	37.4
36-45	56	30.8
46-55	37	20.3
56-65	4	2.2
Mean=37.41 SD=9.22, Range=22-58		
Religion	Frequency(n=182)	Percent
Christianity	181	99.5
Islam	1	0.5
Parity	Frequency(n=182)	Percent
Nulliparous	57	31.3
Primiparity	20	11.0
Multiparous	85	46.7
Grand-multiparous	20	11.0
Cadre of nursing	Frequency (n=182)	Percent
N/SR	61	33.5
SNS	36	19.8
PNO	49	26.9
ACNO	9	4.9

uptake of cervical cancer screening services by nurses. This attitudinal change among nurses can hopefully indirectly be transferred to other women who live with and access the services of nurses.

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Competing interests

The authors declare that they have no competing interests

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CNO	27	14.8
Level of Education	Frequency (n=182)	Percent
Trained nurse midwife	98	53.8
Trained nurse	24	13.2
BSC nurse	52	28.6
MSC nurse	8	4.4
Marital status	Frequency (n=182)	Percent
Single	42	23.1
Married	137	75.3
Divorced	1	0.5
Widowed	1	0.5
Separated	1	0.5

N/SR-Nursing sister, SNS- Senior nursing sister, PNO- Principal nursing officer, ACNO- Assistant chief nursing officer, CNO- Chief nursing officer, BSc- Bachelor of Science, MSc – Master of Science.

Table 2. Awareness and knowledge of cervical cancer screening among respondents

Heard of cervical cancer screening?	Frequency (n=182)	Percent
Yes	180	98.9
No	2	1.1
Knowledge of cervical cancer screening	Frequency (n=182)	Percent
Very good knowledge	174	95.6
Good knowledge	8	4.4
Sources of information	Frequency (n=182)	Percent
Mass media Yes	44	24.2
No	138	75.8
Seminar Yes	107	58.8
No	75	41.2
Conference Yes	27	14.8
No	155	85.2
Training Yes	75	41.2
No	107	58.8
Fellow nurses Yes	43	23.6
No	139	76.4
Doctors Yes	21	11.5
No	161	88.5
Social media Yes	37	20.3
No	145	79.7
Others Yes	3	1.6
No	182	98.4
Cervical screening method	Frequency (n=182)	Percent
Pap smear Yes	173	95.1
No	9	4.9
Colposcopy Yes	49	26.9
No	133	73.1
VIA Yes	3	1.6
No	179	98.4

Table 3. Uptake of cervical cancer screening by respondents

Uptake of cervical cancer screening	Responses	Frequency (n=182)	Percent
Availability of facilities for cervical cancer screening	Yes	125	68.7
	No	57	31.3
Who carries out the cervical cancer screening	Response	Frequency (n=182)	Percent
Doctor	Yes	60	33.0
	No	122	67.0
Nurse	Yes	89	48.9
	No	93	51.1
Laboratory scientists	Yes	33	18.1
	No	149	81.9
Ever screened for cervical cancer	Yes	36	19.8
	No	146	80.2
How many times screened	Responses	Frequency (n=182)	Percent
	0	146	80.2
	1	30	16.5
	2	6	3.3
Reasons for screening	Response	Frequency (36)	Percent
Early detection of cervical cancer	Yes	25	69.4
	No	11	30.6
Intermenstrual bleeding	Yes	5	13.9
	No	31	86.11
Post coital bleeding	Yes	2	5.6
	No	34	94.4
Post-menopausal bleeding	Yes	1	2.8
	No	35	97.2
Abnormal vaginal discharge	Yes	3	8.3
	No	33	91.7
Unaware of reason	Yes	6	16.7
	No	30	83.3

Table 4. challenges to practice of cervical screening by respondents

Complications during screening	Response	Frequency (n=36)	Percent
	Yes	14	38.9
	No	22	61.1
Type of complication during screening	Response	Frequency (n=36)	Percent
Pain	Yes	7	19.4
	No	29	80.6
Bleeding	Yes	4	11.1
	No	132	88.9
Lack of privacy	Yes	0	0
	No	36	100
Poor attitude of health personnel doing the procedure	Yes	1	2.8
	No	35	97.2
Wrong result	Yes	3	8.3
	No	33	91.7

Barriers to practice of cervical cancer screening generally	Response	Frequency (n=182)	Percent
Cost	Yes	32	17.6
	No	150	82.4
Fear of complication	Yes	46	25.3
	No	136	74.7
Religion	Yes	6	3.3
	No	176	96.7
Husbands influence	Yes	3	1.6
	No	179	98.4
Male health worker as attendant	Yes	7	3.8
	No	175	96.2
Fear of result / anxiety	Yes	3	1.6
	No	179	98.4
Others eg lack of spare time	Yes	14	7.7
	No	168	92.3

Table 5. Factors associated with cervical screening by respondents

Variable		Cervical cancer screening		Chi square	P value
		Yes	No		
Age group category	15-25	1	16	1.731	0.885
	26 -35	11	57		
	36-45	12	44		
	46 – 55	12	25		
	56 -- 65	0	4		
Marital status	Single	1	41	17.973	0.001
	Married	33	104		
	Divorced	0	1		
	Widowed	1	0		
	separated	1	0		
Religion	Christianity	36	145	0.248	0.619
	Islam	0	1		
Level of education	Staff nurse midwife	21	76	3.106	0.376
	Staff nurse	5	20		
	B. Sc nursing	7	45		
	M.Sc nursing	3	5		
Parity	Nullparity	7	50	8.734	0.033
	Primiparity	2	18		
	Multiparity	19	66		
	Grand-multiparity	8	12		
Current cadre of nursing	N/SR	4	57	13.128	0.011
	SNS	11	25		
	PNO	11	38		
	ACNO	4	5		
	CNO	6	21		
Place of work	ESUTTH	10	68	4.190	0.123
	Mother of Christ	5	16		

	UNTH	21	62		
Ever heard of cervical cancer screening	Yes	36	144	0.499	0.480
	No	0	2		
Knowledge category	Very good knowledge	174	0	43.983	0.000
	good	6	2		

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