Knowledge and Awareness of Cervical Cancer and Screening Practices among Nurses at Lahore General Hospital, Pakistan

Nazia Ayub¹, Mahliqa Maqsud², Huma Tahseen³, Mehmona Sharif¹, Nahid Waris⁴ and Aliezeh Fatima Rai⁵

¹(LGH/PGM/AMC), Lahore, Pakistan.
²Lady Atchison Hospital, KEMU, Lahore, Pakistan.
³Azra Naheed Medical College, Lahore, Pakistan.
⁴Lady Willingdon Hospital, KEMU, Lahore, Pakistan.
⁵CMH Lahore Medical College, Lahore, Pakistan.

Authors’ contributions

This work was carried out in collaboration among all authors. Author NA designed the study. Author MM wrote the protocol and wrote the first draft of the manuscript. Author HT managed the analyses of the study. Author MS managed the analyses of the study. Author NW managed the analyses of the study. Author AFR contribution in data collection. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2020/321730453

Received 10 November 2019
Accepted 16 January 2020
Published 18 May 2020

Original Research Article

ABSTRACT

Objective: To find out the knowledge, awareness and screening practices of cervical cancer among nurses at Lahore general Hospital, Lahore, Pakistan.

Materials and Methods: This cross-sectional, interview based study was conducted on 250 nurses at Lahore general Hospital, Lahore, Pakistan. The duration of this study was one year from 2017 to 2018. All the cases underwent interview based information regarding cervical cases. The questionnaire was applied to assess the knowledge, awareness and screening practices about cervical cancer among nurses. Data was collected via self-made proforma.

Results: Most of the study participants were less than 35 years. 72% nurses were married and 28% were married. Most of the study participants 96% known that cervical cancer is the abnormal growth of cervical cells and few were unaware regarding it. According to causes of cervical cancer,
70% to 75.6% participants agreed with the causes of early marriage and multiple sex partners, while others had ideas of smoking, infection and hereditary causes. 25.5% nurses answered that it can occur in any age group, 11.2% replied in reproductive age group, 42.8% were agreed with menopausal age group and 20.4% had no idea. 75.6% to 95.5% nurses were in the favor of scanning, pap smear test and cervical biopsy methods. 85 participants said it is a preventable disease via vaccination, early diagnosis and safe sex activities.

**Conclusion:** It was concluded that nurses had satisfactory knowledge and screening practice cervical cancer at Lahore general Hospital.

**Keywords:** Knowledge; awareness; cervical cancer; screening.

## 1. INTRODUCTION

Cervical cancer remains among the leading factors of death in gynecological population of developing countries [1]. The frequency of cervical cancer is 1/4th of the burden of cervical carcinoma [2]. Most of the patients of cervical cancer presents in late advancing stage. The data is largely unknown in Pakistan. The local studies showed that cervical carcinoma was accounted for 3.6% deaths of cancers [3]. The facility of pap-smear and other screening methods of cervical cancer are not available in every part of country. It was found in a study that just 5% Pakistani females had knowledge of screening for cervical cancer [4]. It was also found in a study that only 2.6% of female had undergone screening for cervical cancer via pap-smear once a life [4]. There are many causes of cervical cancer but HPV is most widely investigated etiological factor [5,6]. There are many methods to screen out cervical cancer such as visual inspection, DNA testing and liquid based monolayer cytology, but the pap-smear method is simplest to use and got high sensitivity (50-75%) and specificity (98%) [7,8]. There are many preventive methods for cervical cancer that include vaccines and other secondary preventive methods The early detection of cervical cancer needs high cost infrastructure and properly trained health workers for early screening of this carcinoma. In randomized trial, the treatments pay attention towards radiotherapy combinations, revealing highly significant advantage of hyperthermia in general survival, local-relapse-free survival, and disease-free survival [9]. Giving a large workforce of nursing and paramedic staff in Pakistan, it is very imperative to know the knowledge, awareness and screening practices regarding cervical cancer among nurses. Very few studies have been conducted so far to reveal the knowledge, awareness and screening practices about cervical cancer in Pakistani nurses [10]. Following this rationale, it should be investigated about the current knowledge, awareness and screening practices regarding cervical cancer in nurses at tertiary care hospitals of Lahore, Pakistan. Current systematic reviews synthesize awareness and developments for several key objectives within greater efforts to prevent and treat cervical cancer, e.g., cervical cancer biomarkers [11,12], HPV vaccination for young adolescent women, and feasible approaches to screen and treat adult women in low resource settings [13-16]. To the best of our knowledge, so far no such study has been carried out regarding knowledge, awareness and screening practices regarding cervical cancer among nurses at Lahore general hospital, Lahore, Pakistan. Therefore, the aim of current study was to find out the knowledge, awareness and screening practices about cervical cancer among nurses at Lahore general hospital, Lahore, Pakistan.

