



Awareness of Cervical Cancer and Its Prevention: A Survey at Eastern University, Sri Lanka

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Received date: 12 March 2020; **Accepted date:** 25 April 2020; **Published date:** 12 May 2020

Citation: Fasry AA, Dissanayake DM, Wanasinghe DC, Jenitha J, Damayanthi RP, Karunakaran KE. Awareness of Cervical Cancer and Its Prevention: A Survey at Eastern University, Sri Lanka. *J Health Care and Research*. 2020 May 12;1(2):55-64.

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Abstract

Background: Carcinoma of cervix is a preventable illness. Early sexual debut has a strong association. Sexually transmittable Human Papillomavirus (HPV) is the major causative agent. Cervical screening and vaccines hold a major role in its prevention or early detection. This study aims to assess the knowledge on the aspects of carcinoma of cervix among the students of Eastern University, Sri Lanka, to evaluate the risks of contracting the disease.

Methods: A self-administered pretested questionnaire has been used. Data was analyzed using the statistical package of social science (SPSS v.18).

Results: A total of 650 students were included. 59.4% reported of 'heard about cervical cancer'; among male cohort 64.3% and female 56.6%. 55.7% of students had very poor or poor knowledge on the warning features. About 48% (n=314) of the students were not aware of the cervical screening program conducted in the health-care system. Five hundred and twenty-one students (80.2%) reported that they have never had sexual intercourse, thus having a low risk of contracting HPV while 25.2% of male (n=60) and 6.8% of female (n=28) students had high or moderate risk with the statistically significant association (Chi-sq=42.293, p=0.000) between gender and the risk of contracting HPV. About the HPV Vaccine, 17.7% of the students (n=115) had adequate knowledge. Students of the Faculty of Arts & Culture contributed the poorest score in all aspects while students of the Faculty of Health Care Sciences had been much aware of.

Conclusions: The study revealed the poor status of the undergraduate students of the aspects of cervical cancer and also created awareness among the participants to know more with the necessity to develop online learning modules.

Keywords

Cervical Cancer, Awareness, University Undergraduates, HPV Vaccination, Screening

Introduction

Carcinoma of uterine cervix ranks second among all cancers reported in Sri Lanka [1-3]. Health information statistics released by Sri Lankan Ministry of Health points that in the year 2018 an estimated 1136 cases were detected and 643 deaths occurred due to this cancer [4]. Investigation and treatment for cervical cancer have been more costly with poor outcomes than detection and treatment in a pre-cancerous state.

Carcinoma of cervix is regarded as a sexually transmittable disease as the sexually transmittable Human Papilloma Virus [HPV] is the predominant causative factor. The association between HPV types 16 and 18 and carcinoma of cervix is well proven [3]. An estimated 50 - 80% of sexually active women are infected with HPV at least once in their lifetime [5-7]. The prevalence of HPV is very high among young sexually active women [6].

Health systems worldwide concentrate on primary healthcare strategies for improving the health of individual persons and populations [8]. The purpose of such action has focused on Prevention or early detection of the illness. In this line, cervical cancer screening has been in practice world over for several decades. It has different components such as visual inspection and Pap smear or cervical cytology. Similarly with HPV/DNA testing has been in practice in the detection of the involvement of HPV. Studies have concluded that 'The use of the Pap test and HPV test, according to published guidelines, provides the most effective means of screening for cervical cancer' [9].

In Sri Lanka, Pap smear is in practice for the last thirty years [10]. This test is carried out through the "Well Women Clinics" based at the 'Medical Officer of Health' setting. Females of 35 years of age and beyond attend these clinics which conduct screening for Non Communicable diseases.

