

Females' Knowledge about Human Papillomavirus and its Vaccination

Amena Mahmoud Adel Omar Al-arnous¹, Hend Salah El-deen Mohamed², Sabah Lotfy Mohamed El-Sayed^{3*}, Mervat Mostafa Abd-El Monem Desoky⁴

¹Demonstrator at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt

²Professor at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt

³Assistant Professor at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt

⁴Lecturer at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt

***Corresponding Author:** Sabah Lotfy Mohamed El-Sayed, Assistant Professor at Obstetrics and Gynecological Nursing Department, Faculty of Nursing, Zagazig University, Egypt

Abstract

Background: Human Papillomavirus infection has been considered as the main cause in the development of various cancers such as cervical cancers.

The aim: was to assess Females' knowledge about HPV and its vaccination. Design: A descriptive design was used.

Setting: The study was carried out in the Faculty of Nursing, Zagazig University, Egypt.

Sample: A purposive sample was used.

Subjects: was conducted in one hundred eighty-two female nursing students. The tool of Data collection: Females' characteristic data and Females' knowledge questionnaire.

Results: revealed that the mean age of studied female students was 19.95 ± 0.510 years. The highest proportion of the studied females had a low level of knowledge about Human papillomavirus and its vaccination (66.5%-84.3%) respectively.

Conclusion: The results of the study showed that the majority of the studied females had a low level of knowledge about Human papillomavirus and its vaccination.

Recommendation: It was suggested that an educational intervention program should be implemented among all university students to improve knowledge about HPV and its vaccine, to understand the causal relationship between HPV and cervical cancer and to introduce successful HPV vaccination program for control of cervical cancer in Egypt.

Keywords: Human Papillomavirus, vaccination, Females' knowledge and cervical cancers.

1. INTRODUCTION

Human papillomavirus (HPV) infection causing benign and malignant lesions of the skin and mucosae of the anogenital and upper aero-digestive tract [1] in both women and men [2].

The incidence rate of cervical cancer attributable to HPV who are already diagnosed about 569,847 new cases annually and 311,365 deaths worldwide [3]. In Egypt, about 969 new cervical cancer cases are diagnosed annually [4]. According to the relation with cancer, the virus can be classified to Low-risk HPV genotypes

Infection (non-oncogenic type) which causing genital warts[5] and High-risk HPV genotypes infection (oncogenic type) is a cause of certain morbidities, including cervical cancer.[6]

HPV is usually transmitted through penetrative genital contact (anal or vaginal), non-genital contact methods without penetration [7] or from infected mother to her fetus during pregnancy through the placenta or at the time of vaginal birth via vertical and perinatal transmission [8].

There is no HPV infection treatment, but only for its clinical manifestations. ¹⁹Currently, there are three licensed HPV vaccines worldwide. The

recommended age for vaccination is 11–12 years [10]. Gardasil® (Tetravalent) prevents against types 6, 11, 16 and 18 [11]. Cervarix® (Bivalent) is effective against types 16 and 18.[12] Gardasil 9® prevents against types (6, 11, 16, 18, 31, 33, 45, 52, 58), showing potential coverage of approximately 90% of vulvar, vaginal, cervical and anal cancers.[13]

2. SIGNIFICANCE OF THE STUDY

Almost all cervical cancer cases (99%) are caused by human papillomavirus (HPV) infection [14]. Nurses are in a key position to provide health education to support vaccine uptake and screening guidelines. Correct knowledge about a disease and its prevention is a basic step to develop a positive approach towards the disease [15].

- **Aim of the study** This study was aimed to assess females' knowledge about HPV and its vaccination.
- **Research Question:** Do the females know about Human papillomavirus and its vaccination?

2.1. Subject and Methods

- **Research Design:** A descriptive design was used in this study to achieve the study aim.
- **Study Setting:** The study was conducted in the Faculty of Nursing, Zagazig University.