## 2. MATERIALS AND METHODS

This cross-sectional, interview based study was conducted after taking informed consent and ethics approval on nurses at Lahore general Hospital, Lahore, Pakistan. The duration of this study was one year from 2017 to 2018 and convenience sampling technique was used. All the nurses working at Lahore general Hospital, practice duration more than 3 years and agreed to participate in the study were included. Male nurse and those who had experience less than 3 years were excluded. The questionnaire was applied to assess the knowledge, awareness and screening practices of cervical cancer among nurses. The questionnaire consisted of close-ended questions regarding knowledge, and awareness of nurses regarding cervical cancer, as well as questionnaire also consisted of questions about current screening practices of Hospital nurses for screening and prevention of cervical cancer. The questionnaire involved 3 parts, first was regarding demographic data (like, age, gender, marital status, etc.), second part was composed of questions on the knowledge and awareness about multiple areas of cervical cancer, and third part was composed of
questions on the screening components and prevention of cervical cancer. Data was analyzed by using SPSS version 20.

3. RESULTS

Most of the nurses were less than 35 years and 10% were over the age of 35 years. 72% nurses were married and 28% were married. 75.6% nurses had middle socioeconomic status, 19.2% were poor and only 5.2% had upper socioeconomic status Table 1.

| Variable          | Frequency | Percentage (%) |
|-------------------|-----------|----------------|
| Age               |           |                |
| 20-24             | 110       | 44%            |
| 25-34             | 115       | 46%            |
| 35-40             | 25        | 10%            |
| Religion          |           |                |
| Muslim            | 165       | 66%            |
| Christian         | 70        | 28%            |
| Hindu             | 15        | 6%             |
| Marital Status    |           |                |
| Un-married        | 70        | 28%            |
| Married           | 180       | 72%            |
| Socio-economic status |       |                |
| Lower             | 48        | 19.2%          |
| Middle            | 189       | 75.6%          |
| Upper             | 13        | 5.2%           |

Most of the study participants 96% known that cervical cancer is the abnormal growth of cervical cells, 0.8% said it is ordinary disease, one replied that it is a infective disease and two nurses were unaware regarding it. According to causes of Ca cervix, 70% to 75.6% participants agreed with the causes of early marriage and multiple sex partners, while others had ideas of smoking, infection and hereditary causes Table 2.

| Variable                                              | Frequency | (%)  |
|-------------------------------------------------------|-----------|------|
| What is CA cervix?                                    |           |      |
| Infection of cervix                                   | 01        | 0.4% |
| Ordinary disease                                      | 02        | 0.8% |
| Abnormal growth of cervical cell                      | 240       | 96.0%|
| Don’t know                                            | 02        | 0.8% |
| Is it common in our country?                          |           |      |
| Yes                                                   | 12        | 4.8% |
| No                                                    | 144       | 57.6%|
| Don’t know                                            | 94        | 37.6%|
| How does one get Ca Cervix?                           |           |      |
| Early marriage                                        |           |      |
| Yes                                                   | 189       | 75.6%|
| No                                                    | 28        | 11.2%|
| Don’t know                                            | 33        | 13.2%|
| Smoking?                                              |           |      |
| Yes                                                   | 92        | 36.8%|
| No                                                    | 28        | 11.2%|
| Don’t know                                            | 130       | 52.0%|
| Hereditary                                            |           |      |
| Yes                                                   | 16        | 6.4% |
| No                                                    | 76        | 30.4%|
| Don’t know                                            | 158       | 63.2%|
| Infection?                                            |           |      |
| Yes                                                   | 38        | 15.2%|
| No                                                    | 34        | 13.6%|
| Don’t know                                            | 178       | 71.2%|
| Multiple sex partners?                                |           |      |
| Yes                                                   | 175       | 70.0%|
| No                                                    | 26        | 10.4%|
| Don’t know                                            | 49        | 19.6%|

4. DISCUSSION

In developing countries, females at greatest risk for cervical malignancy are least liable to be screened. Lack of the consciousness and access to preventive approaches are the leading causes of it. In our study, 75.6% to 95.5% favored the scanning, pap smear test and cervical biopsy methods, while 16.8% said that blood test may help in the diagnosis of cervical cancer. 85 participants said Ca cervix is a preventable disease via vaccination, early diagnosis and safe sex activities Table 4.
Table 3. Knowledge and awareness of nurses about spread of disease (N= 250)