Students entering higher educational institutions generally underestimate their risk of getting longstanding illnesses despite their success in secondary education. In a study conducted among

undergraduate students from South Asian Countries such as India, Nepal and Sri Lanka indicated about the awareness of cervical cancer and certain risk factors had been found to be the maximum of 65.9% and the lowest of 20.8% [11]. Another study conducted in a Sri Lankan state university undergraduates reported limited knowledge on the Pap smear test [12]. Further, these students are at an increased risk of contracting sexually transmittable diseases [STD] as the study done by Samarawickrama et al. demonstrated the peak incidence of STD including HPV occurred in the age range between 20 years to 29 years [13]. These studies indicate a poor knowledge and understanding of Sri Lankan undergraduate have about cancer of cervix and its preventive measures adopted in the country. This population is also at risk of contracting HPV via sexual behavior.

This study has thus been aimed at Eastern University, Sri Lanka among the students of all faculties to assess the knowledge of cancer of cervix, in order to evaluate the risks of the students contracting the disease.

Materials and Methods

This study was conducted among the students of Eastern University, Sri Lanka (EUSL). Ethical clearance was obtained from the Ethical Review Committee of Faculty of Health Care Sciences, EUSL. A total number of 650 students were included with their written consent. This population comprised about 18% of the total student population and the study was conducted in the 2015/16 period. A self-administered questionnaire was used to collect the necessary information and validated via a pilot study involving thirty-three participants. The statistical package of social science (SPSS v.18) was used to analyze the data.

Results

This study included 650 undergraduate students with both females [63.4%] and males included. The majority [74.6%] were in the 20 - 25 years age group. Faculty wise major portion of the students were from the Faculty of Arts & Culture [33.4%] since the faculty has the highest number of student

Table-1: General Demographic Data of the study population		
Variable	Number	Percentage
Age group [years]		
20 -25	485	74.6
26 - 30	165	25.4
Gender		
Female	412	63.8
Male	238	36.2
Faculty		
Arts & Culture (FAC)	217	33.4
Science (FSc)	158	24.3
Commerce & Management (FCM)	138	21.2
Health-Care Sciences (FHCS)	78	12
Agriculture (FAG)	59	9.1
Academic Year		
First Year	156	24
Second Year	161	25.8
Third Year	203	31.2
Forth Year	120	18.5
Fifth Year	10	1.5

enrolment. Details of demographic data are given in (Table-1).

Data was analyzed on the following:

Information on ‘Heard of Cervical cancer’:

Among the study population, 386 (59.4%) reported

that they have ‘heard of the presence of cervical cancer’. This number comprised 153 male students (39.6%) and comprised 64.3% among the male's subgroup. The female subgroup heard of cervical cancer comprised 56.6% (Table-2). Faculty wise breakdown is given in (Fig-1). Over 70 percent of the students from the Faculty of Arts & Culture (FAC)

