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Original Research Article

# Awareness and knowledge of cervical cancer in medical and paramedical staff-an observational study

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ABSTRACT

**Introduction:** In developing countries, cervical cancer is the second most common cancer among the women from develop ed countries and risk of cancer increases among the women with human papilloma virus (HPV) infection. The reasons being lack of knowledge and awareness regarding screening methods, lack of availability at health center among local population.

**Aims and Objectives:** To assess the knowledge regarding cervical cancer and screening and HPV vaccination among medical and nursing staff.

**Materials and Methods:** The observational study was conducted at Index medical college hospital and research center from October 2018 to December 2018 among 200 medical and paramedical students. A preset questionnaire was given them to answer and data was analyzed.

Two hundred medical and paramedical students were studied from October 2018 to December 2018 at Index Medical College Hospital and Research Centre Indore. One-time 15 question standardized questionnaire survey was asked to answer from all the participants.

**Results:** We observed, 79% were aware that cervical cancer is most common cause of gynecological cancer, 69% were aware that HPV is the causative agent, 49.5% were aware that HPV infection can be symptomless, 59% were aware about its symptoms amongst them, 46.5% were aware of post coital bleeding, 36% about intermenstrual bleed, 42% were aware about post-menopausal bleeding, and 44.5% were aware about altered color and foul smelling cervical discharge. Only 34.5% participants were aware that HPV can be transmitted during pregnancy. Only 36% participants were aware that HPV is transmitted by polygamy. Majority were aware about the screening methods of the cervical cancer. A total 75% of participants thought cervical cancer is preventable, 54.4% of participants were aware that HPV vaccine is avail able and prevents cancer cervix, 61.5% were aware that using condom is a preventive method, 64.5 % were aware about HPV vaccine and 40.5% were aware of monogamy as preventive method.

**Conclusion:** We found lower awareness regarding the basic knowledge of cervical cancer, its risk factors and screening tools.



## 1. Introduction

Cervical cancer has been reported to be the second most common cause of cancer in women worldwide.[1] In developing countries, out of 5,00,000 new cases diagnosed annually, 27,000 women die to the disease and accounts for 85% of the death in developing countries.[2] 1.4 million women are living with cervical cancer.

India is home for one fifth of the cervical cancer population. Its incidence rate in India is 7.9% and 122,644 new cases are diagnosed annually and crude mortality rate is 20.7. Reasons for its fatality and late diagnosis are lack of awareness about effective screening methods, effective treatment strategies, availability of services at all health centers, late presentation and myths, misconceptions in communities. It has been found that when detected and managed at the earliest stage, it has over a 93% of cure rate. Common risk factors for the development of cervical cancer

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include infection with human papilloma virus (HPV), early age of sexual intercourse (<16yrs), sexually transmitted diseases and early age of pregnancy.[3]

Reports from the western countries have noticed a decreased in incidence of cervical cancer because of availability of robust screening programs.[4,5] Whereas in India, lack of infrastructure, financial and personal constraints are the reasons for non-availability of such programs. Lack of knowledge of causal relationship between HPV and cervical cancer and HPV vaccination and screening among the people is a vital reason for poor take up of screening methods.[6]

This study was done to observe knowledge of risk factors, awareness of symptoms, awareness regarding screening methods amongst medical and paramedical students who can in future educate and sensitize women in need of cervical cancer screening.

## 2. Materials and Methods

An observational study was performed over a period of three months from October 2018 to December 2018 at Index Medical College Hospital and Research Centre Indore, Madhya Pradesh on 200 MBBS and paramedical students.

The study cohort was approached and asked to complete a one-time 15 question survey. There were no financial or material incentives provided for participation in the survey. Voluntary Participation and return of completed questionnaire signified informed consent. To prevent response bias, it was made clear that participation in the study was anonymous and confidential.

Present study was approved by the Institutional Ethics Committee. A standardized questionnaire was made for the purpose of study. The questionnaire comprised of two sections; demographic details and knowledge and awareness relating to cervical cancer, HPV, and vaccination.

Data was expressed as percentage. Frequency distribution was done to obtain the percentage of each variable. No data analysis was performed in the data obtained.

## 3. Results

A total of 200 (n) participants who filled the questionnaire were included in the analysis; this included medical students and paramedical students, the age range of the participants was 20-24 years with a mean age of 22.54 years. All participants were unmarried females (100%), of that 96.5% were Hindus. The demographic profile of our study is shown in Table 1.

Majority of the medical students belonged to middle class family and majority of the nursing students belonged to low class family. Most common source of information for the participants were health care staff (52%) followed by media (26.50%), friends (14%) and family (7.5%).

