VOLUME - 11, ISSUE - 01, JANUARY - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Public Health

HPV INFECTION: DOES EDUCATION PACKAGE IMPROVE THE PERCEPTION AND ATTITUDE TOWARDS HPV VACCINE AMONG SCHOOLTEACHERS?

Ms. B. Subhavaishnavi*	Post graduate student., The Tamil Nadu Dr. MGR medical university, Chennai. *Corresponding Author
Dr. G Srinivas	Head of department of Epidemiology, The Tamil Nadu Dr. MGR medical university, Chennai.
Dr Valarmathi S	Research Officer- The Tamil Nadu Dr MGR Medical University
Dr Parameswari Srijayanth	Professor -The Tamil Nadu Dr MGR Medical University
Dr Jasmine Sundar	Associate Professor- The Tamil Nadu Dr MGR Medical University

ABSTRACT

INTRODUCTION: Human papillomavirus (HPV) is a non-enveloped virus that causes infections like 'warts' in the genital region & throat which later develops into cancer in the cervix, vulva, vagina, penis/anus and Oropharyngeal cancer. Virus infections contribute as a cause of 15-20% of all human cancers. As per WHO vaccination schedule, it is essential to vaccinate secondary school students between the age group of 11-18 years/above with 2 doses. Aim of the study is to evaluate the effectiveness of educational package on HPV infection and Vaccine with regard to Pre and Post assessment among schoolteachers and to determine the level of awareness on Human Papilloma virus infection and to assess the attitude towards administering the HPV vaccine among School teachers. **METHODS:** A cross sectional study was carried out among 177 schoolteachers in Chennai district. The setting was chosen based on feasibility and availability of adequate samples (C0VID restrictions). The target population for the present study was schoolteachers, Chennai. Systematic random sampling technique was used for selecting the samples. A self-administered questionnaire was administered to assess the level of awareness among schoolteachers. Questions formulated under various domains. The data collection was done over a period of 6 months duration. **RESULTS:** 20.4% of teachers had fair attitude with less awareness towards HPV vaccination, 4.1% of teachers had good attitude with less awareness towards HPV vaccination.79.6% of teachers had fair attitude with good awareness score regarding HPV infection, 95.9% of teachers had good attitude with good awareness regarding the HPV infection. Statistical analysis using Chi-square test represents the post attitude and post awareness score were good and hence the education package was effective. The study shows the significant difference between pre and post knowledge scores.

KEYWORDS : HPV, Education package, Vaccine, schoolteachers.

INTRODUCTION:

The human papillomavirus (HPV) is the cause of nearly all cervical cancer and anal, vulvar, vaginal, penile, and oropharyngeal cancers, accounting for around 5% of the global cancer burden.

Several studies reveal that persistent HPV infection is the leading cause of cancer in the cervix, vulva, vagina, and penis/anus. The HPV vaccine protects against sexually transmitted diseases. According to numerous studies, a lack of information and awareness about HPV infection and vaccination is the primary cause of HPV infection and cervical cancer on a complex level. According to WHO guidelines and vaccination schedules, secondary school students between the ages of 11 and 18 must receive two doses of the vaccine. So, it is vital to educate or raise awareness about HPV infection among students. The goal of this project is to increase knowledge and awareness about HPV infection and vaccine among Chennai schoolteachers(Pitisuttithum et al., 2015; Ramathuba & Ngambi, 2018).

There are currently three commercially available HPV vaccines: bivalent (targeting high-risk types HPV16 and 18), quadrivalent (targeting HPV16, 18, and low-risk types 6 and 11), and monovalent (targeting HPV6/11/16/18 and a further 5 high-risk types), all of which have demonstrated excellent efficacy against cervical cancer precursor lesions and, in external genital warts. The US Centers for Disease Control and Prevention (CDC) increased the recommended upper age limit for prophylactic HPV vaccination for women and men to 26 years in early 2019(Meites, 2019).

Secondary school teachers' leadership and educational roles in society will play a critical role in increasing public awareness of cervical cancer and cervical cancer vaccines. ACIP recommended catch-up HPV vaccination for all people under the age of 26 in June 2019, but it was not successful. vaccine-induced circulating antibodies are thought to reach the infection site via transudation in the female genital canal and passive exudation at infection sites. Several investigations have reported the presence of HPV antibodies at the cervix, utilizing cervicovaginal secretions (CVS) as a surrogate, and more recently in FV urine.(Siu et al., 2019).The primary objective of the study is to evaluate the effectiveness of educational package on HPV infection and Vaccine with regard to Pre and Post assessment among schoolteachers and secondary objective is to determine the level of awareness on Human Papilloma virus infection and to assess the attitude towards administering the HPV vaccine among School teachers.

