

## AWARENESS AND KNOWLEDGE REGARDING RISK FACTORS AND COMMON SYMPTOMS OF CERVICAL CANCER AMONG FEMALE STUDENTS OF RAWALPINDI

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### ABSTRACT

**Objective:** To assess the knowledge, attitudes and practice among medical students regarding cervical cancer risk factors, common symptoms and preventive measures.

**Study Design:** Descriptive cross-sectional study.

**Place and Duration of Study:** Foundation Medical University, Rawalpindi from 1<sup>st</sup> Jul 2016 to 30<sup>th</sup> Jun 2017.

**Material and Methods:** A total of 173 pre clinical female student of MBBS who give consent were enrolled in the study by non-probability consecutive sampling technique. With informed written consent, data were collected on pretested questionnaire. Data were presented as frequencies and percentages.

**Results:** Total 173 students were enrolled with response rate of 98%. Age ranged from 18-21 years. Fifty three (31%) students had family history of cervical cancer. Majority of the students 101 (59%) had heard about cervical cancer. Knowledge about etiological agent (38, 22%), HPV vaccine available for infection prevention (11, 6%) and its Pap smear screening (61, 36%) was poor. Abnormal vaginal discharge was the most common symptom (98, 57%). Overall response of symptoms was poor. An attitude towards diagnostic measures for cervical cancer was positive. A total of 127 (74%) students responded that every adult girl should be vaccinated against cervical cancer, 137 (73%) voted for regular cytological examination however 88 (56%) were not in opinion of doing pap testing as OPD procedure.

**Conclusion:** Our study revealed poor knowledge about cervical cancer risk factors and symptoms among female students. Awareness programs are required for early detection and treatment of this fatal cancer.

**Keywords:** Cervical neoplasm, Human papilloma virus, Prevention, Risk factors, Students.

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### INTRODUCTION

Cervical cancer is the fourth most common cancer worldwide while second most common cancer of less developed countries. Globally over 270,000 deaths occur annually due to cervical cancer with 530,000 new cases and 85% of these occur in low and middle income countries (WHO)<sup>1</sup>. In United States, estimated new cases with cervical cancer are 12,900 and total death rate was 4,100<sup>2</sup>. In Europe, around 58,400 new cases of cervical cancer were estimated to have been diagnosed in 2012<sup>3</sup>. Whereas in India, it is the leading cancer among women<sup>4</sup> and more than 74,000 women die annually<sup>5</sup>.

Pakistan is a developing country and due to limited available epidemiological data, information about cervical cancer is scarce. The only source of information is through institutional and regional cancer registries, which may not be representing the whole scenario<sup>6,7</sup>. Cancer mortality was 3.6% in urban setting<sup>8</sup>. Another study reported that only 5% of women in Pakistan were aware of screening for cervical cancer and only 2.6% of women actually had pap smear once in a lifetime<sup>9</sup>.

In the past two decades, Human Papilloma Virus (HPV) strains have been identified as a causative agent in cervical cancer in particular with high grade oncogenic HPV genotypes, such as HPV-16 and HPV-18, along with some other factors predispose women to cancer<sup>10,11</sup>. In developed countries it's incidence is decreased due to enhanced knowledge about cervical

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cancer, it's cause (Human papilloma virus), active screening programs and vaccination of sexually active women while in developing countries lack of knowledge, ethical issues, absence of screening programs have made women more susceptible. Cervical cancer awareness programs are being done in European countries, US, Scotland, Odisha, China, Australia, Nigeria, India and even in Bangladesh. But such activities are not conducted in Pakistan.

In this study we aim to assess the current knowledge amongst medical students (1st and 2nd year only) about cervical cancer, its sign and symptoms, risk factors and its prevention. The results of this study will be useful at the policy level to supplement knowledge and awareness about this important but neglected health issue.

### **MATERIAL AND METHODS**

A cross-sectional, questionnaire based survey was conducted at Fauji Foundation Medical University, Rawalpindi. Pre clinical female students of MBBS, who gave written consent, were enrolled. Medical students who did not give written consent were excluded to avoid bias in the study. The study was conducted in 6 months from 1st July 2016 to 30<sup>th</sup> January 2017. Using the WHO sample size calculator, a sample size of 173 is calculated at 95% confidence level and 5% confidence interval with a prevalence of 19.5% with population proportion 600. Response rate was 99.4%. Non probability consecutive sampling technique was used for data collection.