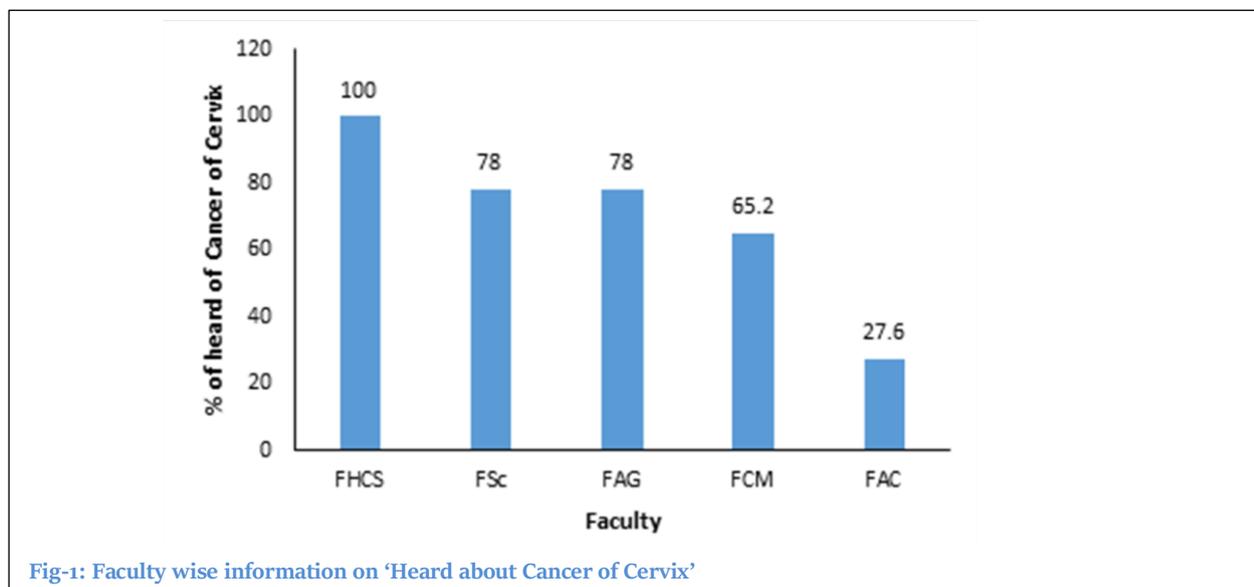


Fig-1: Faculty wise information on ‘Heard about Cancer of Cervix’

Gender	Total	Heard	%
Male	238	153	64.3
Female	412	233	56.6

who comprised the highest cohort in the study reported that they have not heard about cervical cancer.

Warning Features:

This section of the questionnaire contained 10 statements including Inter-menstrual bleeding, post-coital bleeding, persisting discharge per vaginam,

pelvic pain, haematuria, weight loss, assessing the knowledge on warning features with a total score of 50. Majority of the students had very poor or poor knowledge about the warning features (n=362[55.7%]) (Table-3). Faculty wise breakdown is given in (Fig-2). Students of FAC comprised about 50% (182) followed by FSc (98).

Response [total score 50]	Number	%
Very Good [41 -50]	45	6.9
Good [31 -40]	94	14.5
Satisfactory [21 - 30]	149	22.9
Poor [11 - 20]	338	52
Very poor [0 - 10]	24	3.7

