A study to assess the knowledge and attitude of female graduate students on cervical cancer

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ABSTRACT

Background: Cervical cancer is one of the most common cancers in women with an average of 468,000 new cases per year. Out of these 80% occur in developing and underdeveloped countries. World Health Organisation statistics show that India carries one fifth of world burden of the disease with 72,600 deaths annually. Key to the success of cervical cancer screening and prevention is the knowledge and awareness possessed by women in general. This requires the honing of knowledge at an impressionable and younger age group.

Methods: It is a questionnaire based cross sectional study and was conducted amongst 4 study groups comprising Medical students, engineering students, nursing students and general graduate students between the age group 18 and 25 years.

Results: According to present study, 93% of medical, 75% of nursing and only 29% of engineering students and 9% of other students were actually even aware of the term cervical cancer. Assessment of knowledge regarding the risk factors of cervical cancer revealed that 13 medical, 9 nursing, 75 of engineering and 85 of Other Graduates weren’t aware of any risk factor that causes cervical cancer. As regards to attitude of the students towards cancer, present study revealed 4 medical, 23 nursing, 10 engineering and 9 general public women think that it is incurable and leads to death.

Conclusions: This study highlights unawareness of various aspects of cervical cancer among young women and the burning need for continuing educational intervention at institute level to emphasise the importance and increase the awareness regarding cervical cancer.

Keywords: Awareness, Cervical cancer, Education

INTRODUCTION

Cervical cancer is one of the most common cancers in women with an average of 468,000 new cases per year. Out of these 80% occur in developing and underdeveloped countries.¹ World Health Organization statistics show that India carries one fifth of world burden of the disease with 67,000 deaths annually.² Human Papilloma Virus (HPV) predominantly HPV 16 and HPV 18 are known causative agents of cervical cancer in 70% of the cases. The virus infects the squamous epithelium of the cervix leading to precancerous, cervical intraepithelial lesions and subsequently to invasive cancer.³ The introduction of Papanicolaou test by George Papanicolaou along with the advent of preventive vaccination against HPV has revolutionized early detection and prevention of cervical cancers.
However, it is appalling to note that the proportion of women screened ranges from about 84% in developed countries to 5% in developing nations like India.4,5 Key to the success of cervical cancer screening and prevention is the knowledge and awareness possessed by women in general. This requires the honing of knowledge at an impressionable and younger age group. This study therefore aims at understanding the level of knowledge regarding different aspects of cervical cancer mainly etiology, risk factors, symptoms, screening and vaccination among young female graduate students.

**Aim and objectives**

To assess perception of female graduate students on cervical cancer.

- To study the awareness levels of cervical cancer among female graduate students
- To assess their perception, knowledge and attitude regarding causes, symptoms, vaccination, screening test for cervical cancer
- To recommend preventive strategies.

**METHODS**

It is a questionnaire based cross sectional study. The study was conducted amongst 4 study groups comprising medical students, engineering students, nursing students and general graduate students between the age group 18 and 25 years. The sample consists of 100 women in each category. A structured questionnaire with questions regarding different aspects of basic knowledge and awareness on cervical cancer pertaining to etiology, risk factors, symptoms, screening test and vaccination was given to the study groups ensuring confidentiality.

**Scoring of questions**

- Knowledge about cervical cancer was assessed if the answer to first screen question (Have you heard of/do you know about cervical cancer?) was “yes.” Two components of knowledge were assessed:
  
a) Symptoms/manifestations of cervical cancer (multiple response question): Irregular menstrual bleeding, bleeding after sexual activity
  
b) Risk factors for cervical cancer (multiple response questions): Young age at first sexual intercourse, multiple male sexual partners, high parity, infections with the human papillomavirus, young age at first full term pregnancy, prolonged use of oral contraceptives and HIV infections.

Each response was given 1 mark. So, the maximum was nine and minimum was zero.