The questionnaire was first shared and scrutinized by experts from department of community medicine and obstetrics for construct and content validity. Language of the questionnaire was English as it was to be filled by medical students whose teaching language is english. The research tool was used among college students for feasibility and reliability of the questions before starting the study. Questionnaire was designed based on the study objectives, after reviewing literature and studies available on the topic content specific questions were added. The questionnaire was divided into

4 main parts. First section included socio demographic profile, second section included knowledge, risk factors and symptoms, third section include history, fourth section included awareness and attitude towards prevention of cervical cancer. It was a self-administered questionnaire with multiple options. Research team assisted the participants in filling forms. Data entry was done in excel and then transported to Epi Info 7.2 for analysis. Data was entered twice, to rule out errors in entering the data. Percentages and proportions were calculated for all the variables. Tables and graphs were computed. Responses were categorized as good (61% to 75%), very good (76% to 85%) and excellent knowledge ( $\geq 86\%$ ). Whereas below 60% were categorized as poor. Ethical approval was taken from ethical review committee of Foundation Medical University. Respondents were briefed that their participation is voluntary and they have full right to withdraw from the study at any point. Their confidentiality in the study was ensured.

### **RESULTS**

A total of 173 students (n=173) were included in this study. Response rate was 98%. Participants were female students of pre clinical years of medical college. Age ranged from 18-21 years. Mean age was  $19.27 \pm .831$  years. Fifty three (31%) students had family history of cervical cancer.

Responses were categorized as good (61% to 75%), very good (76% to 85%) and excellent knowledge ( $\geq 86\%$ ) whereas scores below 60% were ranked as poor. Overall knowledge about cervical cancer including risk factors was poor. (Below 60%).

One hundred and one (59%) students had heard about cervical cancer while 71 (41%) students had never heard about when asked about causative agent, minority of the students, 38 (22%), knew that it is caused by virus whereas 134 (78%) had no idea. Only 76 (44%) students knew that women in 30-49 years are at increased risk of cervical cancer with few exceptions.

Regarding risk factors, 84 (49%) responded smoking, followed by use of oral contraceptives multiparity 72 (42%), nutritional deficiency 61 (35.5%) and multiparity 44 (26%) as a risk factors for cervical cancer (table-I).

Abnormal vaginal discharge was the most common symptom (98, 57%) recognized by the study participants. It was followed by heavy

after age of 20 should undergo cytological examination and should be vaccinated for HPV and these diagnostic procedures should be done as an outdoor procedures (fig).

## DISCUSSION

Cervical cancer is caused by a virus known as human papilloma virus. It is the fourth most common cancer worldwide. Our study was

**Table-I: Level of knowledge about risk factors of cervical cancer among students.**

	Questions on knowledge of cervical cancer	Right answer n(%)	Wrong answer n(%)	Category
1	Have you ever heard of cervical cancer	101 (59)	71 (41)	Poor
2	Do you know cervical cancer is caused by	38 (22)	134 (78)	Poor
3	Do you know it is transmitted by	53 (31)	119 (69)	Poor
4	Which age group of women is most likely to develop cervical cancer?	76 (44)	96 (56)	Poor
5	Do you know smoking is a risk factor?	84 (49)	88 (51)	Poor
6	Do you think contraceptives can be a cause	72 (42)	100 (58)	Poor
7	Do you think nutritional deficiency can cause cancer?	61 (35.5)	111 (64.5)	Poor
8	Do you think weight loss can be related to cervical cancer?	93 (54)	79 (46)	Poor
9	Do you think multiparity can be a cause of cancer	44 (26)	128 (74)	Poor

**Table-II: Level of knowledge about symptoms of cervical cancer among study participants.**

	Questions on symptoms of cervical cancer	Right answer n(%)	Wrong answer n(%)	Don't know n(%)	Category
1	Pain in lower abdomen	23 (13)	101 (59)	48 (28)	Poor
2	Heavy menstrual bleeding	79 (46)	31 (18)	62 (36)	Poor
3	Bleeding between menses	70 (41)	30 (17.4)	72 (42)	Poor
4	Abnormal vaginal discharge	98 (57)	18 (10.5)	56 (32)	Poor
5	Post-menopausal bleeding	67 (39)	23 (13)	82 (48)	Poor

menstrual bleeding (79, 46%) and bleeding between periods (70, 41%). Knowledge about post-menopausal bleeding as a cervical cancer symptom was (67, 39%). However, only few (23, 13%) knew that lower abdominal pain is not a specific symptom of cervical cancer. Overall response was poor (table-II).