METHODS:

This is a descriptive cross-sectional study which includes the study population of schoolteachers who work in the greater Chennai corporation limit. Systematic random sampling technique was used with the sample size of 177. The selection criteria of the study were any schoolteachers from public or private sector schools affiliated to State government/ Central government including male and female teachers and those who are willing to participate in this study. The sample size formula used is Sample size (n) = $4PQ/L^2$ according to an article **(TSS Jamaluddin et al.,)** in which 33% of teachers having adequate awareness. Validity of the tool was assessed using content validity. Content validity was determined by

expert from the research officers and ethical committee members. A self-administered multiple-choice questionnaire was used to assess the level of awareness and attitude on HPV infection & vaccination among schoolteachers. The permission was obtained from Chennai Greater Corporation under State Government- Tamil Nadu. Schools were selected based on their cooperation and permission to get data from the schoolteachers-number of Corporation schools and Government schools were selected. The data collection was done over a period of 6 months duration. Informed consent was obtained from schoolteachers before the participation. Self-introduction was followed by adequate explanation about the purpose of the study to ensure better cooperation. Pretest was conducted to assess the knowledge followed by the health education awareness program on HPV infection and HPV Vaccine through Audio-Visual aids, Pamphlets and Power Point presentation. The analysis of data is the categorization, ordering, manipulation, and synthesis of data, so that it can be understood and evaluated, including the relation between variable and the intelligible. MICROSOFT EXCEL and SPSS VERSION is used for descriptive and inferential statistics.

RESULTS:

The findings are based on the descriptive and inferential statistically analyzed and presented as follows:

Table 1: Assessment Of Awareness And Attitude Towards HPV Infection And Vaccination With Regard To Pre-test & Post-test.

VARIABLES		Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
1.Have you heard about Human Papillomavirus infection?	Incorrect answer	20	11.30%	20	11.30%
	Correct answer	157	88.00%	157	88.70%
2.What is the mode of transmission of HPV?	Incorrect answer	16	9.00%	16	9.00%
	Correct answer	161	91.00%	161	91.00%
3.What diseases does HPV Vaccine protect against?	Incorrect answer	23	13.00%	13	7.30%
	Correct answer	154	87.00%	164	92.70%
4.Who are the vulnerable populations for Human papillomavirus (HPV) infection?	Incorrect answer	134	75.70%	150	84.70%
	Correct answer	43	24.30%	27	15.30%
5.Which of the following persons can be infected by HPV?	Incorrect answer	55	31.10%	12	6.80%
	Correct answer	122	68.90%	165	93.20%
6.Nearly everyone infected with HPV will have symptoms:	Incorrect answer	132	74.60%	79	44.60%
	Correct answer	45	25.40%	98	55.40%
7.Infection with HPV may lead to cervical cancer?	Incorrect answer	116	65.50%	81	45.80%
	Correct answer	61	34.50%	96	54.20%
8.Cervical cancer is a leading cause of cancer deaths in women	Incorrect answer	133	75.10%	81	45.80%
	Correct answer	44	24.90%	96	54.20%
9.Have you heard about Pap smear test?	Incorrect answer	127	71.80%	34	19.20%
	Correct answer	50	28.20%	143	80.80%
10.What is a Pap Smear test used for?	Incorrect answer	130	73.40%	96	54.20%
	Correct answer	47	26.60%	81	45.80%
11.There is no need for Pap smear screening after receiving HPV vaccination	Incorrect answer	128	72.30%	103	58.20%
	Correct answer	49	27.70%	74	41.80%
12.. Would you allow your daughter or a close relative to get HPV Vaccination?	Incorrect answer	33	18.60%	36	20.30%
	Correct answer	144	81.40%	141	79.70%
13.Who do you think is eligible for HPV vaccination?	Incorrect answer	120	67.80%	42	23.70%
	Correct answer	57	32.20%	135	76.30%
14.Have you undergone any training or health education about HPV infection & HPV Vaccination?	Incorrect answer	97	54.80%	97	54.80%
	Correct answer	80	45.20%	80	45.20%
15.Do you think HPV vaccines could cause any serious illness?	Incorrect answer	139	78.50%	81	45.80%
	Correct answer	38	21.50%	96	54.20%
16.Are you aware about the updated immunization schedule by WHO/CDC?	Incorrect answer	105	59.30%	79	44.60%
	Correct answer	72	40.70%	98	55.40%

