

Awareness Regarding Human Papilloma Virus Vaccination among Medical Undergraduates: A Study from Coastal South India

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ABSTRACT

Introduction: Cervical cancer is one of the commonly occurring cancers among women. More than ninety percent of mortality related cervical cancer are reported from middle and low-income countries.

Objectives: To assess the knowledge regarding cervical cancer and HPV vaccination among medical undergraduates in Mangalore.

Materials and Method: This cross sectional study was conducted among medical undergraduates studying at Kasturba Medical College, Mangalore. A pre tested semi structured questionnaire was used for collection of the data. Approval from Institutional Ethics Committee of Kasturba Medical College, Mangalore was obtained before commencement of the study. Data was entered and analysed using SPSS ver. 11.5.

Results: The study involved 154 (40.3%) males and 228 (59.7%) female students. It was found that that aetiology for cervical cancer was known among 347 (90.8%) and 326 (85.3%) knew about correct mode of transmission. Awareness regarding ideal age for HPV vaccination was observed in 45.5% (n=174) of the participants.

Conclusion: The present study showed that awareness regarding cervical cancer was good, but the knowledge regarding HPV vaccination was sub optimal among medical undergraduates

Keywords: Human Papilloma Virus, Medical Undergraduates, Mangalore

Introduction

Cervical cancer is one of the most common cancers among females. Around five lakh cases were reported in the year 2018 and constitutes just more than five percent of female cancers globally. More than ninety percent of mortality related cervical cancer are reported from middle and low income countries. ^[1] Around 1.3 lakh newly diagnosed cervical cancer cases and

around 75,000 mortalities are reported from India every year which constitutes around 33% of cervical cancer death globally. Human Papilloma Virus 16 and 18 are responsible for more than two third of cervical cancer cases. These are also the most reported genotypes responsible for cervical cancer cases in India. ^[2]

The chances of detection of abnormal smear while performing PAP smear screening is 35%, but if screening is not performed on a routine basis such women can have 4% life time risk of having cervical cancer. ^[3] As mass scale regular screening is tough to achieve in developing nations like India, vaccination can be considered as the best strategy for prevention of cervical cancer. ^[2]

Currently two recombinant DNA vaccines i.e. Gardasil™ and Cervarix™ are available in the market. Gardasil™ provides protection against genital warts and cervical cancer, whereas Cervarix™ provides protection

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for cervical cancer only. [4] Three doses of HPV vaccination is recommended for females aged 11-12 years as per the recommendation of Advisory Committee on Immunization Practices. The vaccination can begin as early as 9 years to 13 to 26 years. [5] In India mass vaccination against HPV is not feasible due to its high cost. [2]

As medical undergraduates are considered to be future doctors of the society, their knowledge regarding Cervical cancer screening and vaccination is vital in guiding patients regarding HPV vaccination, considering the huge burden of cervical cancer in India. Hence, the present study was conducted to assess the knowledge regarding cervical cancer and HPV vaccination among medical undergraduates in Mangalore.

Materials and Method

This descriptive cross sectional study was done among medical undergraduates studying at Kasturba

Medical College, Mangalore. A sample size of 400 was calculated considering a power of 80%, precision (relative) of 10% & confidence level of 95% based on the study where the awareness regarding appropriate age for HPV vaccination was 49%. [6]. Convenience sampling was used for selection of study subjects. The study was done over a period of 4 months and a pre tested semi structured questionnaire was used for collection of the data. The questionnaire consisted of questions related to knowledge about cervical cancer, HPV vaccination and cervical cancer screening. Participants who refused to give the written informed consent were excluded from the study. Approval for ethical consideration was received from Ethics Committee of Kasturba Medical College, Mangalore. Necessary approval was also obtained from the head of the institution to distribute the questionnaire to medical undergraduates. Data was entered and analysed using SPSS ver. 11.5 and presented in the form of proportions.

Findings

Table 1: Distribution of study participants based on awareness regarding Cervical Cancer (n = 382)

Statement	Correct Response	Number	Percentage
Cervical cancer is preventable	Yes	302	79.0
Cervical cancer aetiology	Virus	347	90.8
Mode of Transmission	Sexual contact	326	85.3
Correct screening technique for cervical cancer	Pap smear	287	75.1

The study involved 154 (40.3%) males and 228 (59.7%) female students. Table 1 depicts the awareness regarding cervical cancer among medical undergraduates. It was found that that aetiology for cervical cancer was known among 347 (90.8%) and 326 (85.3%) knew about correct mode of transmission.

Table 2: Distribution of study participants based on awareness regarding HPV vaccine (n = 382)

Statement	Correct response	Number	Percentage
Cervical cancer vaccine is available	Yes	347	90.8
Ideal group for vaccination	9-13 years	174	45.5
HPV vaccine can be given to boys	Yes	164	42.9
HPV vaccine is most effective	Before the onset of sexual activity	145	38.0
Number of doses of vaccine to be given	Two	224	58.6

Awareness regarding ideal age for HPV vaccination was observed in 45.5% (n=174) of the participants and 42.9% (n=164) of the students knew that HPV vaccine can be given to boys as shown in table 2.