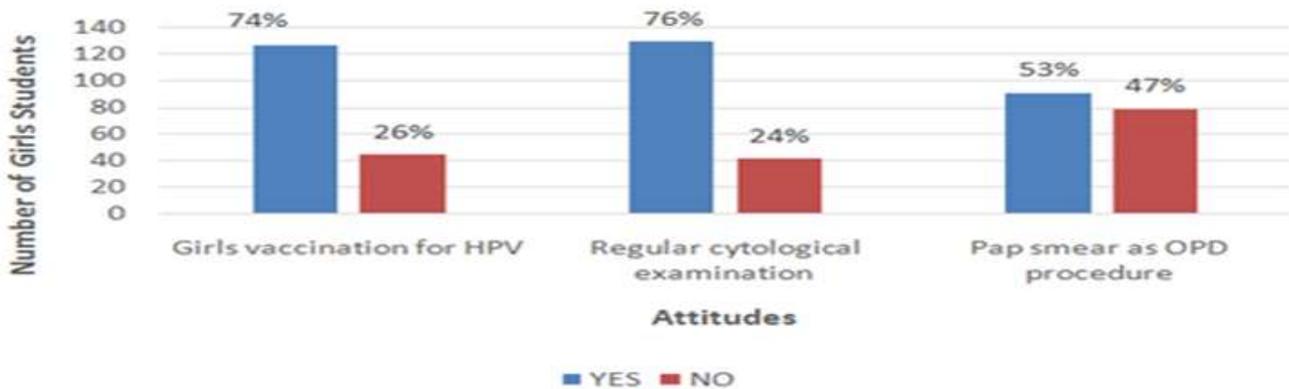
Results showed that as compared to knowledge about risk factors and symptoms for cervical cancer among study participants, their attitudes towards the diagnostic procedures were quite positive and they were in opinion that girls

conducted to quantitatively assess the awareness and knowledge about cervical cancer, its causative agent and attitudes among female medical students of Foundation University Islamabad campus. Most published data on awareness carried in Pakistan are on breast cancer, tuberculosis, diabetes, obesity & hepatitis with limited literature on cervical cancer despite of its rising burden. Our results showed poor knowledge about risk factors and symptoms of cervical cancer among students.

Most of them knew that it can be prevented but a very few of them were vaccinated for HPV. There was a majority of students who did not even know that it is a gynecological cancer most probably because it was not included in the study course or introduced late in course. According to our study only 58.7% of female candidates had previous knowledge of cervical cancer while a similar study in Turkish university showed that 78.3% knew about cervical cancer<sup>5</sup> and a study in Crimea state medical university Ukraine revealed that 71% of the students had knowledge of cervical cancer<sup>6</sup>. In an Iranian university 100% of the participants knew about cervical cancer<sup>7,8</sup> either as a study course, in magazines, by the public media or by other means. A similar study done in Saudi Arabia showed that 95.7% of

as compared to the medical students in Southeast Nigeria<sup>10</sup>.

Results of our study showed that only 6.4% participants were aware of the vaccine for the cervical cancer, whereas a study from Nigeria revealed that 69.3% of students knew about the cervical cancer vaccine where as it was 22.4% in Turkish university<sup>7</sup>. This difference is due to the fact that in Nigeria cervical cancer is taught as an essential part of their study course. The poor results of our study can be attributed to the fact that it is considered socially and morally unacceptable to discuss about gynecological problems including cervical cancer among our students. In spite of the current poor situation, there is a hope for better results in future as 78.3% students were ready to get vaccinated for cervical



**Figure: Attitudes of study participants towards diagnostic measures for cervical cancer.**

students had poor knowledge about cervical cancer (Al-Shaikh et al)<sup>9</sup> it may be due to social, cultural and ethical limitations prevailing in that society. A study from Ukraine found that knowledge of cervical cancer was 55%<sup>6</sup> which is similar to our findings.

The knowledge about signs and symptoms of cervical cancer was not satisfactory and was comparable to a similar study carried out in Saudi Arabia and Iranian universities<sup>8,9</sup> probably due to inefficient awareness programs and lack of national screening because of same moral and cultural norms leading to the presentation of cervical cancer in a very advanced stage. The knowledge about risk factors was also very poor

cancer, though 100% students in Nigeria were ready for vaccination<sup>10</sup>.