2.1.1. Subjects & Sample

- **Sample Size:** The study was conducted in (185) female nursing students who registered in the first, second, third & fourth academic years (2019-2020).
- **Sample type:** A purposive sample was used in this study.
- **Sample criteria:** All the female students who are studied through the studied year (2019-2020) were included and agreed to participate in the study.
- **Tools of Data Collection:** Data collection was done through the use of the following tools

2.2. The Tool I: A Structured Interview Questionnaire

A structured interview questionnaire was designed in a simple Arabic form; It was included items such as (Age, Academic year, Marital status, family history of HPV & contraceptive methods, etc.).

2.3. Tool II: Females' Knowledge Questionnaire Items: It Included (28) Multiple-Choice Questions which Divided into Two Sections

Section (A): To pertaining students' knowledge regarding HPV infection as it included (12) multiple-choice questions (Definition, Incubation period, Types, etc.)

Section (B): To pertaining students' knowledge regarding HPV vaccination which comprised of (16) multiple-choice questions as (Definition, Component, Importance, Recommended age of HPV vaccination etc.).

2.3.1. Scoring System for Knowledge

For multiple-choice questions were categorized into: Don't know was given (zero), the incomplete answer was given (one), and the complete answer was given (two). The total knowledge score was calculated by adding the scores for each correct answer. The total score of knowledge ranged from 0 to 56 points.

2.3.2. Levels of knowledge

Studied student's total knowledge score was converted into total percent and graded into 3 levels like the following:

- Good: ($\geq 75\%$ -100%).
- Average: (50 - < 75%).
- Low: (< 50%).

2.3.3. Official Approvals

Official approval was obtained by submitting an official letter issued to the Dean of the Faculty of Nursing at Zagazig University to obtain the agreement to apply this study after an explanation of its purpose.

2.4. Fieldwork

2.4.1. Preparatory phase

During this phase, the researcher reviewed local and international literature to get more knowledge about the study. This also helped in designing the study tools.

2.4.2. Validity and Reliability

Tools were thoroughly reviewed by a panel of five experts in the field of Obstetrics and Gynecological Medicine and Nursing to test its content validity. Modifications were done accordingly based on their judgment. Reliability was done by Cronbach's Alpha Coefficient Test.

2.4.3. Pilot Study

A pilot study was conducted on a sample of students on 10 % (19 students) of the total sample who's not included in the total sample size. According to the results of the pilot, it required modifications were done.

2.4.3. Assessment Phase

The researchers introduced themselves, greeted all the students and explained brief information around the questionnaire. Average time for the completion of the questionnaire was around (30 minutes).

3. RESULTS

Part (I): Table (1): Distribution of the studied students regarding their sociodemographic characteristics (n = 182).

Variables		Percent
Age /year	18-20	54.6
	21-23	44.9
	More than 23	.5
Mean age = 19.95 ± 0.510		
Gynecological and Family history:		
Marital Status	Married	14.1
	Single	85.9
Contraceptive methods	None	93.5
	Hormonal	6.5
Family History of HPV	No	98.9
	Yes	1.1
Family History of cervical cancer	No	98.9
	Yes	1.1
Previous knowledge about HPV and vaccine & its source:	Yes	12.3
	No	87.7
	Health care provider	64.9

Table (1) presents the distribution of the studied students according to their socio-demographic characteristics. It illustrates that about more than half (54.6%) of studied students were in the age group 18-20 years with a mean age of 19.95 ± 0.510 years. Furthermore, the majority of them

(85.9%) were single. The family history about HPV & cervical cancer, there was detected in 1.1% of the sample. This result also reveals that there were only 12.3% of the total studied students who had previous knowledge about HPV and its vaccine.

Table (2): Distribution of the studied students regarding their total mean scores knowledge about Human Papillomavirus and its vaccine.

Items	Mean	Std. Deviation	ttest-	P-value
Knowledge about HPV	5.4649	6.00001	12.388	.000
Knowledge about the HPV vaccine:	2.9297	4.79928	8.303	.000

Table 2 shows that the mean scores of total knowledge about HPV infection and its vaccine were 5.4649 and 2.9297, respectively.