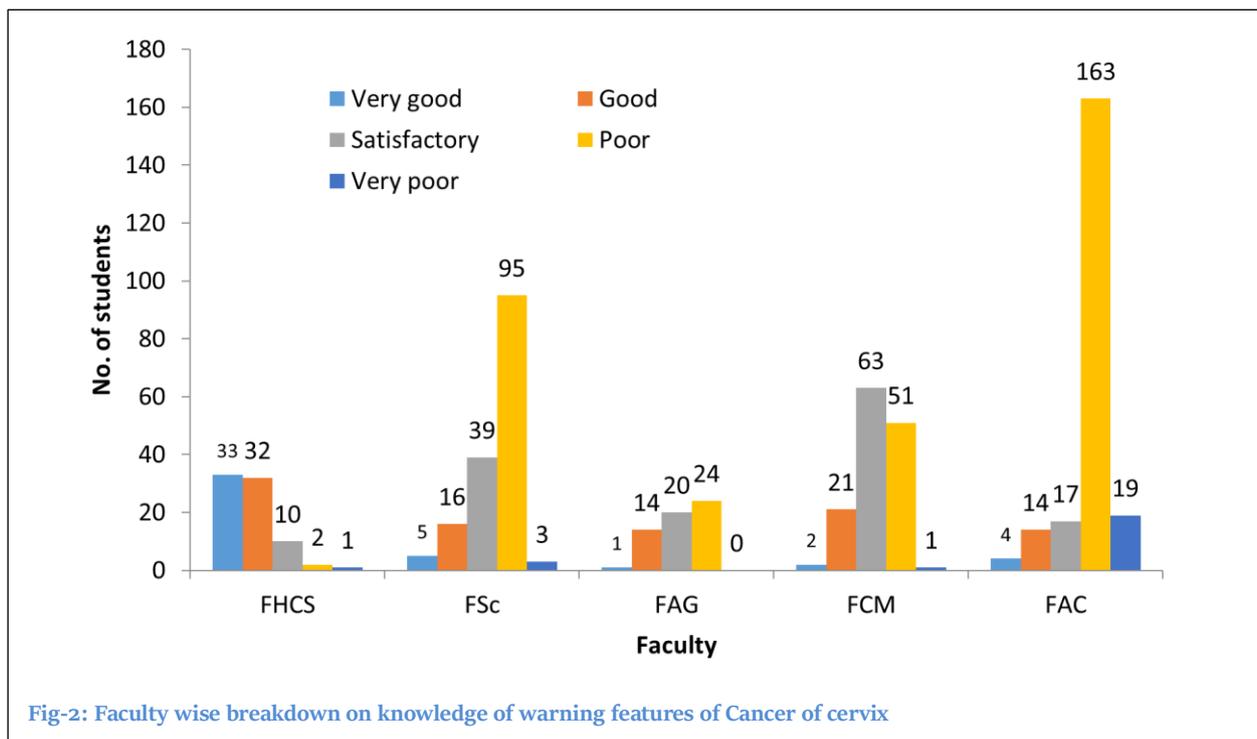


Fig-2: Faculty wise breakdown on knowledge of warning features of Cancer of cervix

Knowledge on Screening:

About 48% (n=314) of the students [poor & very poor] was not aware of the cervical screening program conducted in the health-care system (Table-4). Scoring was made testing on the knowledge about the screening methods such as Pap smear, clinic locations, timing of first screening. Just over 20 % (n=137) of the participants had adequate knowledge. Students of FHCS comprised the majority of this cohort (n=71). Faculty wise breakdown (Fig-3) showed the highest number of poor knowledge among the FAC cohort [150 out of 217].

Risk of contracting HPV:

Five hundred and twenty-one students (80.2%) reported that they have never had sexual intercourse.

They were considered as having a low risk of contracting HPV. Scoring was made on the information of age of sexual debut, number, and nature of sexual partners [hetero sexual, homosexual, bi sexual]. (Table-5) shows the findings on the risks of contracting HPV. Gender wise 87.8% of female (n=362) had low risk while 25.2% of male (n=60) and 6.8% of female (n=28) students had high or moderate risk of getting HPV (Fig-4). The association between gender and the risk of contracting HPV is statistically significant (Chi-sq=42.293, p=0.000). (Table-6) shows the faculty wise figures of the risk of contracting HPV. The FAC had the highest percentage of students engaging in sexual activities followed by FSc.

Table-4: General finding on knowledge on screening program

Response [Total Score 40]	Number	%
Very good [33 - 40]	47	7.2
Good [25 - 32]	87	13.4
Satisfactory [17 -24]	202	31.1
Poor [9 - 16]	297	45.7
Very Poor [0 - 8]	17	2.6

