



## ASSESSING THE AWARENESS OF, AND ATTITUDE TOWARDS, PAP SMEAR TESTING AMONG NURSING STAFF IN A TERTIARY HOSPITAL IN BIHAR

### Obstetrics & Gynecology

**Dr Megha Sarakshi Chadha\*** Senior Resident, Department of Obstetrics & Gynecology, Nalanda Medical College & Hospital, Patna. \*Corresponding Author

**Dr Arti Kumari** Associate Professor, Department of Obstetrics & Gynecology, Nalanda Medical College & Hospital, Patna.

**Dr Sangeeta Kumari** Senior Resident, Department of Obstetrics & Gynecology, Nalanda Medical College & Hospital, Patna.

**Dr Alka Sinha** Professor, Department of Obstetrics & Gynecology, Nalanda Medical College & Hospital, Patna.

### ABSTRACT

**BACKGROUND:** Cervical cancer is the third most common form of cancer among women worldwide, with a rising incidence in low- and middle-income countries. Most cases can be attributed to persistent HPV infections. HPV takes 10-20 years to progress to invasive cancer, passing through various intra-epithelial stages. Diagnosis of these precursor lesions by Pap smear, is key in prevention of cancer cervix, and its use has markedly reduced the burden in developed countries. However, usage of Pap smear remains low in developing countries. A change in mindset and increasing awareness of the general population is warranted. To bring about this change, education of healthcare workers is essential. This study was conducted to assess the awareness of, and attitude towards Pap smear, in nursing staff in a Tertiary hospital in Bihar. **METHODOLOGY:** This cross-sectional study included 100 married female nursing staff, with at least 1-year clinical experience, between 18-64 years of age. After obtaining informed consent, participants were assessed using a self-administered questionnaire. Data were analysed using MS-excel spread sheets. Demographic characteristics, knowledge, attitude, and practice of cervical cancer screening were described using descriptive statistics. **RESULTS:** The overall awareness was low, with scores below 20 in 62% participants. All the participants had heard about the Pap smear, and 72% were aware regarding its procedure, but only 64% believed that it would also detect pre-malignant stages. 60% of the participants said that they would undergo a Pap smear only if advised by their doctor, and not as a routine. 14% participants believed that a Pap smear should be repeated routinely. Only 11% had ever gotten a Pap smear done. 82% participants gave shyness as their reason for not getting a Pap smear done. Participants who were more aware about cervical cancer, were more likely to undergo Pap smear. A significantly higher awareness was seen in participants with advancing age. **CONCLUSION:** This study showcases the lack of sufficient knowledge of cervical cancer in nurses. It highlights the requirement for inclusion of cervical cancer awareness in their training curriculum, and the training of nurses in cervical cancer screening, as they are at a key position to influence societal attitude.

### KEYWORDS

Cervical Cancer, Pap Smear

### INTRODUCTION

Cervical cancer is the third most common cancer among women, worldwide<sup>1,2,3</sup>. Its burden is reasonably low in developed countries<sup>4</sup>. However, there is increasing incidence in developing countries<sup>4,5</sup>. India alone reported 60,078 deaths in 2018, accounting for nearly 25% of the world's cervical cancer deaths<sup>6</sup>.

Most cases can be attributed to human papillomavirus (HPV) infections<sup>7,8,9</sup>, with 12 types of HPV (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, & 59) showing causal link<sup>10</sup>. Multiple sexual partners, early sexual debut, immunosuppression, HIV infection, and cigarette smoking are risk factors to HPV infection and its subsequent progression to cancer<sup>11,12</sup>.

HPV's progression to cancer takes 10–20 years, passing through various stages of precancerous intraepithelial lesions<sup>13,14,15</sup>, leaving a window of opportunity to control cervical cancer<sup>16</sup>. A key aspect of cervical cancer prevention is the early diagnosis of these precursor conditions using Papanicolaou smear (Pap smear)<sup>17</sup>. Pap smear detects morphological changes in the cervix. It is quick, painless, relatively inexpensive, and easy to perform, and is considered the best method for cervical cancer screening<sup>15</sup>. Using Pap smear in population-based screening programs has reduced the burden of cervical cancer significantly in developed countries<sup>17,18</sup>. Pap smear every 3–5 years can reduce cervical cancer incidence by nearly 80%, as early detection of pre-cancerous changes allows for preventive treatment<sup>19</sup>.

However, various studies have shown a poor level of knowledge about cervical cancer in developing countries<sup>20,21,22</sup>, with an associated decrease in the uptake of Pap smear<sup>23,24</sup>. Low compliance can be attributed to difficulties in accessing healthcare services, social taboos, embarrassment, and lack of awareness of the benefits<sup>25,26</sup>. Although cervical cancer screening has been offered for a long time in India, its utilization is severely lacking<sup>27,28</sup>. Raising awareness of cervical cancer and preventive strategies can help reduce its incidence, morbidity and mortality<sup>29,30</sup>.

