Knowledge of Undergraduate Medical Students of Pre-clinical Classes on Cervical Cancer

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Cervical cancer is one of the most common causes of death in women in the globe. It can be prevented and controlled through vaccination against human papilloma virus (HPV). It is important to provide undergraduate medical students with appropriate knowledge about etiology and prevention of cervical cancer. This study was aimed to understand the level of HPV-related knowledge on cervical cancer among undergraduate medical students in Mymensingh in order to minimize the knowledge gap. A descriptive cross-sectional study was conducted among purposively selected 204 students of first year MBBS class, Mymensingh Medical College, Mymensingh based on a pretested questionnaire regarding cervical cancer, HPV infection, cancer screening, prevention and treatment. At least 97 (47.55%) respondents were males, whereas 107 (52.45%) were females. Mean age of the respondents was 18.94 years with a standard deviation of 3.31 years. As many as 199 (97.55%) respondents heard about cervical cancer, while 140 (70.35%) of 199 knew that the prevention of cervical cancer was possible through HPV vaccination, and out of 199, only 137 respondents heard that vaccine is available for prevention of cancer cervix, however, of them only 30 (21.90%) could mention the name of the vaccine. At least 83 (41.70%) respondents knew about the screening for cervical cancer. Of them only 40 (48.19%) mentioned the screening test accurately. Of 199, as many as 164 (82.41%) students stated that cancer cervix is curable, if diagnosed early. Out of 164, at least 97(59.15%) mentioned surgery, radiotherapy and chemotherapy as regard to treatment, whereas 37(22.56%) opined for surgery, 29(17.68%) for chemotherapy. Undergraduate medical students have limited knowledge about cervical cancer, causative agent for the cancer, its mode of transmission, vaccination against the disease with its schedule and screening activities for the diseases.

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Key words: HPV, Cervical cancer, Vaccines for cervical cancer

Introduction

Cancer is one of the major causes of morbidity and mortality among non-communicable diseases in Bangladesh and in the globe. In developed countries most common cause of cancer in women is breast cancer.[1] Cervical cancer is the second most common cause. In developing countries, cervical cancer is the commonest followed by ovarian cancer.[1] Nearly 80 percent of cervical cancers occur in developing countries.[1] In Bangladesh the yearly burden of carcinoma cervix are nearly 67686. Every year an estimated 1300 women are diagnosed with carcinoma cervix and 6600 die from the diseases in each year.[2]

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Cervical cancer is a malignant neoplasm arising from cells originating in the cervix uteri.[3] Cancer is a multifactorial disease. Cervical cancer is the commonest cancer in Bangladesh,[4] and is closely associated with poor genital hygiene, early consummation of marriage, multiple pregnancies and contact with multiple sex partners.[5] However, infectious agent like Human Papilloma virus (HPV) type 16 and 18 is known to cause cervical cancer. It is estimated that about 70 to 80 percent of sexually active women contact the virus at least once in their lives. In most cases, cells infected with the Human Papilloma Viruses (HPV) heal on their own. However, in some cases, the virus continues to spread and become an invasive cancer.[3]

For early detection of cancer, a good deal of attention is being paid to cancer screening.[5] Cervical cancer screening is typically recommended at the age of 21 years. Frequency of a pap smear varies from once a year to once in every five years depending on the result of the smear. Pap smear screening, every 2 to 5 years, with appropriate follow up has been proven to reduce the incidence of cervical cancer by 80 percent. The Pap smear screening is not replicable in developing countries because of its cost, scarcity of skilled cyto-pathologist and multistage nature of the procedure. These potential difficulties in cytology-based programme have prompted the investigations of alternative low-cost screening technology such as Visual Inspection with Acetic Acid (VIA). The result of VIA is immediately available and does not require laboratory support. Numerous studies have been conducted on its accuracy and its ability to detect pre-cancerous cervical lesions when compared with Pap smear. The outcome evaluation of these studies indicates that sensitivity of VIA ranges from 66 to 96 percent, and specificity between 64 to 98 percent. It has been concluded that overall usefulness of VIA compares favourably with Pap test. In majority of cases these are conducted in primary health care facility and thus are not applicable to tertiary care hospitals. However, the test is being used in conjunction with Pap smear and has not yet been able to replace the Pap test due to lack of controlled trials.[3]

As cervical cancer is radiosensitive, once the only ways to cure cervical cancer was either surgery or radiation therapy. However, the choice of treatment depends on the stage of the cancer. Drugs those were originally used for HIV treatment, now used to destroy the Human Papilloma virus (HPV) through insertion into the birth canal. Moreover, HPV vaccine is capable of reducing the risk of cervical cancer by 90 percent. Currently, HPV vaccines like 'Gardasil' and 'Cervarix', is used to reduce the risk of cancerous and pre-cancerous changes in the epithelium of the cervix and perineum. It is typically administered to women between the ages 9 to 26, and the effect lasts up to 4 to 6 years. As the vaccines are costly, some nation setting up programme to fund this vaccination, while some other have developed policies and schemes for screening of cervical cancer, to reduce the incidence of this disease, and improve the health of the women. Government of Bangladesh has taken steps towards controlling cervical cancer by developing cervical cancer screening programme. Besides, various development partners and Non-government organizations (NGOs) are working in this field. There is media campaign for creating awareness among general mass.[6] Cervical cancer is preventable as specific protection by available vaccine and maintaining genital hygiene. How far the would-be physicians, are acquainted with knowledge of cancer cervix is a big dilemma. With this background this study was conducted to assess knowledge in relation to HPV and cervical cancer among undergraduate medical students of preclinical

classes of Mymensingh Medical College, Mymensingh, Bangladesh.

