

**Original article:**

**Assessment of knowledge, awareness and preventive measures of cervical cancer among female medical students**

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**Abstract**

**Objectives:** The main objective of the study to evaluate the knowledge about cervical cancer causes, vaccination and treatment among female medical students. **Materials and Methods:** It was a cross sectional study conducted in Melaka Manipal Medical College (Manipal campus), Manipal during October 2012 to April 2013. This study included 194 female medical students from MBBS and BDS undergraduate courses. Data were collected by using validated questionnaire. Data were analysed by SPSS 16 Software. **Results** The present results shows that the female students demonstrated good knowledge about cervical cancer, pap smear test, prevention and treatment. Among the respondents 97% had heard about cervical cancer, only 3% of female students had the family history of cervical cancer. However many students are did not know that smoking (34%), many child birth (40%) and usage of oral contraceptives (38%) are the risk factors for the cervical cancer. **Conclusion:** The present study shows adequate levels of knowledge and awareness about pap smear test, prevention and treatment of cervical cancer. Many of the students they did not have the adequate knowledge about risk factors of cervical cancer. This study indicates that further educational programs, especially about risk factors, needed in female medical students.

**Keywords:** Cervical cancer; awareness; pap smear test; treatment

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**Introduction**

Cervical cancer is the second most common cancer among women in developing countries. According to estimations for 2012, annually for about 527624 new cases of cervical cancer were diagnosed in the world. Cervical cancer cases have been increasing in many developing countries due to inadequate scale of screening program<sup>1</sup> and 80% of deaths in developing countries due to cervical cancer<sup>2</sup>.

Cervical cancer is caused by Human Papilloma Virus (HPV)<sup>3</sup> and most common sexually transmitted

viruses. There are more than 100 different types, commonly caused by HPV 16 and HPV 18<sup>4</sup>. The risk factors of cervical cancer include multiple sex partners and sex at an early age. In addition to these other factors that may contribute to the risk of cervical cancer are HIV, smoking, using of contraceptive pills for long period and giving birth to three or more children<sup>5-7</sup>.

Cervical cancer screening is one of the methods to detect cervical cancer in women<sup>8</sup>. This screening programmed usually performed using papinicolaou test or Pap smear to detect precancerous and

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cancerous cells in the cervix. Vaccination is now available in many countries. Human Papilloma virus Vaccines (HPV) is given to women to decrease the risk of getting cervical cancer by preventing potentially precancerous lesion of the cervix<sup>9</sup>. There are many preventable methods includes avoiding risk factors, regular pap smear test and HPV vaccination. However, an effective program must begin by evaluating basic knowledge about human papillomavirus infection and cervical cancer prevention.

The main objective of this study is to evaluate knowledge about HPV infection, cervical carcinogenesis, vaccination and treatment among students.

### **Materials and Method:**

This study was a cross-sectional design used among Malaysian medical undergraduate female students. The study was conducted in Melaka Manipal Medical College (Manipal campus), Manipal university, Manipal, India. A total of 194 students of 18 to 21 years old admitted in first year of MBBS, BDS courses were included in the study. This was a mentor student project carried out during October 2012 to April 2013.

A validated questionnaire was designed to collect the data. The questionnaire included with the questions on general over view, various risk factors, pap smear test, prevention and treatment of cervical cancer. Oral consent was taken from all the female students who voluntarily participated in the study. This study was approved by institutional research committee. The authors described the purpose of the study and had given instructions for completing the questionnaire. Under the supervision of authors the questionnaire was completed and collected. Statistical analysis was done by using SPSS 16 version.

### **Results**

In our study (Table 1) 97% of the students heard about cervical cancer. Among the respondents, 77% had heard about pap smear test and about 23% reported that they have not heard about pap smear. Among the respondents, 55% of the students come to know about the cervical cancer through news, media and magazine. The majority of the female students did not know that smoking (66%), many child birth (60%), oral contraceptives (62%) are the major risk factors.

**Table 1: General overview and Knowledge about risk factors of cervical cancer**

Variables	N (194)	%
Have you heard about cervical cancer?		
Yes	188	97
No	6	3
History of cervical cancer in the family		
Yes	6	3
No	188	97
Have you heard about pap smear test		
Yes	150	77
No	44	23
Prevented by vaccination		
Yes	167	86
No	27	14
How did you come to know		
News	39	20
Magazine	15	8
Campaign	19	9
Media	32	16
Text book	24	12
Colleagues	7	4
Information from all the sources	55	28
Others	3	0.5
Risk factors of cervical cancer		
Smoking		
Yes	66*	34
No	128	66
Many child birth		
Yes	78	40
No	116	60
Multiple sex partners		
Yes	144	74
No	50	26
Usage of oral contraceptives		
Yes	73*	38
No	121	62
Sex at early age		
Yes	148*	75

No	46	25
Human papilloma virus		
Yes	123	63
No	71	37

\*p value <0.05

In table 2 and 3 70% of the student know that pap smear could be done to detect cervical cancer. Condom usage (58%), avoiding multiple sex partners (83%), regular pap smear (71%) and getting vaccination (96%) help in the prevention of cervical cancer. Participants had a good knowledge about vaccination and treatment of cancer.