On analysing the reasons for not receiving the vaccine, 38% (n=146) of the medical students were under the opine that cost of the vaccine is the main hindrance followed by lack of awareness towards HPV vaccine (n=132, 34.5%). Around 80.1% (n=306) felt that HPV vaccine must be added to national immunization schedule.

Discussion

The burden of cervical cancer is very high in India and it is one of the top cause of mortality in women. The present study has been done to assess the knowledge regarding cervical cancer and HPV vaccine among future doctors.

In contrast to our study findings where 91% of them knew that virus was the aetiology for cervical cancer, in a study conducted at Thirupathi ^[7] all the participants of the study were aware of the aetiology. Whereas a study done at Manipal ^[8] and Mangalore ^[9] has shown findings similar to our study. A findings similar to our study was observed in a study conducted at Manipal and Mangalore ^[8,9] where more than three fourth of the students were aware that cervical cancer is preventable. However 95% of the students from Thirupathi ^[7] were aware of the same. In contrast to study done among medical undergraduates at Thirupathi ^[7] and Kerala ^[10] where more than three fourth of the study participants were aware that cervical cancer is transmitted through sexual route, a study done among female in general population at Delhi ^[11] it was observed to be only one third. Less than half of participants in our study were aware that HPV vaccine can be administered to males similar to studies done at Southern part of India. ^[7,9] However awareness was very low regarding this in a study conducted at Mehtha et al ^[6] and Deeksha Pandey et al ^[8].

On analysing the results for correct age for HPV vaccination, a finding similar to our study was observed in a study done by Mehtha et al ^[6], whereas it was more than three fourth in a study done at Mangalore. ^[9] It is evident from our study that nearly two third of the medical undergraduates were aware that two doses of HPV vaccines to be given, whereas it was only 29% for two doses and 60.6% for three doses in a study conducted at Thirupathi ^[7]. However in a study done at coastal part of South India three fourth of the participants knew that three doses of HPV vaccine is required ^[9]. High cost was cited as a major hindrance for HPV vaccination in the present study, in congruence to a study done at Andhra Pradesh ^[7]. However social stigma was cited as a major hindrance for HPV vaccination by general female population of Delhi. ^[11]

Conclusion

The present study showed that awareness regarding cervical cancer was good, but the knowledge regarding

HPV vaccination was sub optimal among medical undergraduates. It emphasis the need to incorporate these aspects in their medical undergraduate curriculum.

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Conflict of Interest: None to declare

Ethical Clearance: Taken from Institutional Ethics Committee of KMC, Mangalore

REFERENCES

1. World Health Organization. Health Topics cervical cancer.[cited 01 April 2019]<https://www.who.int/cancer/prevention/diagnosis-screening/cervical-cancer/en/>[1]
2. Kaarthigeyan K. Cervical cancer in India and HPV vaccination. *Indian J MedPaediatr Oncol.* 2012 Jan;33(1):7-12
3. Bosch FX, de Sanjosé SS. Human papillomavirus and cervical cancer - burden and assessment of causality. *J Natl Cancer Inst Monogr.* 2003;31:3–13
4. Singhal T. Indian Academy of Pediatrics Committee on Immunisation (IAPCOI) - Consensus Recommendations on Immunization 2008. *Indian Pediatr.* 2008;45:635–48
5. Markowitz LE, Dunne EF, Saraiya M, Lawson HW, Chesson H, Unger ER; Centers for Disease Control and Prevention (CDC); Advisory Committee on Immunization Practices (ACIP). Quadrivalent Human Papillomavirus Vaccine: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Recomm Rep.* 2007 Mar 23;56(RR-2):1-24
6. Mehta S, Rajaram S, Goel G, Goel N. Awareness about Human Papilloma Virus and its vaccine among medical students. *Indian J Community Med* 2013;38:92-4
7. Challa N, Madras V, Challa S. Awareness and attitude regarding human papilloma virus and its vaccine among medical students in a medical school in India. *Int J Res Med Sci* 2014;2:1607-11.
8. Pandey D, Vanya V, Bhagat S, VS B, Shetty J. Awareness and Attitude towards Human Papillomavirus (HPV) Vaccine among Medical Students in a Premier Medical School in India. *PLoS ONE* 2012; 7(7): e40619

9. Radhika M, Sadiqunissa, Ahmed M. Awareness and knowledge of human papilloma virus (HPV) vaccine in prevention of cervical cancer among medical students. *Int J Reprod Contracept Obstet Gynecol* 2018;7:5026-30.
10. Niveditha Das E, Francis PT. HPV vaccine knowledge and coverage among female students in a medical college, Kerala. *Int J Community Med Public Health* 2018;5:5133-8.
11. Singh J, Roy B, Yadav A, Siddiqui S, Setia A, Ramesh R, et al. Cervical cancer awareness and HPV vaccine acceptability among females in Delhi: A cross-sectional study. *Indian J Cancer* 2018;55:233-7.