Table 2: Assessment Of Awareness & Attitude Towards HPV Infection And Vaccination- Paired T Test

Awareness	Mean	Standard deviation	Difference			t	P value
			Mean	95% Confidence Interval of the Difference			
Post-test	70.17	17.59	19.66	Lower	Upper	11.766	<0.05
Pre-test	50.51	17.23		16.36	22.96		

Attitude	Mean	Standard deviation	Difference			t	P value
			Mean	95% Confidence Interval of the Difference			
Post-test	53.67	23.38	12.24	Lower	Upper	6.080	<0.05
Pre-test	41.43	22.89		8.26	16.21		

Mcnemar's Test:

24.1% of teachers had fair Post attitude score & Good Pre-attitude score and 52.0% of teachers had Good Post attitude score & Good Pre-attitude score out of (total no.) 43.5% of teachers. Out of 177 teachers, 54 teachers had Fair attitude score and 161 teachers had good attitude score in post-test.

43.8% of teachers had fair Post awareness score & Good Pre-awareness score and 60.2% of teachers had Good Post awareness score & Good Pre- awareness score out of (total no.) 58.8% of teachers. Out of 177 teachers, 16 teachers had Fair awareness score and 161 teachers had good awareness score in post-test.

Table 3: Crosstabulation- Chi Square Test

			Post attitude category	
			<50 score	>50 score
Post awareness category	<50 Score	Count	11	5
		% Within post attitude category	20.4%	4.1%
	>50 score	Count	43	118
		% Within post attitude category	79.6%	95.9%

Total	Count		54	123
		% Within post attitude_category	100.0%	100.0%

The table 3 represents that 20.4% (11) of teachers had fair attitude with less awareness towards HPV vaccination, 4.1% (5) of teachers had good attitude with less awareness towards HPV vaccination out of (total no.) of 16 teachers.

79.6% (43) of teachers had fair attitude with good awareness score regarding HPV infection, 95.9% (118) of teachers had good attitude with good awareness regarding the HPV infection out of (total no.) of 161 teachers.

DISCUSSION:

A cross sectional study was carried out among 177 schoolteachers in Chennai district. After the intervention, post awareness score and post attitude scores were increased when compared to pre awareness and pre attitude score. 20.4% of teachers had fair attitude with less awareness towards HPV vaccination, 4.1% of teachers had good attitude with less awareness towards HPV vaccination. 79.6% of teachers had fair attitude with good awareness score regarding HPV infection, 95.9% of teachers had good attitude with good awareness regarding the HPV infection. Statistical analysis using Chi-square test represents the post attitude and post awareness score were good and hence the education package was effective. To summarize, presentation of HPV vaccination in the school-based program and as catchup vaccination has successfully decreased the cervical and oral HPV prevalence of the Gardasil HPV16, 18, 6, and 11 types, both in vaccinated and nonvaccinated youth. Continued HPV vaccination on both genders would be extremely valuable and allow for a further decrease in HPV vaccine types and their associated cancers (Du et al., 2021; Stanley, 2014; Wielgos & Pietrzak, 2020). The incidence of HPV infections among solid organ recipients and HIV positive females is reported to be significantly higher when compared with age-matched healthy controls- i.e., higher by up to 65% and 46.6% respectively, vs 38% in the controls. These infections are also more often chronic, high-risk HPV and multitype(Guo & Bowling, 2020). Factors that increase an individual's risk of becoming infected with HPV include age younger than 25 years, sexual debut before 16 years of age, having multiple sexual partners, and having a partner who has had multiple partners(Eliscu, 2017; Seyferth et al., 2016). To promote the prevention of HPV related diseases, it is important to encourage adult males to designate a primary care provider and have routine checkups. The quality of information initiatives by medical control units and organizations needs to be increased.

CONCLUSION:

Higher levels of HPV infection and vaccination awareness are substantially connected to greater willingness to be vaccinated, and the primary reasons for refusing the vaccine were insufficient vaccine information and potential unknown health consequences. Intersectional relationships between medicine and education to be developed. The quality of information initiatives by medical control units and organizations needs to be increased. Secondary school teachers had some awareness on cervical cancer and HPV vaccine, although they were enthusiastic about it. Furthermore, just a limited percentage of teachers have immunized their children, citing the expensive cost and scarcity of the vaccine as important reasons for not administering the vaccine to their children.