- Knowledge about screening and vaccination for cervical cancer was assessed if the answer to first question (Have you heard of/do you know that it is possible to detect /prevent cervical cancer early?) was “yes.” Five questions were asked for each:
  
a) Who should get tested (married, unmarried, any female)
  
b) At what age is it advisable to get tested (old women >60 years, young women 20-50, adolescent girls 12-19 years)
  
c) Where do you think the testing is done (multiple responses permitted (government hospitals, maternity hospitals, private hospital, nursing homes, private hospitals with attached maternity hospital, women’s hospital)
  
d) Is it an invasive test?
  
e) How many times (frequency) does it need to be done?

Regarding vaccination the questions asked were

- At what age is the vaccine given?
- What is the vaccine called?
- How many doses need to be given?
- Does it protect fully from cervical cancer?
- Can it be given to adults?

Each response was given 1 mark. So, the maximum was ten and minimum was zero.

- Attitude towards the disease was assessed by a single question on its outcome. No marks were awarded if the respondent thought it to be incurable or did not respond, 1 mark was given if early detection was linked with cure. The questionnaire was marked out of 20 overall. The knowledge was graded as: 0-5- Very poor level of knowledge; 6-10- Poor level of knowledge; 11-15- Medium level of knowledge; 16-20- Good level of knowledge.

**RESULTS**

![Figure 1: Awareness of the term cervical cancer.](International Journal of Research in Medical Sciences | October 2017 | Vol 5 | Issue 10 | Page 456)

According to present study, 93% of medical, 75% of nursing and only 29% of engineering students and 9 % of other students were actually aware of the term cervical cancer (Figure 1). 74% of medical, 56% of nursing and 3% of engineering students were aware that Human Papilloma Virus is the causative agent of cervical cancer (Figure 2).
Assessment of knowledge regarding the risk factors of cervical cancer like early age at sexual intercourse, multiple sexual partners, multiparity, smoking, oral contraceptives, STD and history of cervical cancer in family, revealed that 13 medical, 9 nursing, 75 of engineering and 85 of Other Graduates weren’t aware of any risk factor that causes cervical cancer (Table 1).

Awareness regarding Symptoms of cervical cancer like Irregular vaginal bleeding, Foul smelling discharge revealed that only 47 of medical, 37 of nursing 7 engineering students and only 3 others were aware of the two presenting symptoms (Table 2).

Availability of vaccination for cervical cancer, Prevention of cancer by it, no of doses, Vaccination has any major side effects? Other than medical and nursing students’ awareness level was low in other groups.

Only 27 medical, 12 nursing, 2 engineering and 2 other students were aware of the correct no of doses of vaccination (Table 3). Question about awareness regarding Pap smear revealed that 22 of medical, 62 of nursing, 91 of engineering and 92 of other graduate women are not having any knowledge regarding pap smear (Figure 3).

As regards to attitude of the students towards cancer, present study revealed 4 medical, 23 nursing, 10 engineering and 9 general public women think that it is incurable and leads to death. Most of the participants from general students have no idea regarding this aspect (Table 4).

### Table 1: Knowledge regarding risk factors of cervical cancer.

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Medical</th>
<th>Nursing</th>
<th>Engineering</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not aware of any risk factors</td>
<td>13</td>
<td>9</td>
<td>75</td>
<td>85</td>
</tr>
<tr>
<td>Aware of 1-5 risk factors</td>
<td>76</td>
<td>91</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>Aware of 6-7 risk factor</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 2: Awareness regarding presenting symptoms of cervical cancer.

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Medical</th>
<th>Nursing</th>
<th>Engineering</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not aware of any symptom</td>
<td>13</td>
<td>35</td>
<td>81</td>
<td>95</td>
</tr>
<tr>
<td>Aware of at least single symptom</td>
<td>40</td>
<td>28</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Aware of two symptoms</td>
<td>47</td>
<td>37</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 3: Knowledge regarding vaccination.