| Variable                        | Frequency (n) | (%)  |
|---------------------------------|---------------|------|
| **Which age group is likely to get Ca Cervix** |               |      |
| Any age group                   | 64            | 25.6 |
| Reproductive age group          | 28            | 11.2 |
| Menopausal age group            | 107           | 42.8 |
| Don't know                      | 51            | 20.4 |
| **CA cervix is common in which type of women?** |               |      |
| Rich                            |               |      |
| Yes                             | 48            | 19.2 |
| No                              | 174           | 69.6 |
| Don’t know                      | 28            | 11.2 |
| Poor                            |               |      |
| Yes                             | 174           | 69.6 |
| No                              | 48            | 19.2 |
| Don’t know                      | 28            | 11.2 |
| **Sex-workers**                 |               |      |
| Yes                             | 144           | 57.6 |
| No                              | 08            | 3.2  |
| Don’t know                      | 98            | 39.2 |
| **Any women**                   |               |      |
| Yes                             | 39            | 15.6 |
| No                              | 163           | 65.2 |
| Don’t know                      | 48            | 19.2 |

participants knew regarding the vaccine against human papillomavirus. Our findings are similar to Turkish study conducted by Ertem G et al. [18] which shows that nearly all participants had heard of Pap smear, however only half felt sure that it could detect both precancerous and cancerous cervical cancer lesions. The rest claimed that it is only in symptomatic cases that established cancer is identified and needed to be done. In spite of substantial knowledge of a link between sexual activity and cervical cancer, and also the role of sexually transmitted diseases, only 54% of participants had heard of HPV; whereas most were ill informed of the HPV vaccine.

In this study, 70% to 75.6% participants agreed with the causes of early marriage and multiple sex partners, while others had ideas of smoking, infection and hereditary causes. In comparison to our results, study conducted by Jain SM et al. [19] reported that 42.3% were not aware of any risk factor and 27.6% were not aware of any symptom of cancer cervix. Some of the risk factors for development of cervical cancer are early sexual intercourse, multiple sexual partners, sexually transmitted infections and smoking. A substantial number of our study subjects thought they had an idea about risk factors for cancer cervix.

In this series, 25.5% nurses answered that it can occur in any age group, 11.2% replied that it mostly occur in reproductive age group, 42.8% were agreed with menopausal age group and 20.4% had no idea regarding age relation with Ca cervix. Majority of the participants said that it is most common in poor and sex worker women.

Another study of Mupepi SC et al. [20] reported that 91% had never undergone cervical screening and 81% had no prior acquaintance with cervical screening assays. Similar results were observed in study of William MS et al. [13]. Another study conducted by Donmez S et al. [21] also reported similar results. There is no systematic screening programme in our country and expected practice is the opportunistic screening of eligible women coming to hospital for other reproductive services. Responsibility then falls upon health worker to either screen women themselves or refer them to other unit where screening is being done.

In this study, most of the study participants 96% known that cervical cancer is the abnormal growth of cervical cells, 0.8% said it is ordinary disease, one replied that it is an infective disease and two nurses were unaware regarding it. Thus, even though knowledge about the disease exists, but low awareness about availability of screening precludes early detection. The work force is aware that early detection helps for a cure, but since they lack knowledge about availability of screening facilities, directing patients to avail these facilities is an issue leading to lesser use of
Table 4. Knowledge and awareness of nurses about prevention (N=250)

| Variable | Proportions (n) | Percentage (%) |
|----------|-----------------|----------------|
| **How can Ca cervix be detected** | | |
| **Blood test** | | |
| Yes | 42 | 16.8 |
| No | 91 | 36.4 |
| Don’t know | 117 | 46.8 |
| **Pap test** | | |
| Yes | 189 | 75.6 |
| No | 20 | 08 |
| Don’t know | 41 | 16.4 |
| **Scanning** | | |
| Yes | 239 | 95.6 |
| No | 2 | 0.8 |
| Don’t know | 9 | 3.6 |
| **HPV testing** | | |
| Yes | 44 | 17.6 |
| No | 111 | 44.4 |
| Don’t know | 95 | 38 |
| **Cervical biopsy** | | |
| Yes | 238 | 95.2 |
| No | 10 | 04 |
| Don’t know | 2 | 0.8 |
| **Cervical cancer can often be prevented** | | |
| Yes | 85 | 34 |
| No | 153 | 61.2 |
| Don’t know | 12 | 4.8 |
| **If yes to above question, how can it be prevented?** | | |
| Via vaccination | 73 | 85.0% |
| Early diagnosis | 84 | 98.8% |
| Via safe sex | 52 | 61.1% |

screening practices. Such ignorance in nursing staff is a matter of concern for the society.

5. CONCLUSION

Nurses had satisfactory knowledge and screening practice of cervical cancer. Hospital-based continuing medical education sessions are suggested to increase the knowledge, awareness and know-how of screening strategies of cervical cancer among the nurses of Lahore general Hospital.