**Table 1:** Demographic profile of study group

| **Mean Age** | **22.5yrs** |
|---|---|
| Residence | Hostel |
| Marital status | Unmarried |
| Occupation | MBBS students and Paramedical Students |
| Socio economic status | Low to upper middle class |
| Parity | Nulliparous |

The response in the category of basic knowledge of cervical cancer among survey participants was mixed. Majority of participants were aware that cervical cancer is most common cause of gynecological cancer 79%, 69% were aware that HPV is the causative agent, 49.5% were aware that HP V infection can be symptomless, 59% were aware about its symptoms amongst them 46.5% were aware of post coital bleeding, 36% about intermenstrual bleed, 42% were aware about post-menopausal bleeding, and 44.5% were aware about altered color and foul smelling cervical discharge. Table 2 : Showing the awareness of symptoms and other disease and preventive methods caused by HPV.

Only 34.5% participants were aware that HPV can be transmitted during pregnancy. Only 36% participants were aware that HPV is transmitted by polygamy. Only 37.5% were aware that HPV affects both males and female, 39% were not aware and 23.5% were not sure. Only 50% were aware that HPV can also cause warts, 29.5% were aware about anal cancer, 21% were aware about oropharyngeal cancer and only 18% were aware about lung cancer. Only 64.5% were aware that cancer cervix is curable if detected early and 17.5 % were not aware.

Regarding the methodology used for screening of cervical cancer, only 53.1% of all participants knew that all techniques namely PAP smear, VIA, VILI, colposcopy, cervical biopsy. Table 3 showing awareness regarding screening methods for Cancer cervix.

A total 75% of participants thought cervical cancer is preventable,20.5% participants were not sure. 54.4% of participants were aware that HPV vaccine is available and prevents cancer cervix.61.5% were aware that using condom is a preventive method,64.5% were aware about HPV vaccine, 40.5% were aware of monogamy as preventive method.

## 4. Discussion

The present study holds importance as in developing countries cervical cancer is a common gynecological cancer and lack of awareness on the basic knowledge, its burden and the screening test for cervical cancer is an important barrier to disease prevention.[7] (McCarey C 2011)

**Table 2:** Showing the awareness of symptoms and other disease and preventive methods caused by HPV

| Parameters | | Response | | |
|---|---|---|---|---|
| | | Yes (%) | No (%) | Not sure (%) |
| Symptoms | Post coital bleeding | 46.5 | 22 | 31.5 |
| | Intermenstrual bleed | 36.5 | 26 | 37.5 |
| | Post menopausal bleeding | 42 | 25 | 33 |
| | Cervical discharge altered in color and smell | 44.5 | 20.5 | 35 |
| | Chronic low back pain | 35.5 | 25.5 | 39 |
| | Dyspareunia | 31 | 26 | 43 |
| | Warts | 50 | 32.5 | 17.5 |
| Other diseases caused by HPV | Anal cancer | 29.5 | 39.5 | 31 |
| | Oropharyngeal cancer | 21 | 41.5 | 37.5 |
| | Lung cancer | 18 | 42 | 40 |
| | Using condoms | 61.5 | 14 | 24.5 |
| Preventive Methods | HPV vaccine | 64.5 | 15.5 | 20 |
| | Monogamy | 40.5 | 21.5 | 38 |
| | Other methods | 42 | 19 | 39 |

**Table 3:** Awareness regarding screening methods for Cancer cervix

| Awareness regarding screening methods | YES(%) | NO(%) | NOT SURE(%) |
|---|---|---|---|
| Present | 53.1 | 22.9 | 24 |
| PAP SMEAR | 42.7 | 24 | 33.3 |
| VIA | 25 | 28.1 | 46.9 |
| VILI | 24 | 28.1 | 47.9 |
| COLPOSCOPY | 24 | 28.1 | 47.9 |
| BIOPSY | 34.4 | 24 | 41.7 |

**Table 4:** Comparison of present study with various other studies

| Study | (n) | Age | Education | Awareness regarding Ca cervix | HPV is the cause | Screening methods (pap smear) | HPV vaccine availability |
|---|---|---|---|---|---|---|---|
| Ganju S A et al [8] 2017 | 400 | 15-45yrs | Medical and nursing students | 66% | 63% | 49% | 82.7% |
| Gupta et al[10] 2013 | 500 | 20-60yrs | Paramedical staff and students | 80% | 35% | 80% | 30% |
| Abd Allah et al[13] 2016 | 246 | 18-3yrs | Nursing students | - | - | 16% | 54.1% |
| Tongtong et al[9] 2017 | 405 | 30-65yrs | Rural women | 51.9% | 23.1% | 8.8% | - |
| Present study | 200 | 17-26yrs | MBBS and nursing students | 79% | 69% | 53.1% | 50% |

