

## Knowledge and Attitudes About the Human Papilloma Virus and Cervical Cancer Among a Sample of Paramedical Students in Baghdad Teaching Hospital

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### ABSTRACT

Back ground: Human papillomavirus (HPV) is commonly associated with sexually transmitted diseases (STD) and is regarded as one of the major causes of global disease burdens. Objective: to determine the level of knowledge and attitude about the human papillomavirus and cervical cancer among a sample of paramedical students in Baghdad teaching hospital. Methods: Across –sectional study was carried out for a period of seven month starting on 1<sup>st</sup> of August 2017 to 30 December 2017. Results: Mean age of study sample 20±9 higher percentage in the age groups 20-29 and lower percentage in the age groups (<20), most cases were females 52.96% & from urban area 74.67% regarding level of education 34.21% from college of health & medical technologies ,28.95% College of Nursing,22.37% Baghdad medical institute & 14.47% from Al-mansour medical institute. Overall knowledge score , higher percentage of study sample (63%) had fair score of knowledge regarding Human Papilloma Virus & age had no influence on knowledge score, Males had better knowledge the females students & nursing & Baghdad institute students displayed better knowledge compared to other students & urban residence students display better knowledge score about HPV the association between knowledge score and gender and level of education & residence was found to be statistically significant . Regarding attitude higher percentage of study sample more than 90% agree with the question (Having only one sex partner decreases the risk of acquiring HPV infection) & more than 80% agree with preventive measures such as Education on HPV & cervical cancer better started at primary school. & Condom prevents HPV virus equally as it prevents HIV transmission while ( 54.93%) of study sample agree with the question Pap smear test is a screening test to detect cervical cancer. (46.38%) of study sample agree with HPV vaccine can prevent the development of genital warts & cervical cancer. While (44.40 % ) of study sample agree with HPV vaccine is delivered in a series of 3 shots injection over 6 month schedule. Higher percentage (49.01%) of study sample had good attitude score while lower percentage 13.82% had poor score. Conclusion: The findings of this study conclude that the level of knowledge of paramedical student was fairly lacking; Males had better knowledge the females students & nursing & Baghdad institute students displayed better knowledge compared to other students, urban residence students display better knowledge score about HPV overall, their attitude score is good about the severity of cervical cancer and the benefit of HPV vaccination. Recommendation: Health education measures about mode of transmission, symptom, complication and methods of prevention especially vaccination program.

**Keywords:** Human Papilloma Virus, Cervical cancer, Attitude.

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### INTRODUCTION

Human papilloma virus (HPV) infection is the most common viral infection of the reproductive tract and is the cause of a range of conditions in both females and males, including precancerous lesions that may progress to become cancerous. Although the majority of HPV infections do not cause symptoms or disease and resolve spontaneously, persistent infection with high-risk HPV genotypes may result in disease. In women, persistent infection with specific oncogenic types of HPV (most frequently types 16 and 18) may lead to precancerous lesions which, if untreated, may progress to cervical cancer<sup>1</sup>. There are 13 types of oncogenic HPV; types 16 and 18 are the most important causes of cervical cancer<sup>2,3</sup> and the non-oncogenic types of HPV 6 and 11 are

identified as the major causes for 90% of genital warts<sup>4</sup>. According to WHO report from 2013, globally about 0.27 million deaths occur due to cervical cancer every year, which the leading cause of deaths and 85% of the deaths are in middle or low income countries due to poor and inadequate access to screening and treatment<sup>5</sup> Cervical cancer is the fourth most common cancer among women worldwide<sup>6</sup> affecting 528,000 women annually and resulting in more than 270,000 deaths<sup>7</sup>. The global burden of cervical cancer varies considerably and >85% of all cases occur in less-developed regions of the world<sup>8</sup>. Also, prevalence is high among younger women, rising rapidly after the age of 30 years<sup>9</sup>. However, cervical cancer is preventable due to its etiology, which is attributed to human papillomavirus (HPV) infection<sup>10</sup> the objective of

Table 1: The distribution of the study sample according to demographic variables.