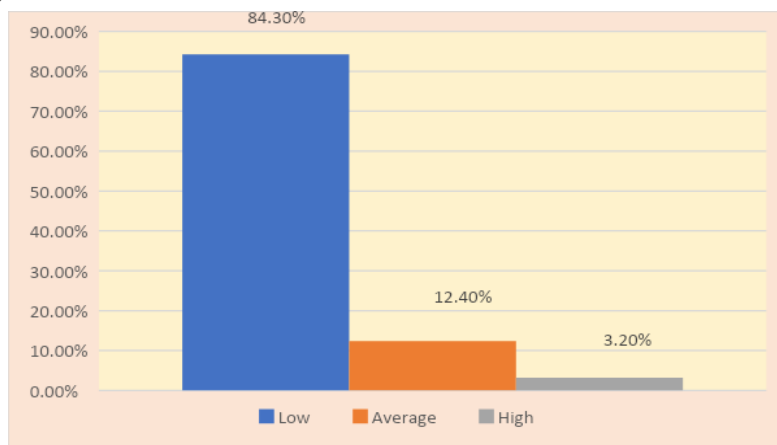


Figure1: Distribution of the studied students regarding their level of knowledge about Human Papillomavirus (n = 182).

Figure 1 illustrates the distribution of the studied students regarding their level of knowledge about Human Papillomavirus. It shows that

more than two-thirds of the studied students (66.50%) had a low score of knowledge while only 9.7% had good knowledge about HPV.

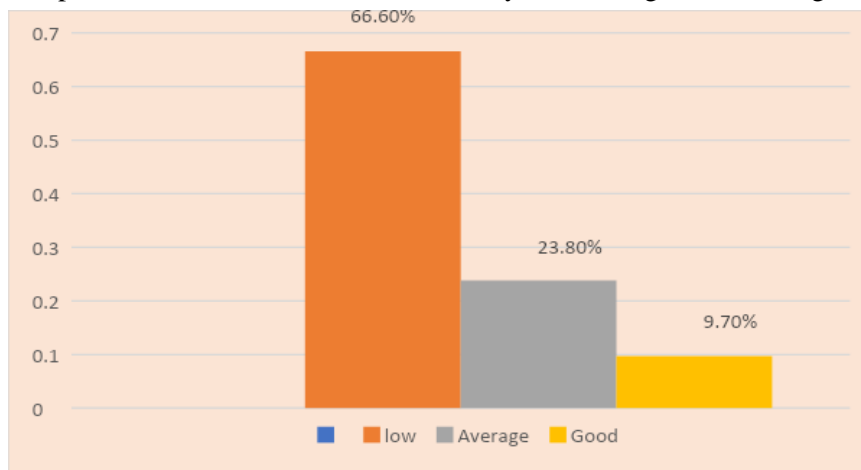


Figure2: Distribution of the studied students regarding their level of knowledge about the Human Papillomavirus vaccine (n = 182).

Figure 2 illustrates the distribution of the studied students regarding their level of knowledge about the Human Papillomavirus vaccine. It

shows that the majority of the studied students (84.30%) had low score while only 3.20% had good knowledge about the HPV vaccine

Table 3: Relationship between the level of students knowledge about Human Papillomavirus and sociodemographic characteristics (n = 182).

smetI		level egdelwonk VPH						tseT	eulav-P
		woL		egarevA		dooG			
		oN	%	oN	%	oN	%		
ecnediseR	nabrU	37	%72.5	10	%19.6	4	%7.8	1.163	559.
	laruR	86	%64.2	34	%25.4	14	%10.4		
sutatS latiraM	deirram	16	%61.5	3	%11.5	7	%26.9	11.210	004.
	elgnis	107	%67.3	41	%25.8	11	%6.9		
raey/ehcranem fo eGA	12 naht ssel	13	%56.5	10	%43.5	0	%0.0	7.609	107.
	14-12	102	%68.5	31	%20.8	16	%10.7		
	14 naht erom	8	%61.5	3	%23.1	2	%15.4		

Table 3 illustrates that there was a highly significant relation between studied students' knowledge about human papillomavirus and marital status (P=0.004).