Methods

A descriptive, cross-sectional study was carried out at Mymensingh Medical College, Mymensingh with duration of six months ranging from January to June 2015 conducted among purposively selected 204 students of first year under-graduate medical students (M-52 batch) of Mymensingh Medical College, Mymensingh. Data were collected through interview using a mixed type of interviewer administered questionnaire. Data were collected by the 4th year MBBS students batch M-49, group-E, Mymensingh Medical College, Mymensingh. Before embarking on, the students were oriented adequately regarding the study procedure including seeking information from the respondents, use of pre-tested questionnaire and method of data collection. Collected data were checked by the teachers of department of Community Medicine for completeness, consistency and relevancy. Edited data were entered into master sheet. Frequency distribution tables were prepared from master sheet with the use of scientific calculator. Average and percentage were used for the description of the results. Data were presented in tables and figures.

Results

This cross-sectional type of descriptive study was carried out to assess the knowledge about cervical cancer among 204 undergraduate medical students of first year in Mymensingh Medical College. Highest number 125 (61.27%) of respondents were in age group 15 to 19 years with a mean of 18.94 and a standard deviation of 3.31 years (Table 1). Highest number 107 (52.45%) of respondents were females, while 97 (47.55%) were males. Of 204, as many as 199 (97.55%) respondents heard about cervical cancer (Table II). Out of 199 respondents, 52 (26.13%) ranked cervical cancer as first common, while 99 (49.75%) as second common and 48 (24.12%) as third common cancer of humans.

Of 199 who knew about cancer cervix, 191 (95.98%) respondents knew about the risk group. Of 191, fifty-two (27.23%) respondents mentioned as aged below 30 years, while 139 (72.77%) opined for aged above and equal to 30 years as at risk group. Of 199 respondents, 146 (73.37%) were aware about the infectious agent responsible for cancer cervix, and of them as many as 80 (54.79%) respondents were able to mention the name of the organism correctly. Out of 199, as many as 137 (68.84%) respondents mentioned the sexual route, while 10 (5.03%) apiece mentioned blood-route and oro-fecal route and the rest 42 (21.10%) could mention nothing regarding mode of transmission of the organism (Fig.1). Of 199, at least 102 (51.26%) respondents were able to mention the diseases other than cervical cancer caused by the causative agent, and of 102, at least 57 (55.88%) voted for genital wart, while 25 (24.51%) for penile cancer and 20 (19.61%) for ano-rectal cancer.

Out of 199, as many as 198 (99.50%) respondents were able to mention the risk factors for cervical cancer. Of 198, 185 (93.43%) mentioned about multiple sex partners, while 182 (91.92%) went in favour of poor genital hygiene, 161 (81.31%) each for early sexual exposure and early marriage, 143 (72.22%) mentioned about husband with multiple sex partners, 112 (56.56%) for childbirth at early age, 108 (54.55%) for prolonged use of oral combined contraceptive oral pill (OCP), 105 (53.03%) for multi-parity, 97 (48.99%) for family history and 46 (23.23%) mentioned about cigarette smoking as risk factors for cancer cervix.

Out of 199 respondents, 197 (98.99%) knew about the symptoms of cervical cancer. Of

197, as many as 157 (79.70%) mentioned about foul-smelled vaginal discharge as symptom of cervical cancer, while 151 (76.65%) mentioned about lower abdominal pain, 150 (76.14%) for irregular vaginal bleeding, 112 (56.85%) for post-menopausal bleeding, 107 (54.31%) for post-coital bleeding as symptoms for cervical cancer. Out of 199 respondents, 3 (1.51%) could mention nothing about diagnosis of cervical cancer before manifestation. Of 196 respondents, 140 (71.43%) thought diagnosis of cervical cancer was possible before sign and symptoms, while 56 (28.57%) did not think so.

