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Knowledge and Attitude of Nursing Students towards Human Papillomavirus Vaccination

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Abstract: ***Cervical cancer is the commonest cause of cancer deaths among women in developing countries. Usually 70% of the cases are diagnosed at III stage or higher making the treatment complicated. HPV vaccination is the primary prevention for cervical cancer. Nurses are the corner stone in the implementation of the preventive function. A descriptive study was done to assess the knowledge and attitude of nursing students towards HPV vaccination. 176 sample participated from I, II, III and IV year BSc nursing students of The Salvation Army Catherine Booth College of Nursing, Nagercoil. Questionnaire and Likert scale was used to assess their knowledge and attitude. The study revealed that less than 50% had adequate knowledge and only 55% had positive attitude towards HPV vaccination respectively. Only 2% were vaccinated against HPV. The study recommend creating intense awareness regarding HPV vaccination among health care professionals, integrating HPV vaccination in national immunization schedule, identifying the barriers for vaccination, conducting HPV vaccination drive.***

Keywords: Knowledge, attitude, Human Papillomavirus, HPV vaccination, cervical cancer, Nurses

1. Introduction

Human Papillomavirus (HPV) is a viral infection which predominantly affects the reproductive tract[1].It is transmitted from one person to other through sexual contact[2,3]. There are more than 100 strains of HPV discovered, among which about 15 to 20 strains causes cancer[3,4]. It is one of the leading causes of sexually transmitted diseases and cervical cancer[4]. Cervical cancer is the commonest cause of cancer death among women in developing countries. Nearly 86% of all deaths due to cervical cancer are in developing and under developed countries[6]. Usually 70% of the cases are diagnosed at III stage or higher making the treatment complicated. In India, cervical cancer is the second most common cancers in the females[7]. It is the fourth leading cause of deaths in India, whereas it ranks second in twelve of the Indian states. Every year 122,844 new cases are diagnosed and 67,477 people die from the disease[8]. In Tamilnadu, the cervical cancer incidence is high in North Eastern districts. Pondicherry has the higher incidence (39.2/100,000 population) compared to nearby districts, Villupuram (31.1/100,000 population) and Cuddalore (29.9/100,000 population). The prevalence and burden is higher among women of low socio-economic status and rural women[9].

HPV vaccination is the primary prevention of cervical cancer[10]. There are two types of vaccines available**,** bivalent and quadrivalent. The dose for each vaccine is 0.5ml and given intramuscularly. It is given as two doses over six months interval. The names of the vaccines are Cervarix and Gardasil[11,12]. Vaccination should be done for girls between the age group of 9-13 years or before the onset of sexual activity. It is contraindicated to pregnant women, girls less than 9 years of age and those allergic to vaccine. After vaccination the beneficiaries should be monitored for 15 minutes to detect side effects[13, 14].

High income countries are successful in vaccinating the teenagers by including it in its immunization schedule[15]. World Health Organization has recommended integrating it in the immunization schedule but it is not implemented yet in middle and low income countries[16]. HPV vaccination is recommended by Indian Academy of Pediatrics but it is not included in India's National immunization schedule[17].As it is an optional vaccine, many of them ignore it including health care professionals. This is leading to the poor vaccination coverage. Health care professionals play an important role in raising awareness on HPV vaccination. When health care professional understand the benefits of HPV vaccination they can easily influence public for vaccination. In order to assess their level of understanding about HPV vaccination a ground level study was done among nursing students.

Objectives

- To assess the knowledge of nursing students towards HPV Vaccination.
- To identify the attitude of nursing students towards HPV Vaccination.
- To find out the association between knowledge and the selected demographic variables.

2. Methodology

Descriptive study was done in order to accomplish the objectives. The study was conducted at The Salvation Army Catherine Booth College of Nursing, Nagercoil. The college had a total students' strength of 196 and among which 176 students participated in the study. Remaining twenty students were not willing to participate in the study. The tool has three parts. Part I deals with demographic variables which includes age, sex, religion, year of study, monthly

income, type of family, place of residence and vaccination status. Part II has 20 knowledge questionnaire (MCQs) on HPV vaccination and knowledge level was interpreted as adequate knowledge (14 to 20 score), moderate knowledge (8 to 14 score) and inadequate knowledge (0 to 7 score). Part III has attitude scale which has 15 items among which 10 and 5 items are positive and negative statements respectively. 5 point Likert scale was used to assess the attitude and they are categorized as strongly agree - 5 score, agree - 4 score, undecided or neutral - 3 score, disagree - 2 score and strongly disagree - 1 score. The maximum score was 55 and the minimum score was 35. The results were interpreted as positive attitude (49-55), neutral or undecided attitude (42-48) and negative attitude(35-41).