The awareness about pap smear in our study was 35.5% which was quite low but still higher than the study carried in Peshawar that showed a response of only 6.4%, moreover being bordering with Afghanistan, Khyber Pakhtunkhwa (KP) is reckoned to be hidebound and socially diverse<sup>11</sup>. While the awareness about Pap test was much higher in Iranian university (64.1%) which they knew from media, study courses or magazines<sup>9</sup>. Out of all the participants 44.2% in the study knew that immoral practices are important cause of cervical cancer while 36.5% of Turkish university students were aware that having

multiple sexual partners is a risk factor for cervical cancer<sup>5</sup> while a similar study in UK said that 67% of women knew that multiple sexual partners is a major risk for cervical cancer<sup>7</sup>.

A Saudi study<sup>12</sup> carried out among medical students displayed almost same findings as found in our study. There was a lack of knowledge about cervical cancer. About half of the students (51%) reflected cancer cervix as a preventable disease and 60%, identified sexually transmitted disease as a risk factor for cancer cervix. Whereas, nearly 25% of students thought that old age and sex related or perianal growths/lumps are risk factors for cancer cervix. When our results were compared with study done in Poland<sup>13,14</sup>, general awareness of cervical cancer among students (17-26 years) was also not upto the mark. Majority of the respondents did not consider HPV infection to be the major etiological factor.

It has been revealed that knowledge of students about cervical cancer is very poor despite the fact that it is the major cause of death among Pakistani females. Participants had a fair knowledge about vaccination and screening for cervical cancer but still practice of medical screening and vaccination is low.

### Limitations

Study was conducted only in one medical college and among girl students only. Poor responses might be due to limited time given to students to fill the questionnaire.

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### CONCLUSION

Our study revealed poor knowledge about

risk factors and symptoms among female university students presumptive of even poorer awareness among young unmarried women who are less educated or with no education common in Pakistan.

### CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

### REFERENCES

1. Cervical cancer estimated incidence, mortality and prevalence worldwide in 2012. <http://globocan.iarc.fr/old/FactSheets/cancers/cervix-new.asp> (accessed 2016).
2. <http://www.cancer.org/cancer/cervicalcancer/detailedguide/cervical-cancer-key-statistics> (accessed 2016).
3. Epidemiology cervical cancer. <http://www.cancerresearchuk.org/> (accessed 2016).
4. Dikshit R, Gupta PC, Ramasundarahettige C, Gajalakshmi V, Aleksandrowicz L, Badwe R, et al. Cancer mortality in India: A nationally representative survey. *Lancet* 2012; 379: 1807-1816.
5. Borula A, Gunay O, Sagiroglu M. Knowledge and attitudes of medical and non-medical turkish university students about cervical cancer and hpv vaccination. *Asian Pacific journal of cancer prevention: APJCP* 2016; 17(1) : pp. 299-303 .
6. Globocan 2012. Available from: <http://globocan.iarc.fr>, accessed 2016.
7. Badar F, Anwar N, Meerza F, Sultan F. Cervical carcinoma in a Muslim community. *Asian Pac J Cancer Prev* (2007) 8: 24-26.
8. Bhurgri Y. Karachi cancer registry data-implications for the national cancer control program of pakistan. *Asian Pac J Cancer Prev* (2004) 5: 77-82.
9. Bhurgri Y, Nazir K, Shaheen Y, Usman A, Faridi N. Patho-epidemiology of cancer cervix in karachi south. *Asian Pac J Cancer Prev* (2007) 8: 357-62.
10. Imam SZ, Rehman F, Zeeshan MM, Maqsood B, Asrar S. Perceptions and practices of a pakistani population regarding cervical cancer screening. *Asian Pac J Cancer Prev* (2008) 9: 42-4.
11. Hussain S, Bharadwaj M, Nasare V. Human papillomavirus infection among young adolescents in India: impact of vaccination. *J Med Virol* 2012; 84: 298-305.
12. Silva J, Ribeiro J, Sousa H. Oncogenic HPV types infection in adolescents and university women from north portugal: from self-sampling to cancer prevention. *J Oncol* 2011: 953469.
13. Al-Shaikh GK, Almussaed EM, Fayed AA. Knowledge of Saudi female university students regarding cervical cancer and acceptance of the human papilloma virus vaccine. *Saudi Medical Journal* 2014; 35(10): 1223-30.
14. Kamzol W, Jaglarz K, Tomaszewski KA, Puskulluoglu M, Krzysztof K. Assessment of knowledge about cervical cancer and its prevention among female students aged 17-26 years. *Eur J Obstet Gynecol Reprod Biol* 2013; 166: 196-203.