REFERENCES:

1. da Costa Nunes, J. F., Pires, S., & Chade, D. C. (2020). Human papillomavirus vaccination and prevention of intraepithelial neoplasia and penile cancer: Review article. *Current Opinion in Urology*, *30*(2), 208–212. https://doi.org/10.1097/MOU.0000000000000730
2. de Oliveira, C. M., Fregnani, J. H. T. G., & Villa, L. L. (2019). HPV Vaccine: Updates and Highlights. *Acta Cytologica*, *63*(2), 159–168. https://doi.org/10.1159/000497617
3. de Sanjose, S., Brotons, M., LaMontagne, D. S., & Bruni, L. (2019). Human papillomavirus vaccine disease impact beyond expectations. *Current Opinion in Virology*, *39*, 16–22. https://doi.org/10.1016/j.coviro.2019.06.006
4. Du, J., Ährlund-Richter, A., Näsman, A., & Dalianis, T. (2021). Human papilloma virus (HPV) prevalence upon HPV vaccination in Swedish youth: A review based on our findings 2008-2018, and perspectives on cancer prevention. *Archives of Gynecology and Obstetrics*, *303*(2), 329–335. https://doi.org/10.1007/s00404-020-05879-7
5. Eliscu, A. (2017). Human Papillomavirus and HPV Vaccines. *Pediatrics in Review*, *38*(9), 443–445. https://doi.org/10.1542/pir.2016-0018
6. Guo, Y., & Bowling, J. (2020). Human Papillomavirus (HPV) Vaccination Initiation and Completion Among Adult Males in the United States. *Journal of the American Board of Family Medicine: JABFM*, *33*(4), 592–599. https://doi.org/10.3122/jabfm.2020.04.190464
7. Meites, E. (2019). Human Papillomavirus Vaccination for Adults: Updated Recommendations of the Advisory Committee on Immunization Practices. *MMWR. Morbidity and Mortality Weekly Report*, *68*. https://doi.org/10.15585/mmwr.mm6832a3
8. Pitisuttithum, P., Velicer, C., & Luxembourg, A. (2015). 9-Valent HPV vaccine for cancers, pre-cancers and genital warts related to HPV. *Expert Review of Vaccines*, *14*(11), 1405–1419. https://doi.org/10.1586/14760584.2015.1089174
9. Ramathuba, D. U., & Ngambi, D. (2018). Knowledge and Attitudes of Women towards Human Papilloma Virus and HPV Vaccine in Thulamela Municipality of Vhembe District in Limpopo Province, South Africa. *African Journal of Reproductive Health*, *22*(3), 111–119. https://doi.org/10.29063/ajrh2018/v22i3.12
10. Seyferth, E. R., Bratic, J. S., & Bocchini, J. A. (2016). Human papillomavirus epidemiology and vaccine recommendations: Selected review of the recent literature. *Current Opinion in Pediatrics*, *28*(3), 400–406. https://doi.org/10.1097/MOP.0000000000000354
11. Siu, J. Y.-M., Lee, A., & Chan, P. K. S. (2019). Schoolteachers' experiences of implementing school-based vaccination programs against human papillomavirus in a Chinese community: A qualitative study. *BMC Public Health*, *19*(1), 1514. https://doi.org/10.1186/s12889-019-7878-7
12. Stanley, M. (2014). HPV vaccination in boys and men. *Human Vaccines & Immunotherapeutics*, *10*(7), 2109–2111. https://doi.org/10.4161/hv.29137
13. Stanley, M. (2019). HPV vaccines: Alternative dosage schedules. *Expert Review of Vaccines*, *18*(12), 1309–1316. https://doi.org/10.1080/14760584.2019.1704261
14. Wielgos, A. A., & Pietrzak, B. (2020). Human papilloma virus-related premalignant and malignant lesions of the cervix and anogenital tract in immunocompromised women. *Ginekologia Polska*, *91*(1), 32–37. https://doi.org/10.5603/GP.2020.0008
15. World Health Organization. Electronic address: sageexecsec@who.int. (2017). Human papillomavirus vaccines: WHO position paper, May 2017-Recommendations. *Vaccine*, *35*(43), 5753–5755. https://doi.org/10.1016/j.vaccine.2017.05.069