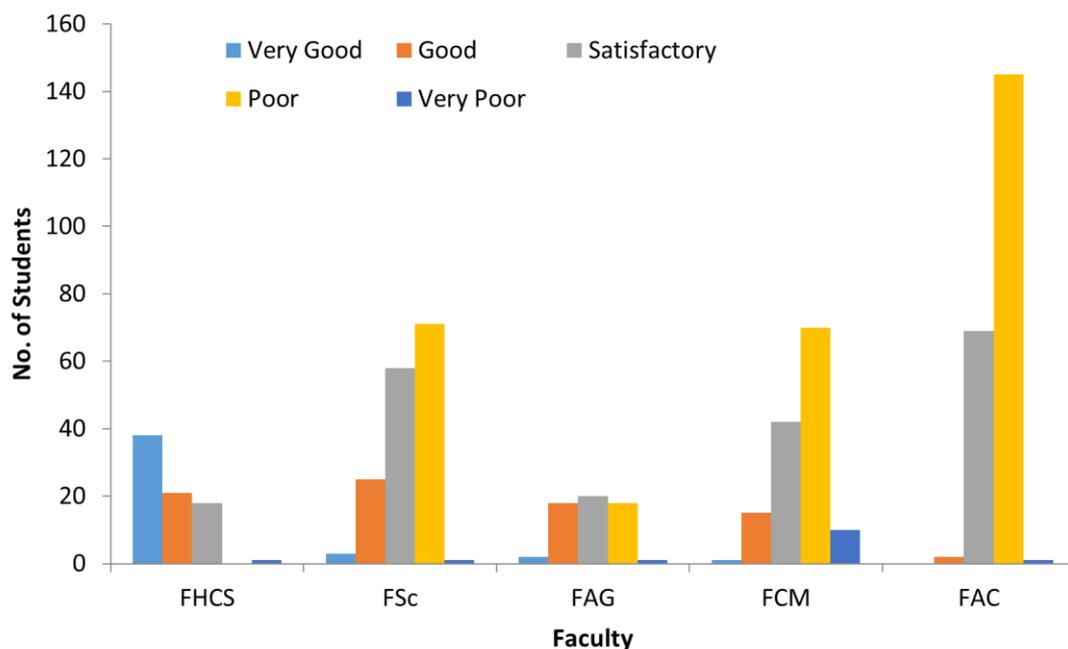


Fig-3: Faculty wise breakdown on the knowledge of screening program

Table-5: General findings on the risk of contracting HPV

Response [Total score 15]	Number	%
Low risk [0]	521	80.2
Mild risk [1 -7]	39	6
Moderate risk [8 - 11]	51	7.8
High risk [12 - 15]	39	6

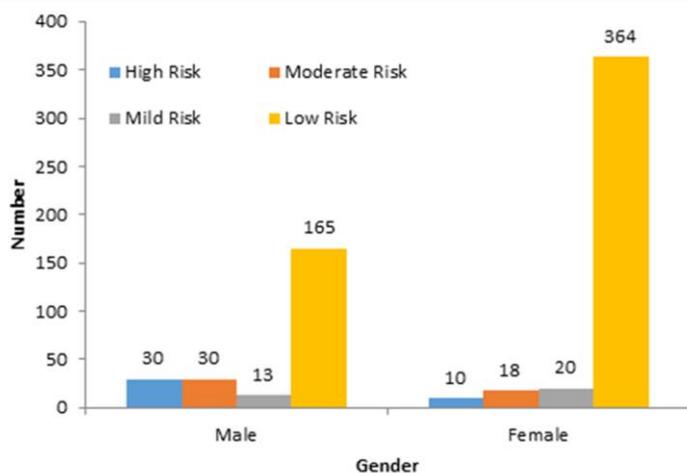


Fig-4: Gender wise risk of contracting HPV

Table-6: Faculty wise breakdown of the risk of Contracting HPV

Response	FHCS	FSc	FAG	FCM	FAC
Low Risk	67 (85.9%)	123 (77.8%)	51 (86.4%)	117 (84.8%)	163 (75.1%)
Mild Risk	0	07 (4.4%)	03 (5.1%)	0	29 (13.4%)
Moderate Risk	09 (11.5%)	17 (10.8%)	02 (3.4%)	08 (5.8)	15 (6.9%)
High Risk	02 (2.6%)	11 (7.0%)	03 (5.1%)	13 (9.4%)	10 (4.6%)

Knowledge on Vaccine:

Scoring was made upon the information on the availability of a vaccine against HPV [yes - 2; No/don't know - 0] and also the timing of the vaccination. 17.7% of the students (n=115) had adequate knowledge (Table-7). Students of FHCS comprised the majority (n=62). Faculty wise breakdown is given in (Fig-5). Over 93% of students from FAC had very poor knowledge about the vaccine. Gender wise, 20.1% (n=48) of males and 17% of females (n=70) had adequate knowledge on the vaccine.

Discussion

Carcinoma of cervix is still a major health concern despite the availability of facilities and expertise in detecting the disease in its precancerous stage or the early stage. The main causative agent the HPV is well-known, associating with sexual transmission and the fact that vaccine is also available do not appear to have a major impact in the preventing the disease or detecting early.