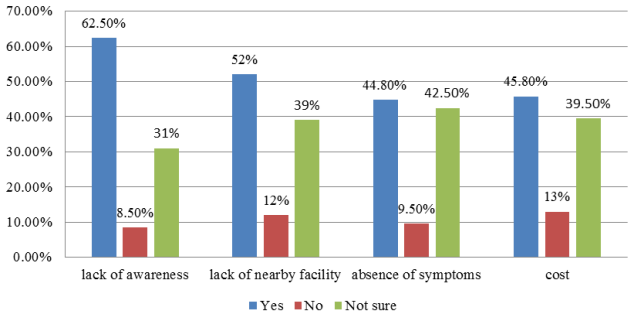


**Fig. 1:** Showing reasons for not undergoing screening

In our study we found that the response in the category of awareness regarding cancer cervix among survey participants was mixed. A total 79% of the participants were aware that cervical cancer is most common cause of gynecological cancer comparing to the studies done by Ganju et al[8] 66% and Tongtong et al[9] 51.9% reported slightly lower awareness however; Gupta et al[10] reported almost similar awareness of 80% among the paramedical staff and medical students on the basic knowledge of cervical cancer.

We also found that in our study 69% out of 200 participants were aware that HPV is the causative agent for cervical cancer, which is in line with the previous study done by Ganju et al[8] on 400 medical and nursing students

which reported that 66% of the participants were aware that HPV is the causative agent. However, a lower percentage of awareness 35% was reported by Gupta et al[10] in study population of 500 and only 23.1% were aware as HPV as the cause in the study conducted by Tongtong et al[9] in 405 Rural women.

Regarding the awareness related to symptoms of the cervical cancer, more than half of the participants were not aware that HPV infection can be symptomless and other symptoms such as post coital bleeding, intermenstrual bleed, post-menopausal bleeding, and about altered color and foul-smelling cervical discharge.

However, previous studies have shown that nurses knew very well about symptoms and risk factors of cervical cancer. Hence, American Cancer Society suggested to focus on the risk factor and behavior (such as smoking, oral contraceptive use and unsafe sex) to help prevention of cervical cancer.[11] However, our participants had poor knowledge of risk factors for cervical cancer despite of the findings that 75% of the participants were aware that cervical cancer is preventable. Half of our participants (50 %) were also aware that HPV vaccine is available and prevents cancer cervix, using condom is a preventive method and also monogamy as preventive method. Proving strength to present study findings, Pandey et al[12] also showed that majority of the participants were well aware about the risk factors of cervical cancer development and its causal relation with HPV. Another study from India, Nepal and Sri Lanka reported that awareness regarding the risk factors of cervical cancer among the participants were 66%, 58.8% and 57.7% respectively.

Half of the study participants 50% were aware about the availability of HPV vaccines and can and prevents cancer cervix. Previous studies are in agreement to this where AbdAllah et al[13] found 54.1% and Ghotbi et al[14] from Nader found 55.6% of the participants were aware about the HVP vaccines and its use.

We found that hospital staff play an important role in providing information regarding the cervical cancer as majority of the participants think that health care staff is the prime source of such information. However, media, friends and family members were the other important source of information in present study. Study done by AbdAllah et al[13] found media (37.4%) as the important source of information which is in line with the present study findings where 26.5% of the participants think that media is a good source of information

Previous reports have highlighted the importance of early screening as it is known to prevent up to 80% of the invasive cervical cancer cases.[5] (Rositch AF 2012) In present study 46.9% of the participants were not aware about the screening tests for the cervical cancer such as Pap smear, VIA, VILI, colposcopy, cervical biopsy. Study conducted by Gupta et all focused on the knowledge related to cervical cancer screening reveled that hospital played a limited role as a source of information on cervical cancer screening based on Pap smear.[10] It may be because Pap smear based screening may not be feasible in limited resource setting like India. As it majority of the Indian hospital there is a lack of trained pathologists and equipped laboratories.[15] AbdAllah et al[13] in a similar cross-sectional descriptive study on 246 students reported that 84% of the participants were not more aware of the other screening method than Pap smear exams. This raises the important ace of formal lectures and seminars for increasing the awareness regarding the screening methods for the cervical cancer.[16] (Biobaku O 2015)

## 5. Conclusion

Awareness of cervical cancer among the medical and nursing student is less which showed several gaps in the knowledge and misconceptions. It becomes very important to initiate several programs at multiple levels including at grassroot level to create awareness regarding cervical cancer, its symptomology, screening methods, preventive measures and its treatments which can help in reducing the burden. Use of print and electronic media and conducting free camps for cancer screening and prevention is required to be setup with the help of local government agencies. To conclude, there is a need with immediate effect to educate and aware the medical and paramedical students to increase the awareness regarding the cervical cancer and effective planning is required to spread the awareness regarding the cervical cancer vaccination throughout India.

## 6. Source of funding

None.

## 7. Conflict of interest

None.

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