		No	%
Age (years)	<20	136	44.74
	20-29	168	55.26
	Total	304	100
Gender	Male	143	47.04
	Female	161	52.96
	Total	304	100
Level of education	College of Nursing	88	28.95
	Baghdad medical institute	68	22.37
	College of health & medical technologies	104	34.21
	Al-mansour medical institute	44	14.47
	Total	304	100
Residence	Urban	227	74.67
	Rural	77	25.33
	Total	304	100

Table 2: Knowledge of study sample regarding general information About Human Papilloma virus

		No=304	100 %
HPV is a sexually transmitted infection	Yes	265	87.17
	No	22	7.24
	Don't know	17	5.59
HPV is very common worldwide	Yes	145	47.70
	No	127	41.78
	Don't know	32	10.53
Human Papilloma Virus may cause cervical cancer	Yes	44	14.47
	No	115	37.83
	Don't know	145	47.70
HPV is transmitted via close skin-to-skin contact	Yes	140	46.05
	No	67	22.04
	Don't know	97	31.91
HPV infection with occur without symptoms	Yes	138	45.39
	No	151	49.67
	Don't know	15	4.93
HPV can cause genital warts	Yes	193	63.49
	No	89	29.28
	Don't know	22	7.24
HPV infects women and men	Yes	114	37.50
	No	178	58.55
	Don't know	12	3.95
Can HPV causes genital cancer(penis or anus )	Yes	254	83.55
	No	28	9.21
	Don't know	22	7.24

this study to assess level of knowledge, attitude towards human papilloma virus (HPV) infection& cervical cancer among a sample of paramedical students trained in Baghdad teaching hospital.

## SUBJECTS AND METHODS

### The Study design

A cross-sectional study was carried out for a period of six months starting on stating on 1<sup>st</sup> of August 2017to 30 December 2017.

### Setting

the study was carried out in Baghdad teaching hospital where the students from various paramedical streams are being trained.

### Study subjects

Paramedical students belonging to four streams: College of health and medical technologies, College of nursing, Baghdad medical institute. Al-mansour medical institute

### Data collection

Data were collected using a well designed questionnaire form constructed by the researcher, A convenience sample was adapted and self-administered questionnaire form. The sample size of the study was determined using EPI-Info (version 6.0) a total sample of 304. were selected randomly from students attending for training in Baghdad teaching hospital from college of nursing, college of health and medical technologies, from Baghdad medical institute & Al-mansour medical institute subjects were interviewed and information were collected on demographic variables ,knowledge and attitude regarding human papillpma virus The questionnaire on knowledge

Table 3: Knowledge of study sample about source of information.

		No=304	(100 %)
Health staff	Yes	288	94.74
	No	16	5.26
Internet	Yes	233	76.64
	No	71	23.36
Poster	Yes	204	67.11
	No	100	32.89
Friends	Yes	193	63.49
	No	111	36.51
Family members	Yes	137	45.07
	No	167	54.93
Newspaper	Yes	155	50.99
	No	149	49.01
Booklets	Yes	166	54.61
	No	138	45.39
School curriculum	Yes	129	42.43
	No	175	57.57
Workshop	Yes	138	45.39
	No	166	54.61
Local TV channels	Yes	166	54.61
	No	138	45.39
Satellite channels	Yes	164	53.95
	No	140	46.05

was constructed using basic knowledge about HPV infection including prevalence, symptoms and mode of transmission ,its consequences& source of information while Knowledge on cervical cancer included causes& risk factors , attitude that paying attention on health education and preventive measures of the cervical cancer, supposed benefit of the vaccination,

#### Scoring system

##### Regarding the Knowledge

The scale of the three levels was rated on the 2 points (likert respondent scale) it was scored as A scoring of agreed about by assigning a score of (1) for the correct answer (yes) and (0) for the incomplete answer ( don't know ) and score of (0) for the wrong answer (no).

Number of questions: 25 (Minimum=0, Maximum=25, Medium=12.5)

The medium was calculated for each question and those score below the medium (0-12.5) consider poor score (12.5.-25) acceptable score and (= 25) good score

##### Regarding attitudes:

A scoring of attitudes divided into three score agreed about by assigning a score of (1) for the answer by (agree), and (0) for the answer by (disagree).

Number of questions: 8 (Minimum = 0, Maximum=8, Medium=4)

The medium was calculated for each question and those score below the medium (4) consider (0-4 poor score), and(4-7 acceptable score). (=7 good score)

##### Statistical analysis

The computer facility was used for storage and analysis descriptive statistics including the use of frequencies, relative frequencies means, standard deviations and ranges. The Chi-Square statistical test was used to test for associations between variables with the results being

considered as statistically significant when the p value was ( $\leq 0.05$ ). SPSS statistical package version 20 was used for data description and analysis. Yates correction formula and fisher exact test were applied for Chi-Square test whenever its applicable.

## RESULTS

Mean age of study sample  $20\pm 9$  higher percentage in the age groups 20-29 and lower percentage in the age groups (<20), most cases were females 52.96% & from urban area 74.67% regarding level of education 34.21% from college of health & medical technologies, 28.95% College of Nursing, 22.37% Baghdad medical institute & 14.47% from Al-mansour medical institute.

About 87.17% of study sample answered correctly for HPV is a sexually transmitted infection 83.55 % answer correctly the question HPV causes genital cancer , and 63.49% HPV can cause genital warts. , 45.39 % of study sample knew that HPV is asymptomatic infection & HPV is very common worldwide & only 46.05 of study sample knew the mode of transmission of HPV infection and 37.50% for question men and women can be infected with HPV.

Regarding the main source of information on HPV, it reveals that the majority of study sample get their information from "health staff" (94.74%), while 76.64%, 67.11%, and 63.49% of them got it from Internet, Posters, and friends respectively. Other sources had lower percentage.

Regarding the risk factors of cervical cancer 61.18% of study sample answer correctly for the questions family history of cervical cancer & oral contraceptive pills while more than 60% answer correctly for early age of first sexual intercourse while other risk factors (Smoking is a risk factors to cervical cancer, HPV types 16 and 18 will most likely cause cervical cancer & History of sexually transmitted disease) had lower percentage <50%.

Regarding attitude higher percentage of study sample more than 90% agree with the question (Having only one sex partner decreases the risk of acquiring HPV infection) & more than 80% agree with preventive measures such as Education on HPV & cervical cancer better started at primary school. & Condom prevents HPV virus equally as it prevents HIV transmission while 54.93% of study sample agree with the question Pap smear test is a screening test to detect cervical cancer While lower percentage for other questions (HPV vaccine & sexual abstinence are good preventive measure 50.03, HPV vaccine can prevent the development of genital warts & cervical cancer 46.38% & HPV vaccine is delivered in a series of 3 shots injection over 6 month schedule 44.40%. Significance association between knowledge score and gender and level of education & residence while non significance association was found between knowledge score & age groups

## DISCUSSION

sufficient knowledge and positive attitude about HPV vaccination are essential prerequisites for healthcare professionals to afford patient education about HPV.

Table 4: knowledge of study sample about the risk factors of cervical cancer.

		No=304	100%
Family history of cervical cancer	Yes	186	61.18
	No	105	34.54
	Don't know	13	4.28
Oral contraceptive pills	Yes	252	82.89
	No	36	11.84
	Don't know	16	5.26
early age of first sexual intercourse	Yes	193	63.49
	No	89	29.28
	Don't know	22	7.24
HPV types 16 and 18 will most likely cause cervical cancer	Yes	138	45.39
	No	151	49.67
	Don't know	15	4.93
Smoking is a risk factors to cervical cancer	Yes	137	45.07
	No	148	48.68
	Don't know	19	6.25
History of sexually transmitted disease.	Yes	114	37.50
	No	178	58.55
	Don't know	12	3.95

Table 5: the distribution of study sample according to attitude.

		No=304	100 %
Carcinoma of the cervix is a common cancer in Iraq	Agree	39	12.83
	Disagree	265	87.17
Education on HPV & cervical cancer better started at primary school.	Agree	253	83.22
	Disagree	51	16.78
Condom prevents HPV virus equally as it prevents HIV transmission	Agree	251	82.57
	Disagree	53	17.43
Pap smear test is a screening test to detect cervical cancer	Agree	167	54.93
	Disagree	137	45.07
Having only one sex partner decreases the risk of acquiring HPV infection	Agree	283	93.09
	Disagree	21	6.91
HPV vaccine & sexual abstinence are good preventive measure	Agree	153	50.03
	Disagree	151	49.67
HPV vaccine can prevent the development of genital warts & cervical cancer	Agree	143	46.38
	Disagree	161	52.96
HPV vaccine is delivered in a series of 3 shots injection over 6 month schedule	Agree	135	44.40
	Disagree	169	55.60

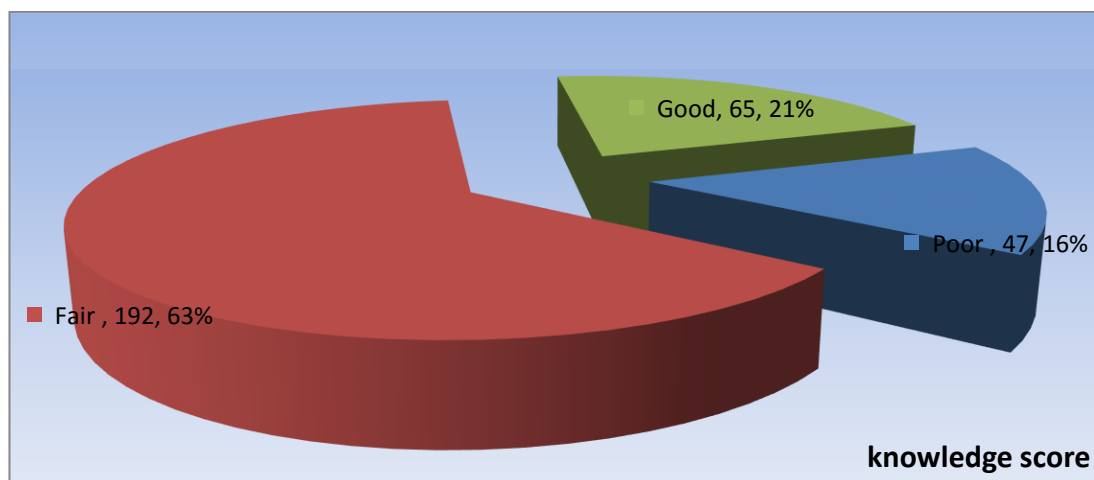


Figure 1: knowledge score of study sample

Higher percentage of study sample(63%) had fair score of knowledge ,(21%) had good score while 16% had poor score (figure 1)

Increasing uptake of HPV vaccines should be a priority in developing countries since they contribute to 88 % of global cervical cancer burden<sup>11</sup> Opinion of healthcare providers, having different professional profiles and training, about patient instruction on HPV infection & existing facilities for the detection and treatment of cervical cancer in hospitals and primary health centers<sup>12,13</sup>. To date, there were no reports that assessed HPV infection knowledge among paramedical students in Iraq. Overall, the study revealed that students had poor level of knowledge regarding HPV, with the omission of a few answer i.e The previous studies suggests that HPV does not show any symptoms at an earlier stage, and mainly affects a sexually active and younger population<sup>14-16</sup>. This was approved in the present study in which 45.39 % % knew that HPV is asymptomatic infection while more than 80% answered correctly for HPV is a sexually transmitted infection & more the 80% of study sample know correctly that HPV causes genital cancer this result is similar to what had been reported by Uzunlar et al., 2013 in tukey<sup>14</sup> who found that the knowledge regarding the causal relationship between HPV and cervical cancer were much higher in medical and paramedical students, compared to other students. Similarly, a Malaysian study reported that around 80% of healthcare students knew that HPV causes cervical disease<sup>14</sup>. Regarding the risk factors of cervical cancer more than 80% of study sample answer correctly for the questions family history of cervical cancer & oral contraceptive pills while more than 60% answer correctly for early age of first sexual intercourse while other risk factors (Smoking is a risk factors to cervical cancer, HPV types 16 and 18 will most likely cause cervical cancer & History of sexually transmitted disease) had lower percentage <50% these result in accordance to other reported studies by khan et. al., 2016 in Pakistan<sup>17</sup> & Uzunlar et al., 2013 in tukey<sup>19</sup>.

Decrease of cervical cancer cases have been reported by 80% in developed countries due to an effective detection of pre-cancerous lesion through screening program<sup>17</sup> Cervical cancer can also be prevented by early screening using Pap smear Despite the success of cytology-based screening programs, these programs rarely exist in low-resource regions and where they do exist are frequently ineffective, primarily due to inadequate technical, manpower and financial resources<sup>18</sup> in contrast to the current study in which more than 50% of study sample consider Pap smear test is a screening test to detect cervical cancer. Regarding attitude Overall, attitude score was good about the severity of cervical cancer and the benefit of HPV vaccination i.e higher percentage of study sample more than 90% agree with the question (Having only one sex partner decreases the risk of acquiring HPV infection) & more than 80% agree with preventive measures such as Education on HPV & cervical cancer better started at primary school. & Condom prevents HPV virus equally as it prevents HIV transmission while 54.93% of study sample agree with the question Pap smear test is a screening test to detect cervical cancer While lower percentage for other questions (HPV vaccine & sexual abstinence are good preventive measures 50.03%, HPV vaccine can prevent the development of genital warts & cervical cancer 46.38% & HPV vaccine is delivered in a series of 3 shots injection over 6 month schedule 44.40%. these results in accordance with other reported studies<sup>10,20</sup>. Significance association between knowledge score and gender and level of education & residence while non significance association was found between knowledge score & age groups this result is similar to other reported studies<sup>14,15,21</sup>. Further research should be done to investigate the association of more demographic variables with HPV knowledge. There is also a need to evaluate the opinion of

Table 5: The distribution of study sample according knowledge score and demographic variables.

		Good		Fair		Poor		Total		P.V
		No	%	No	%	No	%	No	%	
Age (years)	<20	23	48.94	77	40.10	36	55.38	136	44.74	0.083
	20-29	24	51.06	115	59.90	29	44.62	168	55.26	
	Total	47	100	192	100	65	100	304	100	
Level of education	Nursing student	14	29.79	62	32.29	12	18.46	88	28.95	0.0001*
	college of health & medical technologies	6	12.77	32	16.67	30	46.15	68	22.37	
	Baghdad medical institute	14	29.79	76	39.58	14	21.54	104	34.21	
	Al-masour medical institute	13	27.66	22	11.46	9	13.85	44	14.47	
	Total	47	100	192	100	65	100	304	100	
Gender	Male	26	55.32	100	52.08	22	33.85	143	47.04	0.036*
	Female	21	44.68	92	47.92	43	66.15	161	52.96	
	Total	47	100	192	100	65	100	304	100	
Residence	Urban	37	78.72	150	78.13	40	61.54	227	74.67	0.0228*
	Rural	10	21.28	42	21.87	25	38.46	77	25.33	
	Total	47	100	192	100	65	100	304	100	

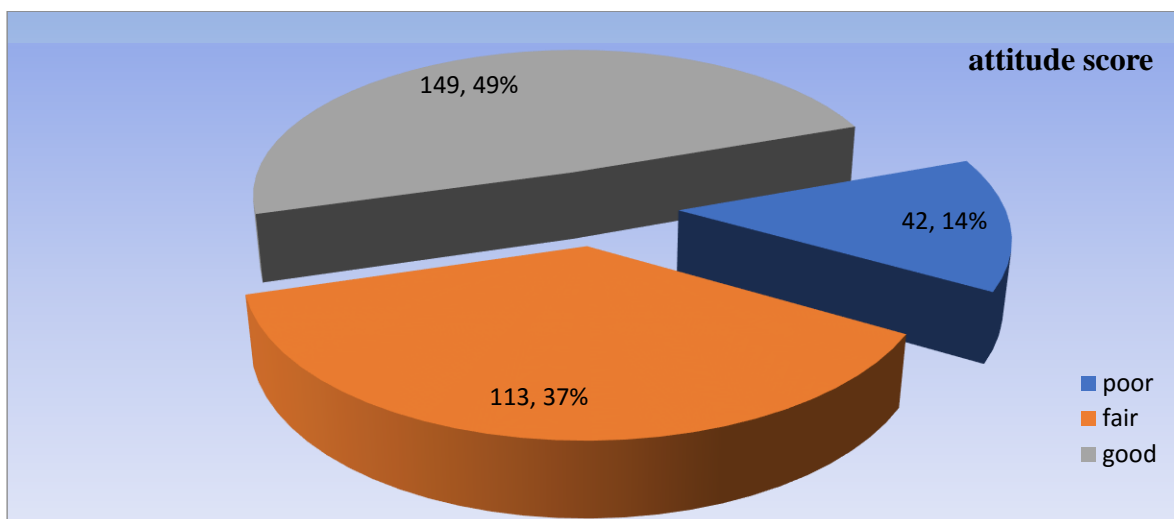


Figure 2: The distribution of study sample according attitude score  
Higher percentage 49.01% of study sample had good attitude score while lower percentage 13.82% had poor score.(figure 2)

students regarding the HPV vaccination and the barrier to implementation of HPV immunization in Iraq. Many studies carried out among physicians<sup>22</sup> and nurses have documented that, the most important factors considered by health care practitioners while recommending HPV vaccine included effectiveness, side effects/safety. Health education and alertness campaigns on HPV prevention with more attention to the advantage of vaccination are necessary in order improve acceptance of vaccination program by preventing cervical cancer<sup>23</sup>.

## CONCLUSION

The findings of this study conclude that the level of knowledge of paramedical student was fairly lacking; Males had better knowledge than females students & nursing & Baghdad institute students displayed better knowledge compared to other students & urban students display better knowledge score the rural overall, their attitude score is good about the severity of cervical cancer and the benefit of HPV vaccination.

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