It was reported that 'Sri Lanka has a large sexually active and potentially susceptible population aged

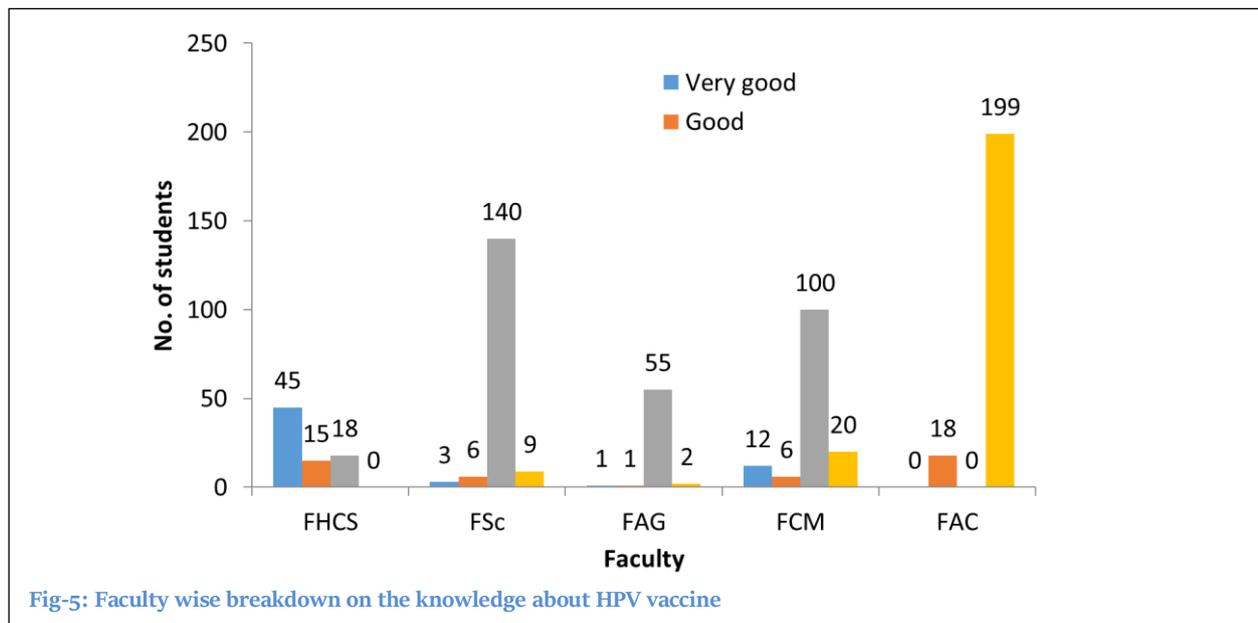


Fig-5: Faculty wise breakdown on the knowledge about HPV vaccine

Response [Total score 6]	Number	%
Very good [6]	68	10.5
Average [4]	47	7.2
Poor [2 - 3]	290	44.6
Very poor [0]	245	37.7

between 15 and 49 years' [13]. According to a National Youth survey conducted in the 2012/2013 period among a cohort of youth, about 30% reported to have engaged in some sexual activity [14]. Adolescent fertility rate is reported to be 30 live births per 1000 women and in 2017 nearly 17000 teenage pregnancies (4.6%) were reported in Sri Lanka [14].

Our study was done among the students of Eastern University, Sri Lanka analyses on the knowledge upon the common factors connected to cervical cancer. Almost 60% of the students have heard about cervical cancer affecting the females. About 44.3% of the students had very poor or poor knowledge on the warning features of cancer. Similarly, about 48% were not aware of the practice of cervical screening available in the Sri Lankan health system. One-fifth of the students are at the risk of contracting HPV due to the sexual activity and less than one fifth (17.7%) had adequate knowledge on HPV Vaccine. The student

cohort in the Faculty of Arts & Culture showed the highest number and percentage of poor knowledge on the above analysis and also the risk of contracting the HPV. Gender wise, male cohort showed a statistically better knowledge that they heard about cancer of cervix and about the availability of the HPV vaccine but had a higher risk of contracting PHV due to the sexual activity.