Presently, screening is an opportunistic event, entirely dependent on women seeking a healthcare professional for some gynecological reason. Prognosis can be greatly improved if screening is widely employed. To this end, education of nurses is important, as being the first point of contact they play a key role in raising awareness. Thus, their knowledge regarding this topic needs to be assessed as well as updated on a regular basis<sup>31,32</sup>.

Thus, this study was undertaken to ascertain the knowledge of, and attitude towards, cervical cancer screening of nursing staff in a tertiary care hospital in Bihar.

### METHODOLOGY

A cross-sectional study was conducted on nursing staff employed at Nalanda Medical College & Hospital, Patna. The study population included married, female nurses, with at least 1 year of clinical experience, between 18-64 years of age. After obtaining informed consent, 100 nurses were assessed using a self-administered questionnaire.

Participants' knowledge of cervical cancer was assessed using questions related to risk factors, clinical features, prevention, and screening for cervical cancer. Participants answered in a Yes/No format, and scores were given according to the number of correct responses. The total score was categorized as poor knowledge (score of 0–20), and good knowledge (20–40).

Participants' practices regarding Pap smear testing were assessed. They were asked whether they had undergone Pap smear testing, the number of times they had undergone it, and reasons if they had not undergone Pap smear.

Data collected were entered into MS-excel spread sheets for analysis. Demographic characteristics, knowledge, attitude, and practice of cervical cancer screening were described using descriptive statistics including percentages, association, frequencies, mean, median and standard deviation.

## RESULTS

100 women participated in the study with a 100% response rate. 68% were between 24–32 years of age. The mean age of the participants was  $31.13 \pm 4.61$  years, with a mean parity of  $1.08 \pm 0.93$ . The mean age at marriage was  $24.02 \pm 3.84$  years. Majority of the study participants (96%) were Hindus.

Response to the questionnaire revealed a low awareness (scores below 20) in 62% participants, with a maximum score of 23 out of 40, and a minimum score of 9. Early sexual debut (86%), sexual promiscuity (78%), poor genital hygiene (75%), and increased parity (72%) were mentioned as the risk factors, however, only 38% were aware of the association with HPV infection. 98% of the participants were able to name contact bleeding, post-menopausal bleeding and foul-smelling vaginal discharge as the symptoms.

78% participants were aware that cervical cancer is preventable, but only 35% were aware of a vaccine against HPV. 9% of the participants had been vaccinated, whereas only 39% said they would advise female relatives to get vaccinated.

84% participants believed that Pap smear was helpful in detecting cervical cancer, but only 64% believed that it would also detect precursor stages. 72% were aware of the procedure of Pap smear, that it was non-invasive, and did not require any imaging technologies.

60% participants said that they would undergo a Pap smear only if advised by their doctor, and not as a routine. 14% participants believed that a Pap smear should be repeated routinely, even after a normal report. Only 11% had ever gotten a Pap smear done, and 2% had got a Pap smear done in the last 5 years. 82% participants gave shyness as their reason for not getting a Pap smear done, whereas 41% mentioned that they never felt it was necessary.

On calculating association between Awareness about Cervical Cancer and Attitude towards Pap Smear, it was seen that women with higher questionnaire scores, were more likely to go for a Pap smear in the future ( $P < 0.001$ ). Age was found to be a significant predictor of awareness of cervical cancer (higher questionnaire scores) among the participants ( $P < 0.007$ ).

## DISCUSSION

Cervical cancer is the third most common cancer in females worldwide<sup>1,2,3</sup>, more so in the developing world<sup>4,5</sup>. This was a cross-sectional study conducted to determine the awareness regarding cancer cervix in the nursing staff in a Tertiary Hospital in Bihar, as well as to ascertain their attitude towards Pap smear.

This study highlights the insufficient knowledge of the participants, with 62% scoring less than 20 out of 40. Only 64% of the staff nurses were aware of use of Pap smear for screening, and not just diagnosis. Slightly more optimistic observations were made by Ali *et al*<sup>61</sup>, where 75% nursing staff knew that Pap smear is a screening test for cervical cancer. Most of the nurses (66%) were unaware of testing protocols. Comparatively, a larger proportion of Thai nurses could correctly identify the timing, as found by Nganwai *et al*<sup>62</sup>.