Out of 199 respondents, 195 (97.99%) were able to mention about screening test for cervical cancer. Of 195, only 83 (42.56%) had knowledge about screening test for cervical cancer, while 112 (57.44%) did not have knowledge. However, of 83, only 40 (48.19%) correctly stated the name of the screening test for cancer cervix, while only 23 (27.71%) could mention the time for screening. Out of 199 respondents, 187 (93.97%) heard about prevention of cervical cancer. Of 187, as many as 178 (95.19%) thought that cervical cancer is preventable, while 9 (4.81%) opined that it was not preventable. Out of 199 respondents, 137 (68.84%) heard about vaccination against cervical cancer. However, only 30 (21.90%) could correctly mention the name of the vaccine. Of 137 respondents, 82 (59.85%) mentioned that before sexual exposure is the appropriate time for vaccination, while 35 (25.55%) mentioned that it was after sexual exposure, 16 (11.68%) for middle age and 4 (2.92%) mentioned the old age as the time for vaccination against cancer cervix. Of 137, only 67 (48.91%) respondents could accurately mention the number of dose of the vaccine. Out of 199, only 66 (33.17%) respondents knew that cancer cervix could be prevented by vaccinating the males. Out of 199 respondents, 164 (82.41%) knew the possibility of cure of cancer cervix, if diagnosed early. Of 164, as many as 97 (59.14%) opined for both surgery, radiotherapy and chemotherapy, while 29 (17.68%) voted for chemotherapy, 37 (22.56%) nodded for surgery and 13 (7.92%) for radiotherapy only. Out of 199, the highest 84 (42.21%) respondents mentioned newspaper, 50 (25.13%) mentioned teacher, 33 (16.58%) mentioned internet, 27 (13.57%) referred textbook, 22 (11.06%) mentioned seniors, and 8 (4.02%) respondents mentioned television as source of knowledge on cervical cancer.

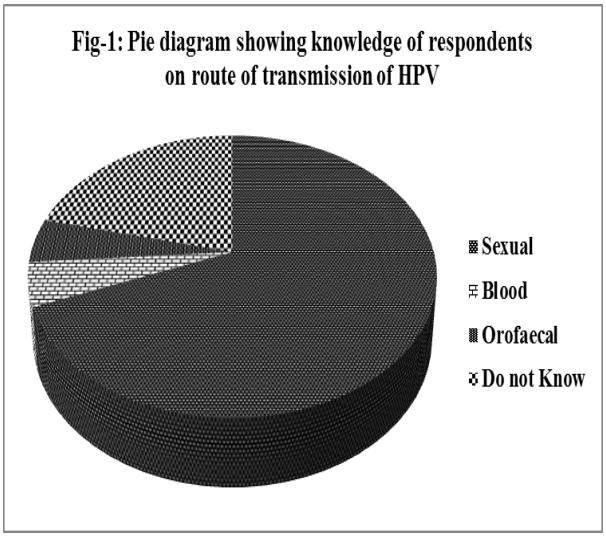
Table I**:** Distribution of respondents by age

Age in Years	Frequency	Percentage
15-19	125	61.27
20-24	79	38.73
Total	204	100.00

Mean, $\bar{x}$ =18.94 Years; Standard Deviation, SD= 3.31 Years

Table II**:** Respondents by acquaintance about cervical cancer

Acquaintance Status	Frequency	Percentage
Yes	199	97.55
No	5	2.45
Total	204	100.00



Discussion

A descriptive, cross-sectional study was conducted to assess the knowledge about cervical cancer among 204 undergraduate students of Mymensingh Medical College. Mean age of the respondents was 18.94 with a standard deviation of 2.44 years which is more or less similar to findings of the study conducted by Wen Y in China.[3] Majority 107 (52.45%) of the respondents were females. Out of 204, highest majority 199 (97.55%) of respondents heard about cancer cervix. Of 199, highest number 104 (52.26%) of respondents ranked it as moderately common cancer of human being.. Of 199 respondents, 151 (75.88%) were aware about the infectious agents of cervical cancer. However, only 80 (40.20%) respondents were able to mention the name of the organism correctly. Of 199, as many as 137 (68.84%) respondents mentioned sexual contact for transmission of HPV. This is in line with the findings of the study conducted by Funmilayo F et al., 2015 among medical students in Nigeria in which 71.80% respondents knew that HPV transmitted through sexual route.[7] Of 137, at least 122 (89.05%) respondents mentioned that after sexual exposure is the time for screening. In a study carried by Wen Y et al. among medical students in China revealed that 48.8 percent study participants knew the prevention of cervical cancer through HPV vaccination.[3] This is inconsistent with the study findings that might be due to purposive type of sampling followed for the study. Of 199 who heard about cervical cancer, only 30 (15.08%) respondents mentioned the name of HPV vaccine for prevention of cervical cancer, while 62 (31.16%) did not know the schedule vaccination against cancer cervix. Out of 199, only 66 (33.17%) respondents knew that cancer cervix could be prevented by vaccinating the males. As many as 164 (82.41%) of respondents knew about the possibility of cure of cervical cancer if diagnosed early. Knowledge about prevention, screening and treatment option for cervical cancer was very poor. This is substantiated by the findings of the study conducted by Perrin K et al., 2013 that about 33 percent had knowledge on HPV, about 50 percent had knowledge on pap smear test and nearly 22 percent had knowledge on diagnosis of cervical cancer.[8]

Conclusion

It can be concluded that the knowledge about cervical cancer, causative agents for the cancer, its mode of transmission, vaccination against the disease with its schedule, screening activities for the diseases among the undergraduate medical students is far from satisfactory. As cancer cervix is the commonest cancer among Bangladeshi females, would-be physicians must be equipped with adequate knowledge and skill for better management of the condition.

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