Studies were done in Sri Lanka and other countries among university and college students reveal the increasing tendency of the youth engaging in sexual activities at their early teens. A study carried out on sexual behavior of 3134 higher secondary school students aged 18-20 years in six geographically representative districts of Sri Lanka revealed that half of the men and approximately a third of the women were sexually active at the time, with only 26.5% of men and less than 10% of women reporting using condoms during intercourse [13]. Thus, Sri Lankan

younger population is at significant risk of developing Carcinoma of cervix, as far as our study reveals, like in many parts of the world [15-18].

Thus it becomes imperative as the studies reveal, to improve the awareness among the young population about the risk of getting preventable cancer. Young people engaging in sexual activities show increasing tendency and thereby run the risk of contracting HPV which does not only cause cancer of cervix but also of anus, mouth, throat, etc. Further, awareness on other aspects of prevention and early detection such as screening which is readily available needs to be propagated among the young population especially the university students.

It is understood as our study revealed that students engaging in Health care studies have much better knowledge in different aspects of cervical cancer. The students from other study programs especially arts and cultural studies had very poor knowledge on many aspects. In a study done in India among the Medical, Nursing, Engineering and other general graduate students showed that the knowledge on different aspects of cervical cancer including awareness, screening, risk factors and vaccination, the Engineering and general graduate students' scores were very low compared to the Medical and Nursing students. Further, the authors found that even 'amongst medical and nursing students to this knowledge was lacking' [19]. Further, the students in the arts stream have a higher risk of getting HPV as about 25% of the cohort reported engaging in sexual activities (FSc 22%, FCM 15%, FSG 14.6%, FHCS 14% - Table-6).

Universities also have extra-curricular programs to develop the students into competent graduates and professionals. These programs make the students develop a better understanding of various aspects affecting their lives. Similarly Eastern University, Sri Lanka conducts programs in soft skills development, career development, counseling activities among the extracurricular activities. This is evident even in this study as the students advance through their studies show improved knowledge in cervical cancer awareness, screening, and also about the vaccine. This

can be noted from the following statements made by students participating in the study.

One student in the final year at the FAC spoke this; *'When I entered into the university, knowledge, and awareness on diseases such as cancer were limited. Due to the activities in the university and the access to the internet, I get more knowledge'*.

One student from the Faculty of Science remarked *"I am interested in reading only a few sections in the newspaper and seldom health articles. This activity pushes me to read them more"*.

In the general population too there is laxity in the aspects of taking preventive measures from contracting cervical cancer. In a study done among the females attending two Sri Lankan hospitals outpatient clinics to assess the awareness on cervical cancer and screening concluded that 'the knowledge about cervical cancer screening and prevention has lower even among educated women in the sample cohort. This urges the need to raise the cervical cancer awareness among women at screening age and encourage them for active participation in the screening programs' [20]. In this regard one male student participated in this study had this say;

"After you spoke about the study, I spoke to my eldest sister who is 40 years of age with two children. She said the Public Health midwife of the area called her to the screening test done, but she did not show interest and didn't go to the clinic".

Prevention of cervical cancer or its early detection continues to be a major challenge. It has been reported that 'Knowledge and awareness of cervical cancer and HPV are consistently low across developing countries and such lack of knowledge provides a challenge to the implementation of cervical cancer programs' and the new mass HPV vaccination drive [21]. Its awareness and taking safety measures among the students who obtain higher education continue to be a major issue that apart from the students in Health care studies, those in other study streams especially Arts and Culture report poor status as reveals in this study. A similar situation is also

noted in the studies done in Bhutan and India [19,22].

Thus it becomes essential that the message should go across the population including the youth with regard to the screening, activities leading to the risk of contracting HPV, and also the HPV vaccination. In this regard, our study made this observation that *'the students are of the general opinion that social media are good tools to propagate these types of information'*.

Conclusion

Our study revealed the poor status of the university undergraduate students of Eastern University, Sri Lanka with regard to the knowledge upon various aspects of cervical cancer which is a preventable illness. This study also creates awareness among the participants of the necessity to know more about this type of illness which has a serious ill effect. These data may be of use to develop effective awareness programs or online modules to effectively reach the student population.

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