Data collection procedure

The study was conducted after getting formal permission from the college management. Participants were explained about the purpose of the study and oral consent was obtained from them. Questionnaires were circulated to students and collected from them through Google forms. Descriptive and inferential statistics were used to analyse and interpret the data.

3. Results and Discussion

Part - I: Demographic Variables

Table 1: Frequency and percentage distribution of sample according to their demographic variables, n = 176

S. No.	*Characteristics*	*Frequency (N)*	*Percentage (%)*
1.	**Age**		
	1.1 18 years	35	20
	1.2 19 years	50	29
	1.3 20 years	39	22
	1.4 21 years	48	27
	1.5 22 years	4	2
2.	**Gender**		
	2.1 Male	24	14
	2.2 Female	152	86
3.	**Religion**		
	3.1 Hindu	32	18
	3.2 Christian	142	81
	3.3 Muslim	2	1
4.	**Year of study**		
	4.1 I year	39	22
	4.2 II year	46	26
	4.3 III year	45	26
	4.4 IV year	46	26
5.	**Income**		
	5.1 Less thanRs.5000	20	11
	5.2 Rs. 5000 to Rs. 10000	105	60
	5.3 Rs.10001 to Rs. 20000	37	21
	5.4 More than Rs.20000	14	8
6.	**Type of family**		
	6.1 Nuclear family	155	88
	6.2 Joint family	21	12
7.	**Area of residence**		
	7.1 Rural	122	69
	7.2 Urban	54	31
8.	**Vaccination status**		
	8.1 Vaccinated	4	2
	8.2 Not vaccinated	172	98

From the above table, it is observed that in age, 29% were in the age group of 19 years, 27% in the age group of 21 years, 22% in the age group of 20 years and 20% in 18 years and 2% in 22 years. With regard to gender, 86% of them were females and 14% were males. Regarding religion, majority, 81% were Christians, 18% were Hindus and 1% was Muslim. In the year of study, 78% belongs to II, III and IV year with 26% in each year, the other 22% belongs to I year. Regarding income, majority, 60% of their parents earn Rs. 5001 to 10000, 21% earn between Rs. 10001 and 20000, 11% earn less than Rs. 5000 and 8% earn more than Rs. 20000 as their monthly income. In the type of family, majority, 88% were from nuclear family whereas only 12% were from joint family. Regarding the area of residence, majority of them, 69% were from rural area and only 31%were from urban area. In vaccination status, majority, 98% of them were not vaccinated and only 2% of them were vaccinated against HPV.

Part - II: Knowledge level of nursing students towards HPV vaccination

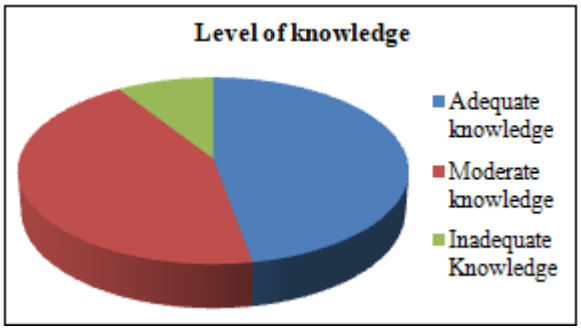

Figure 1: Level of knowledge regarding HPV vaccination

The above pie diagram shows that 47% had adequate knowledge, 44% had moderate knowledge and 9% had inadequate knowledge.

Part III: Attitude of nursing students towards HPV vaccination

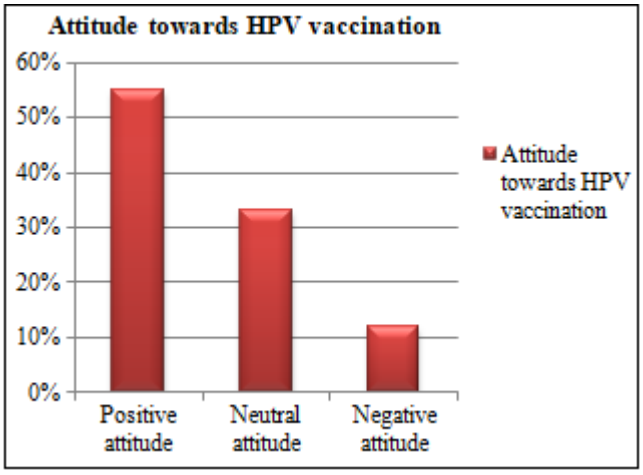

Figure 2: Attitude towards HPV vaccination

The above figure clearly infers that more than half of them 55% (96) had positive attitude, 33% (58) had neutral attitude and 12% (22) of them had negative attitude towards HPV vaccination.

A study was conducted in Turkey among first year nursing students on knowledge and perception regarding HPV and HPV vaccination. The results were more than half of the students did not answer correctly and only 2.8% vaccinated against HPV[18]. A comparative study was done in Indonesia between undergraduate medical and nursing students. It was found that medical students had good knowledge and positive attitude compared to Nursing students. These two studies coincide with the present study results[19]. It informs that nursing students' knowledge and attitude towards HPV vaccination needs to be strengthened.

Part IV: Association between knowledge and selected demographic variables

Table 2: Frequency, Percentage and chi square value of association between knowledge and selected demographic variables, n=176

Demographic variables	Inadequate knowledge		Moderate knowledge		Adequate knowledge		df	Chi square value $\chi 2$
	f	%	f	%	f	%		
1. Age								
18 years	4	2	10	5.5	21	12	8	10.18
19 years	5	3	20	11	25	14		
20 years	3	2	17	9.5	19	11		
21 years	3	2	28	16	17	10		
22 years	1	0.5	2	1	1	0.5		
2. Sex								
Male	4	2	11	6	9	5	2	*6.37
Female	12	7	66	38	74	42		
3. Religion								
Hindu	3	2	13	7	16	9	4	5.43
Christian	12	7	63	36	67	38		
Muslim	1	0.5	1	0.5	0	0		
4. Year of study								
I year	3	2	8	4.5	28	16	6	*25.99
II year	8	4.5	24	14	14	8		
III year	3	2	16	9	26	15		
IV year	2	1	29	16	15	8		
5. Income								
Less than Rs. 5000	3	2	9	5	8	4.5	6	3.03
Rs. 5000 -Rs. 10000	8	4.5	46	26	51	29		
Rs. 10001 -Rs. 20000	3	2	18	10	16	9		
More than Rs 20000	2	1	4	2	8	5		
6. Type of family								
Nuclear family	15	8.5	68	39	72	41	2	0.6
Joint family	1	0.5	9	5	11	6		
7. Area of Residence								
Rural	10	6	54	31	58	33	2	0.35
Urban	6	3	23	13	25	14		
8. Vaccination status								
Vaccinated	0	0	2	1	2	1	2	0.36
Not vaccinated	16	9	75	43	81	46		

*Significant P<0.05 level

Table 2 clearly shows that there is a significant association between level of knowledge and sex and year of study and there is no significant association between level of knowledge and age, religion, income, type of family, area of residence and vaccination status.

From the present study it is evident that less than half of the sample had adequate knowledge on HPV vaccination. Similarly, only 55% had positive attitude towards HPV vaccination. Many studies were conducted to assess the knowledge and attitude of the nursing students and health care professionals towards HPV vaccination but they all proved that majority of health care professionals had only moderate knowledge and majority of them are not vaccinated. In a study conducted in Spain, which revealed that majority of them had only moderate knowledge and positive attitude towards vaccination but they are not vaccinated. After participating in the study their intention towards personal vaccination increased. In a study conducted in South India among medical, dental and nursing students, the results showed that majority of them have heard about cervical cancer but only 59% heard about HPV vaccination. So these results have to be taken into serious consideration because nurses play a vital role in primary prevention (vaccination). Though the information regarding cancer cervix and HPV vaccination are incorporated in nursing curriculum, their knowledge level was moderate and not adequate. The present study also reveals that only 2% were vaccinated. Similarly only 5.5% were vaccinated against HPV in a study conducted at Tertiary care teaching hospital, Simla[20].This informs us that nursing students need an intense awareness program to create awareness in order to motivate them for vaccination. Thus they can act as a living testimony for the upcoming generation. So more awareness has to be created among the students this in turn will have positive impact in promoting HPV vaccination among the public.

4. Recommendations

The study recommends integrating HPV vaccination in Indian immunization schedule, organizing immunization camps for the teenagers, identifying the barriers for vaccination, educating the teenagers about HPV vaccination, collaborating along with Non-Governmental organizations for HPV vaccination and ensuring the coverage of vaccination among teenagers.

5. Conclusion

Carcinoma of the uterine cervix is a major health problem faced by the Indian women and every year, approximately 120,000 women develop this disease. India accounts for 15.2 percent of the total cervical cancer deaths in the world. HPV vaccination is the preventive strategy for cervical cancer. Nursing staff play an important role in the implementation of preventive measures and in the promotion of vaccination among the general population. More emphasis must be given in creating awareness, integrating in national immunization schedule, organizing vaccination campaigns and ensuring its coverage.

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