Only 11% of the participants had ever undergone a Pap smear test. A similar low uptake was reported by Shekhar *et al*<sup>31</sup> (7% in Indian nurses) and Udigwe<sup>34</sup> among (5.5% in Nigerian nursing staff). The commonest reason for low usage was shyness (82%), whereas 41% felt that it was not necessary.

Older nurses were found to be more aware, and were more likely to undergo screening. This was also reported by other authors<sup>35</sup>. The reason could be that older women seek gynecological care more frequently, coupled with the belief that cervical cancer occurs in older women.

## CONCLUSION

Being the first point of contact, nurses are at a position to influence the mindset of the general population. To this end, it is imperative that they be well aware regarding cervical cancer screening. Their insufficient knowledge highlighted in this study can be explained by their training curriculum. The integration of cervical cancer awareness in the their curriculum, is an urgent step for its successful prevention. The attitude that screening is the sole responsibility of doctors also needs to change. Instead, it should be a priority to train nurses & other health care

workers to screen for cervical cancer.

## REFERENCES

- Pontén J, Adami H-O, Bergström R, Dillner J, Friberg L-G, Gustafsson L, et al. Strategies for global control of cervical cancer. *Int J Cancer*. 1995;60(1):1–26.
- Parkin DM, Pisani P, Ferlay J. Estimates of the worldwide incidence of 25 major cancers in 1990. *Int J Cancer*. 1999;80(6):827–41.
- Arbyn M, Castellsagué X, de Sanjosé S, Bruni L, Saraiya M, Bray F, et al. Worldwide burden of cervical cancer in 2008. *Ann Oncol*. 2011;22(12):2675–86.
- Torre LA, Bray F, Siegel RL, Ferlay J, Lortet-Tieulent J, Jemal A. Global cancer statistics, 2012. *CA Cancer J Clin*. 2015;65(2):87–108.
- Forouzanfar MH, Foreman KJ, Delossantos AM, Lozano R, Lopez AD, Murray CJ, et al. Breast and cervical cancer in 187 countries between 1980 and 2010: a systematic analysis. *Lancet*. 2011;378(9801):1461–84.
- Bruni L, Albero G, Serrano B, et al. Human Papillomavirus and Related Diseases Report. *Information Centre on HPV and Cancer (HPV Information Centre)*; 2019. <https://hpvcentre.net/statistics/reports/XWX.pdf>.
- Human papillomavirus (HPV) and cervical cancer [<http://www.who.int/mediacentre/factsheets/fs380/en/>].
- Entiauspe LG, Teixeira, LO, Mendoza-Sassi RA, et al. Papilomavírus humano: prevalência e genótipos encontrados em mulheres HIV positivas e negativas, em m centro de referência no extremo Sul do Brasil [Human papillomavirus: prevalence and genotypes found among HIV-positive and negative women at a reference center in the far south of Brazil]. *Rev Soc Bras Med Trop*. 2010;43(3):260–3.
- Oliveira LHS, Ferreira MDPL, Augusto EF, et al. Genótipos de papilomavírus humanos em mulheres jovens assintomáticas de escolas públicas do Rio de Janeiro, Brasil [Human papillomavirus genotypes in asymptomatic young women from public schools in Rio de Janeiro, Brazil]. *Rev Soc Bras Med Trop*. 2010;43(1):4–8.
- Hackenhaar AA, Cesar JA, Domingues MR. Exame citopatológico de colo terino em mulheres com idade entre 20 e 59 anos em Pelotas, RS: prevalência, foco e fatores associados à sua não realização [Pap smears of 20 - 59 year-old women in Pelotas, Southern Brazil: prevalence, approach and factors associated with not undergoing the test]. *Rev Bras Epidemiol*. 2006;9(1):103–11.
- World Health Organization (WHO). *Comprehensive Cervical Cancer Control. A guide to essential practice*. Geneva: WHO; 2006.
- Louie KS, De Sanjose S, Mayaud P. Epidemiology and prevention of human papillomavirus and cervical cancer in sub-Saharan Africa: a comprehensive review. *Tropical Med Int Health*. 2009;14(10):1287–302.
- Denny L. Prevention of cervical cancer. *Reprod Health Matters* 2008; 16: 18–31.
- Babarinsa I, Adewole I, Akang E. Pattern of gynaecological malignancies at the Ibadan cancer registry (1976-1995). *Nigerian Quarterly J Hospital Med* 1998; 8: 103–106.
- Greenwood SA, Machado MFAS, Sampaio NMV. Motivos que levam mulheres a não retornarem para receber o resultado de exame Papanicolaou [Motives which lead women not to return to receive the results of their pap smear test]. *Rev Latinoam Enferm*. 2006;14(4):503–9.
- Bosch FX, Lorincz A, Munoz N, Meijer C, Shah KV. The causal relation between human papillomavirus and cervical cancer. *J Clin Pathol* 2002; 55: 244–265.
- Denny L, Herrero R, Levin C, Kim JJ. *Cervical Cancer. In: Cancer: Disease Control Priorities, Third Edition (Volume 3)*. edn. Edited by Gelband H, Jha P, Sankaranarayanan R, Horton S. Washington (DC): World Bank; 2015.
- Sankaranarayanan R. Screening for cancer in low- and middle-income countries. *Ann Glob Health*. 2014;80(5):412–7.
- Arbyn M, Anttila A, Jordan J, et al. European guidelines for quality assurance in cervical cancer screening. Second edition-summary document. *Ann Oncol*. 2010;21:448–58.
- Al Meer, F.M., Aseel, M.T., Al Khalaf, J., Al Kuwari, M.G. & Ismail, M.F.S. (2011). Knowledge, attitude and practices regarding cervical cancer and screening among women visiting primary health care in Qatar. *EMHJ - eastern Mediterranean health journal*, 17 (11), 855–861, 2011. <https://apps.who.int/iris/handle/10665/118198>.
- Shrestha J, Saha R, Tripathi N. Knowledge, attitude and practice regarding cervical cancer screening amongst women visiting tertiary Centre in Kathmandu. *Nepal Nepal Journal of Medical Sciences*. 2013;2(2):85–90.
- Sancho-Garnier H, Khazraji YC, Cherif MH, Mahnane A, Hsairi M, El Shalakamy A, et al. Overview of cervical cancer screening practices in the extended Middle East and North Africa countries. *Vaccine*. 2013;31:G51–G7.
- Al-Naggar R. Practice and barriers towards pap smear test from a public hospital in Malaysia. *J Community Med Health Edu*. 2012;2(132):2.
- Batarfi N. Saudi Women's experiences, barriers, and facilitators when accessing breast and cervical Cancer screening services. Doctoral dissertation, University of York; 2012. Available at: <https://pdfs.semanticscholar.org/565f/464c548078e81046d6c8818abf6f58b99fee.pdf>.
- Amorim VM, Barros MB, César CL, Carandina L, Goldbaum M. Factors associated with women's failure to submit to Pap smears: a population-based study in Campinas, São Paulo, Brazil. *Cad Saude Publica*. 2006;22(11):2329–38.
- Erbil N, Şenkul A, Sağlam Y, et al (2008). Jinekolojik muayene öncesinde türk kadınların anksiyete seviyeleri ve muayeneye ilişkin tutumlarının belirlenmesi. *Uluslararası İnsan Bilimleri Dergisi*, 5, 1-13
- Knowledge, attitude, and practice regarding the screening of cervical cancer among women in New Delhi, India. Neha Dahiya, Kavita Aggarwal, Megha Chandra Singh, Suneela Garg, Rajesh Kumar
- Knowledge, attitudes and practice toward cervical cancer screening among Sikkimese nursing staff in India. Hafizur Rahman, Sumit Kar
- Ukpo TMO. Nigerian Women's Knowledge and Awareness of Cervical Cancer. Walden University, Minneapolis; 2013.
- Rashid S, Labani S, Das BC. Knowledge, awareness and attitude on HPV, HPV vaccine and cervical cancer among the College Students in India. *PLoS ONE* 2016; 11: e0166713.
- Ali SF, Ayub S, Manzoor NF, Azim S, Afif M, Akhtar N, et al. Knowledge and awareness about cervical cancer and its prevention amongst interns and nursing staff in tertiary care hospitals in Karachi, Pakistan. *PLoS One*. 2010;5:e11059.
- Nganwai P, Trudpon P, Inpa C, Sangpetngam B, Mekjarasnapa M, Apirakarn M, et al. Knowledge, attitudes and practices vis-a-vis cervical cancer among registered nurses at the Faculty of Medicine, Khon Kaen University, Thailand. *Asian Pac J Cancer Prev*. 2008;9:15–8.
- Shekhar S, Sharma C, Thakur S, Raina N. Cervical cancer screening: Knowledge, attitude and practices among nursing staff in a tertiary level teaching institution of rural India. *Asian Pac J Cancer Prev*. 2013;14:3641–5.
- Udigwe GO. Knowledge, attitude and practice of cervical cancer screening (pap smear) among female nurses in Nnewi, South Eastern Nigeria. *Niger J Clin Pract*. 2006;9:40–3.
- Sankaranarayanan R, Rajkumar R, Arrossi S, Theresa R, Esmay PO, Mahé C, et al. Determinants of participation of women in a cervical cancer visual screening trial in rural south India. *Cancer Detect Prev*. 2003;27:457–65.