**Table 2: Knowledge and awareness about pap smear test and prevention of cervical cancer**

Variables	N	%
Pap smear test can be done to detect cervical cancer?		
Yes	136	70
No	58	40
Test is used to detect precancerous stage		
Yes	110	57
No	84	43
Usage of condom reduces the risk		
Yes	112	58
No	82	42
Avoiding multiple sexual partners		
Yes	162	83
No	32	17
Regular pap smear reduces the risk		
Yes	137	71
No	57	29
Getting HPV vaccine		
Yes	183	94
No	11	6
Have you done pap smear test		
yes	12	6
No	182	94

**Table 3: Knowledge and awareness about vaccination and treatment**

Variables	N	%
<i>Vaccination age (years)</i>		
8-9 Y	1	0.5
11-13 Y	86	44
21-26 Y	99	51
40-45 Y	8	4
<i>How many dose/s are there in total for vaccination?</i>		
1	19	10
2	40	21
3	131	73
4	4	2
<i>Chemotherapy</i>		
Yes	18	9
No		
<i>Surgery</i>		
Yes	162	84
No	32	16
<i>Radiotherapy</i>		
Yes	148	76
No	46	24
<i>Diet changes</i>		
Yes	84	43
No	110	57

### Discussion

This study explores the knowledge regarding cervical cancer and papanicolaou test and treatment in female medical students aged between 18 to 21 years. This study found a relatively high level of knowledge about cervical cancer and papanicolaou test even though they showed low level of family history<sup>10</sup>. Most of the participants who took part revealed that they heard about the cervical cancer (97%), 77% participants responded that they heard about pap smear test. Several studies reported that participants have heard about cervical cancer and pap smear test<sup>11-14</sup>. Media such as the television, radio, internet and etc (media) play a very important role in awareness of cervical cancer among women<sup>15-17</sup>. In our study we have found that different source of knowledge this can be due to the fact that most of the participants who took part in the study are in first year of medical course.

However, the data revealed poor knowledge about the risk factors like smoking, many child birth and usage of oral contraceptives for long period. Cigarette smoking will increase the risk of cervical cancer. A pooled analysis HPV prevalence survey by IARC concluded that increased risk of prevalent HPV infection is associated with tobacco smoking<sup>18</sup>. Our results are supported by other studies have been reported poor knowledge on smoking as a risk factor in nurses<sup>19-20</sup>. A study conducted in South Africa University revealed that there was lack of knowledge about risk factors of cervical cancer among students<sup>5</sup>. In our study 83% reported that avoiding multiple sex partners can prevent the cervical cancer. Nganwai in 2008 reported that 85.6% of the participants were aware that having multiple sex partners is one of the risk factor<sup>19</sup>. The use of condom may prevent the infection caused by the HPV (58%). Using condom can decrease the risk HPV but cannot protect against HPV and the incidence of HPV is remains high in condom users<sup>11</sup>.

The Papanicolaou (Pap) smear test for cervical screening is a widely used to reduce the morbidity and the mortality rate due to cervical cancer through early detection. From the study, 70% of the participants are aware that the test can be done to detect cervical cancer and 94% of the students have not done the pap smear test. Some of the studies support the results<sup>21, 5</sup>. This may be due to lack of proper knowledge about pap smear screening test. The usage of oral contraceptives cannot help in preventing cervical cancer. In fact the long term use of oral contraceptives results in cervical cancer. The study revealed that 62% of the participants have no knowledge that the usage of oral contraceptives can cause cervical cancer. Other studies indicated that long term use of oral contraceptives was risk factor for cervical cancer<sup>22-23</sup>.

HPV vaccine is only useful in preventing cervical cancer. 73% of the participants knew that there are three doses for HPV vaccination but they do not know the optimum age to get the vaccination. Only

44% of them knew that the optimum age of getting the vaccination is as early as 11-13 years and 51% of the indicated right age to get the vaccination is in between 21-26 years. All the participants in the study were from Malaysia. In Malaysia vaccination is free of charge for girls aged 13 years<sup>24</sup>. According to WHO recommendations, many countries have designated age groups to receive the vaccination in France (15-23 yrs), Abu Dhabi, UAE (18-26 yrs), America, and Australia (13-26 yrs)<sup>9</sup>. Vaccination cannot be recommended over 26 years<sup>25</sup>. The knowledge of people regarding the treatment of cervical cancer is relatively high. This can be due to the fact that most of the cancers can be treated by the same method, i.e. Chemotherapy, radiotherapy and surgery

Potential limitations of this study should be considered. The research was carried out on a small group of undergraduate medical student's age of 18 to 21 years. Hence, this sampling group is insufficient to reflect the whole community of females falling in that range of age. Besides, most of the participants who took part are currently pursuing their studies in medical course. Thus, they are in advantage when given such questions which is related medically. Therefore, further research should be conducted with a larger sample including females from various courses.

### **Conclusion**

According to the data collected, female medical students in the research group have fairly good knowledge regarding the cause, treatment and prevention of cervical cancer and also the papanicalaou test. Even though the data showed fairly good results but they have limited knowledge about risk factors of cervical cancer. There is a need for strong base knowledge about risk factors of cervical cancer so that the preventive measures can be taken, as the sayings goes; prevention is better than cure.

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