Table4: Relationship between the level of students knowledge about Human Papillomavirus and gynecological and family history (n = 182).

smetI		level egdelwonk VPH						tseT	eulav-P
		woL		egarevA		dooG			
		oN	%	oN	%	oN	%		
noitaurtsnem fo mhtyhR	ralugeR	95	%65.5	36	%24.8	14	%9.7	406.	816.
	ralugerri	28	%70.0	8	%20.0	4	%10.0		
VPH fo yrotsiH ylimaF	seY	2	%100.0	0	%0.0	0	%0.0	1.019	601.
	oN	121	%66.1	44	%24.0	18	%9.8		
lacivrec fo yrotsiH ylimaF recnac	seY	2	%100.0	0	%0.0	0	%0.0	1.019	601.
	oN	121	%66.1	44	%24.0	18	%9.8		
dohtem evitpecartnoC	enoN	115	%66.5	43	%24.9	15	%8.7	11.552	021.
	lanomroh	3	%42.9	1	%14.3	3	%42.9		
	DCUI	5	%100.0	0	%0.0	0	%0.0		

Table 4 illustrates that there was statistically significant between studied students' knowledge about Human Papillomavirus and contraceptive methods (P = 0.021).

4. DISCUSSION

There are about 630 million persons are infected with human papillomavirus (HPV), Worldwide. The prevalence of HPV infections increases in adolescence in both genders every year from 14 to 24 years of age; HPV infection has alarming proportions and is a predisposing factor for several types of cancers, such as cervical cancer. The development of highly effective HPV vaccines is important to reduce the incidence of cervical cancer caused by HPV infection [16].

Regarding the family history of HPV and cervical cancer, there were only 1.1% who had a family history of HPV and cervical cancer. Similar findings were noted by **Dönmez et al., (2019) [17]** study about “Knowledge and perception of female nursing students about human papillomavirus (HPV), cervical cancer, and attitudes toward HPV vaccination” stated that 1.2% of the sample had a family history of CC. **Abd El-azeem, (2018) [18]** study about "The Impact of A Designed Educational Nursing Program For High-Risk women on Their Awareness and Health Practices Regarding The Prevention and Management of The Precancerous Lesion of Cancer Cervix" in Egypt showed that only 6.2% of the sample had a family history of cervical cancer. This low rate could be explained by decrease awareness of the importance of annually checkup and screening.

This study showed that previous knowledge of the studied students about HPV and its vaccine was very low and the majority of them had this knowledge from the health care provider. This supports the finding of a previous study done in Egypt By **Shaltout et al., (2014) [19]** about "Prevalence and type distribution of human papillomavirus among women older than 18 years in Egypt: a multicenter, observational study" in Cairo, Egypt who showed that more than half of the sample hadn't known before about HPV, the common source was from TV/magazine/newspaper and Friend or family member. On the contrary, **Pelullo et al., (2019) [20]** study about “Human Papillomavirus Infection and Vaccination: Knowledge and Attitudes among Nursing Students in Italy” reported that the most of the sample had heard about HPV.

Regarding knowledge level about HPV, this study showed the knowledge of studied students before the educational intervention that more than two-thirds of them had low level while immediately after the educational intervention the majority had good level and increase more

after follow up. A similar finding was reported by **Atitt-Allah et al., (2019) [21]** study about “Effect of Educational Intervention on Knowledge and Attitudes Regarding Human Papillomavirus Infection and Its Vaccination among Nursing Students” showed that (4.5%) and (84%) of the studied sample had a good level of knowledge at pre-intervention and post-intervention phases respectively. While it was revealed that (94%) and (4.5%) of the studied sample had a poor level of knowledge at pre-intervention and postintervention phases respectively.

5. CONCLUSION

The results of the study showed that the majority of the studied females had a low level of knowledge about Human papillomavirus and its vaccination.

Ethical clearance

During all phases of the study, all ethical issues were taken into consideration; the researcher maintained anonymity and confidentiality of the subjects.

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