CONSENT AND ETHICAL APPROVAL

This cross-sectional, descriptive, interview based study survey was conducted after taking informed consent from nurses at Lahore general hospital, Lahore, Pakistan.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. Cancer incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012. Inter J Cancer. 2015;136(5):E359-86.
2. Chen W, Zheng R, Baade PD, Zhang S, Zeng H, Bray F, Jemal A, Yu XQ, He J. Cancer statistics in China, 2015. CA: Cancer J Clinic. 2016;66(2):115-32.
3. Bhurgri Y, Nazir K, Shaheen Y, Usman A, Faridi N, et al. Pathoepidemiology of cancer cervix in Karachi South. Asian Pac J Cancer Prev. 2007;8:357–362.
4. Imam SZ, Rehman F, Zeeshan MM, Maqsood B, Asrar S, et al. Perceptions and practices of a Pakistani population regarding cervical cancer screening. Asian Pac J Cancer Prev. 2008;9:42–44.
5. Cui T, Enroth S, Ameur A, Gustavsson I, Lindquist D, Gyllensten U. Invasive
cervical tumors with high and low HPV titer represent molecular subgroups with different disease etiology. Carcinogenesis. 2018;11.

6. Doshi D, Reddy BS, Karunakar P, Deshpande K. HPV, cervical cancer and pap test related knowledge among a sample of female dental students in India. Asian Pac J Cancer Prev. 2015;16(13):5415-20.

7. Lönnberg S, Hansen BT, Haldorsen T, Campbell S, Schee K, Nygård M. Cervical cancer prevented by screening: Long term incidence trends by morphology in Norway. Int J Cancer. 2015;137(7):1758-64.

8. Doldo E, Costanza G, Agostinelli S, Tarquini C, Ferlosio A, Arcuri G, Passeri D, Scioli MG, Orlandi A. Vitamin A, cancer treatment and prevention: The new role of cellular retinol binding proteins. BioMed Res Int. 2015;11.

9. Pesti L, Dankovics Z, Lorencz P, Csejtei A. Treatment of advanced cervical cancer with complex chemoradio-hyperthermia. In Conference Papers in Science. Hindawi. 2013;2013.

10. Ali SF, Ayub S, Manzoor NF, Azim S, Afif M, Akhtar N, Jafery WA, Tahir I, Farid-ul-Hasnian S, Uddin N. 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(6):e11059.

11. De Freitas AC, Coimbra EC, Leitão Mda CG. Molecular targets of HPV oncoproteins: Potential biomarkers for cervical carcinogenesis. Biochim Biophys Acta. 2014;1845(2):91-103.

12. Flepsi BT, Bouic P, Sissolak G, Rosenkranz B. Biomarkers of HIV-associated cancer. Biomark Cancer. 2014;3:11-20.

13. Williams MS, Kenu E, Dzubey I, Dennis-Antwi JA, Fontaine K. A qualitative study of cervical cancer and cervical cancer screening awareness among nurses in Ghana. Health Care for Women International. 2018;39(5):584-94.

14. AbdAllah AA, Hummeida ME, Elmula IM. Awareness and attitudes of nursing students towards prevention of cervical cancer. Cervical Can. 2016;1(2):107.

15. Dönmez S, Öztürk R, Kisa S, Karaoz Weller B, Zeyneloğlu S. Knowledge and perception of female nursing students about human papillomavirus (HPV), cervical cancer, and attitudes toward HPV vaccination. Journal of American College Health. 2019;67(5):410-7.

16. Schaffer P, Batash R, Ertl-Wagner B, Hofstetter A, Asna N, Schaffer M. Treatment of cervix carcinoma FIGO IIib with Photofrin II as a radiosensitizer: A case report. Photochemical & Photobiological Sciences. 2019;18(5):1275-9.

17. Singh E, Seth S, Rani V, Srivastava DK. Awareness of cervical cancer screening among nursing staff in a tertiary institution of rural India. Journal of gynecologic oncology. 2012;23(3):141-6.

18. Ėrtem G. Awareness of cervical cancer risk factors and screening behavior among nurses in a rural region of Turkey. Asian Pac J Cancer Prev. 2009;10:735–738.

19. Jain SM, Bagde MN, Bagde ND. Awareness of cervical cancer and Pap smear among nursing staff at a rural tertiary care hospital in Central India. Indian J Cancer. 2016;53:63-6.

20. Mupepi SC, Sampselle CM, Johnson TR. Knowledge, attitudes, and demographic factors influencing cervical cancer screening behavior of Zimbabwean women. Journal of Women's Health. 2011;20(6):943-52.

21. Dönmez S, Öztürk R, Kisa S, Karaoz WB, Zeyneloğlu S. Knowledge and perception of female nursing students about human papillomavirus (HPV), cervical cancer, and attitudes toward HPV vaccination. J American Col Health. 2018;1-8.

© 2020 Ayub et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/53919