<table>
<thead>
<tr>
<th>Knowledge regarding vaccination</th>
<th>Medical</th>
<th>Nursing</th>
<th>Engineering</th>
<th>Other graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge regarding vaccination</td>
<td>18</td>
<td>51</td>
<td>81</td>
<td>87</td>
</tr>
<tr>
<td>Answered at least one question regarding vaccination</td>
<td>22</td>
<td>34</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Answered two or more questions</td>
<td>60</td>
<td>15</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
DISCUSSION

The knowledge regarding cervical cancer in the present study revealed a low level across all graduate students. Various similar studies conducted in Bhutan, Malaysia, Kolkata, and USA have reported similar results. In present study about 48% of students had not even heard of cervical cancer and HPV. This was especially true for graduate students in nonprofessional colleges where almost 90% revealed lack of basic knowledge. Similar low knowledge levels have been seen even in studies from developed countries like UK and USA. Low levels of awareness among different population groups in four developing countries including India has been highlighted by Bringham et al.

Table 4: Attitude towards outcome of cervical cancer.

<table>
<thead>
<tr>
<th>Attitude towards outcome of cervical cancer</th>
<th>Medical</th>
<th>Nursing</th>
<th>Engineering</th>
<th>Other graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is incurable, it will lead to death</td>
<td>4</td>
<td>23</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>It can be cured if detected at an early stage</td>
<td>96</td>
<td>65</td>
<td>70</td>
<td>5</td>
</tr>
<tr>
<td>No response</td>
<td>-</td>
<td>12</td>
<td>20</td>
<td>86</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 5: Overall knowledge regarding cervical cancer.

<table>
<thead>
<tr>
<th>Score</th>
<th>Medical</th>
<th>Nursing</th>
<th>Engineering</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 score</td>
<td>1</td>
<td>4</td>
<td>47</td>
<td>68</td>
</tr>
<tr>
<td>1-5 score</td>
<td>14</td>
<td>34</td>
<td>40</td>
<td>26</td>
</tr>
<tr>
<td>6-10 score</td>
<td>43</td>
<td>45</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>11-15 score</td>
<td>35</td>
<td>17</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>16-20 score</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

0-5: very poor level of knowledge, 6-10: poor level of knowledge, 11-15: medium level of knowledge, 16-20: good level of knowledge.

Only about 24% of students in present study were knowledgeable regarding the symptoms and signs of cervical cancer. Amongst medical and nursing students too this knowledge was lacking. 53% of medical students and 63% of nursing students were unaware of most signs and symptoms. Similar results among medical students was seen in a study in Saudi Arabia. The importance of this knowledge is highlighted in a study by Jayant et al where the presentation at stage I and II increased from 38% to 51% after educational intervention in the study population about signs and symptoms of cervical cancer.

Cytological screening based on Pap smear plays a major role in reducing both the incidence and mortality of invasive cervical cancer. In the USA and Canada, the reduction in the incidence of cervical cancer and the subsequent reduction of female mortality rate was attributed to the widespread introduction of the Pap smear screening program as a secondary preventive measure for early detection of cases. Knowledge regarding Pap smear as a screening test was a huge lacuna despite its propaganda. Almost 90% of engineering and graduate students had poor levels of knowledge regarding this test. The range of awareness in various studies was 53% in Bhutan, 80% in Taiwan, and 94% in Greece. Knowledge regarding vaccination and treatment is dismal too with only 30% of study population having some awareness. This has been seen in other studies among both Indian 18 and international graduates too.

CONCLUSION

The strength of the study is the number of varied students from various fields that it covers. The inclusion of health care related studies like medicine and nursing may create...
a bias amongst the groups. This study highlights unawareness of various aspects of cervical cancer among young women and the burning need for continuing educational intervention at institute level to emphasize the importance and increase the awareness regarding cervical cancer. Intervention at this level will not only ensure a healthier population, but the younger population can also educate masses, increase the health-seeking behavior in women and thus reduce the burden of cervical cancer in the society worldwide.

Current study suggests that awareness campaigns be taken up in earnest in various educational institutes regarding cervical cancer thus enabling the woman and the society to fight the rise of cervical cancer. We also propose the need to undertake similar studies about awareness and education interventions.

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Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES