Knowledge Regarding Human Papillomavirus And Cervical Cancer Among A Sample Of Paramedical Staff In Al- Najaf Governorate, Iraq

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Abstract:

Background: HPV is one of the most prevalent a sexually transmitted infection (STI) ,involving both men and women, and 80 percent of individuals aged 50 years and older have reported developing genital HPV infection.

Objectives: To determine the level of knowledge regarding Human Papillomavirus and Cervical Cancer among a sample of para-medical.

Subject and Methods: This an observational descriptive cross-sectional study done at five hospitals and twenty five primary health care centers in Al-Najaf governorate. The data collection continued for four months started from the period of 19th December, 2021 ending on 18th April, 2022.

Results: The current study was conducted on (500) Para-medical staff with age group ranging from (20-59) years and the highest percentage (66.4%) were from (20-29) years age group. While in gender the highest percentage in female was (64.6%). Most of para-medical staff (90.8%) living in urban area. and also The greater number of participants were medical institute about (51.6%) from total number while the lowest percentage about (2.4%) from secondary school, only (2.4%) of para-medical staff had training about Human Papillomavirus and Cervical Cancer. . most of para-medical staff had (86.2%) was acceptable knowledge scores about Human Papillomavirus and Cervical Cancer.

Conclusion: Most of studied samples (para-medical staff) had acceptable knowledge scores.

Recommendation**:** It is recommended to do National education programs on human papillomavirus and cervical cancer as needed to be presented to the public through cooperation between health authorities, society organizations and non-governmental organization.

Keywords: Human Papillomavirus , Cervical Cancer, knowledge, para-medical staff , Najaf governorate.

Introduction: The HPV belongs to the Papillomaviridae family of small, non-enveloped, double-stranded DNA viruses, able to target epithelial cells of skin, oral and Anogenital mucosa (Wang et.al.,2020). Infection with the human papillomavirus (HPV) a nonenveloped DNA virus is the most prevalent viral infection of the

reproductive system, and it can cause a variety of problems in both men and women. includes precancerous lesions that could lead to malignancy. HPV infection is a conventional sexually transmitted infection (Al-Sarray, 2019). Despite the fact that HPV is found in the majority of people Infections do not produce symptoms or disease, and they go away on their own. Persistent infection with specific oncogenic strains of HPV (most commonly types 16 and 18) can cause precancerous lesions in women, which can proceed to cervical cancer if left untreated (WHO, 2014). Oncogenic HPV comes in 13 varieties; types 16 and 18 are the most common causes of cervical cancer, while non–oncogenic HPV types 6 and 11 are responsible for 90 percent of genital wart . HPV generates a dramatic burden, even though this is partially mitigated by cultural and religious factors (including male circumcision and religious creeds, such as the Jewish or the Islamic faiths, which strongly regulate sexual behavior)(Shavit et.al., 2013). Currently, three types of anti-HPV vaccine exist: a bivalent preparation (traded as Cervarix©, against HPV types 16 and 18), a quadrivalent one (marketed asGardasil©, targeting HPV types 16, 18, 31, and 33), and finally, a nonavalent one (traded as Gardasil-9©, against HPV types 6, 11, 16, 18, 31, 33, 42, 52, and 58) (Lehtinen et.al., 2019).

Objective of study: To determine the level of knowledge of para-medical staff regarding Human Papillomavirus and Cervical Cancer.

Subject and Methods:

Study Design : This an observational descriptive cross-sectional study done done at five hospitals and twenty five primary health care centers in Al-Najaf governorate.

Place of Study: In Al-Najaf governorate is a city in central Iraq about 160 km (100 mi) south of Baghdad. Its estimated population in 2017was 1,500,522 people. The area of Al-Najaf is about 28,824 square kilometers.

Time of Study: The data collection continued for four months started from the period of 19th December, 2021 ending on 18th April, 2022.

Inclusion and Exclusion Criteria of Study: Inclusion Criteria: Randomly selected Para-medical staff from five hospitals and twenty five primary health care centers in Al-Najaf governorate.

Exclusion Criteria: Physicians, dentists and pharmacists doctors, Administrators staff, Para-medical staff who refuse to participate in the study, Para-medical staff work over night, Para-medical staff don't know the term nosocomial infection.

Statistical Analysis: Analysis of data was carried out using the available statistical package of SPSS-28 (Statistical Packages for Social Sciences- version 28). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum-maximum values). The significance of difference of different percentages (qualitative data) were tested using Pearson Chi-square test (χ^2-test) with application of Yate's correction or Fisher Exact test whenever applicable. Statistical significance was considered whenever the P value was equal or less than 0.05.

Results: Table (1) Distribution of paramedical staff sample according to socio-demographic characteristics.

Socio-demographic characteristics.		No	%
Age (years)	20---29	332	66.4
	30---39	97	19.4
	40---49	50	10.0

	50---59 years	21	4.2
	Mean±SD (Range)	29.9±8.3 (20-59)	
Gender	Male	177	35.4
	Female	323	64.6
Marital status	Unmarried (single)	163	32.6
	Married	327	65.4
	Divorced/Widowed	10	2.0
Residence	Rural	46	9.2
	Urban	454	90.8
Period of employment	1---4	258	51.6
	5---9	101	20.2
	10---14	53	10.6
	15---19	23	4.6
	=>20years	65	13.0
	Mean±SD (Range)	7.7±7.8 (1-33)	
Educational level	Secondary school	12	2.4
	Diploma	258	51.6
	Bachelor & higher	230	46.0
Professional level	Med Tech College Graduate	126	25.2
	Medical assistant	137	27.4
	Nursing College Graduate	50	10.0
	Pharmacist Assistant	25	5.0
	Laboratory Assistant	99	19.8
	Nurse	25	5.0
	Radiographer	19	3.8
	Others	19	3.8
Health institution working in	Hospital	199	39.8
	PHC center	301	60.2
Have you entered training courses or workshops	No	488	97.6
	Yes	12	2.4
How many times	1	12	
How many days	3	4	
	5	8	

The study contains (500) of Para-medical staff gathering from 5 hospitals and 25 primary health care centers in Al-Najaf governorate. Table (4-1) shows the socio-demographic characteristics of para-medical staff. According to the age group ranging from (20-59) years old, the highest percentage (66.4%) were from (20-29) years

and the lowest percentage (4.2%) in age group (50-59) years. While in gender the highest percentage in female was (64.6%) but the lowest percentage (35.4%) in male. and marital status of para-medical staff (65.4%) were married, (32.6%) were single and the lowest percentage (2.0%) were divorced/widowed. Most of para-medical staff (90.8%) living in urban area and only (9.2%) was living in a rural area Also The greater number of participants were medical institute about (51.6%) from total number while the lowest percentage about (2.4%) from secondary school. Related to professional level, the highest percentage (27.4%) were medical assistant, (25.2%) medical technical college, (19.8%)

Laboratory Assistant, (10%) Nursing College Graduate, (5%) Pharmacist Assistant and Nurse, (3.8%) Radiographer and others (Science collage, Anesthesia collage). the period of experience, the majority of participants in the study had (1-4) years was (51.6%) and the lowest percentage (4.6%) in (15-19) years. While regarding the health institution the highest percentage (60.2%) from primary health care centers, and the low percentage (39.8%) from hospitals. Lastly, training courses or workshops on the subject (97.6%) were not entered training courses or workshops on the subject, while (2.4%) was entered training courses or workshops on the subject.

Table (2): Distribution of Studied Sample According to Their Knowledge about human papillomavirus general Information.

-Knowledge regarding general information about HPV:	Yes		No		Don't know	
	No.	%	No.	%	No.	%
HPV is very common worldwide	230	46.0	98	19.6	172	34.4
HPV is a type of sexually transmitted disease	263	52.6	99	19.8	138	27.6
HPV dose infect males and females equally	167	33.4	196	39.2	137	27.4
All HPV infections are caused by the same type of virus (No)	163	32.6	175	35.0	162	32.4
HPV is transmitted via close skin-to-skin contact	189	37.8	177	35.4	134	26.8
HPV may cause cervical cancer	327	65.4	58	11.6	115	23.0
HPV can cause genital cancer (penial or anal)	243	48.6	73	14.6	184	36.8
HPV is only known to affect humans (No)	172	34.4	132	26.4	196	39.2
HPV infection occur without symptoms	187	37.4	153	30.6	160	32.0
HPV can spread via common items like toilet seats (No)	209	41.8	125	25.0	166	33.2
HPV can cause genital warts	245	49.0	62	12.4	193	38.6
HPV does not affect chances of getting pregnant	133	26.6	192	38.4	175	35.0

HPV-positive pregnant women can pass the virus to their babies	182	36.4	103	20.6	215	43.0
HPV often resolves without treatment	104	20.8	200	40.0	196	39.2
An individual can become infected with more than one type of HPV	215	43.0	66	13.2	219	43.8
Taking vaccine after infection has the same effectiveness as taking it before exposure to HPV (No)	118	23.6	146	29.2	236	47.2
Under circumstances, the vaccination is offered free in government hospital setting (No)	175	35.0	109	21.8	216	43.2
Antibiotic is the treatment for HPV infection (No)	153	30.6	159	31.8	188	37.6
The vaccine gives a lifetime protection against HPV	156	31.2	117	23.4	227	45.4
HPV can be prevented by using condom during sexual intercourse	219	43.8	60	12.0	221	44.2

Table 2: revealed the knowledge of studied sample (paramedical staff) about human papillomavirus general knowledge. Appeared that an approximately 46.0% of them answered correctly about (HPV is very common worldwide), while about 52.6% answered correctly that (HPV is a type of sexually transmitted disease). 33.4% of the studied samples know correctly that (HPV dose infect males and females equally), while 35.0% answered correctly about (All HPV infections are caused by the same type of virus (No)). 37.8% and 65.4% of the studied sample answered correctly about (HPV is transmitted via close skin-to-skin contact) and (HPV may cause cervical cancer) respectively. while 48.6% of the studied sample answered correctly about (HPV can cause genital cancer (penial or anal)). 26.4% of them answered correctly about (HPV is only known to affect humans (No)), while 37.4% of the studied sample answered correctly about (HPV infection occur without symptoms) and 25.0% of them answered correctly about (HPV can spread via common items like toilet seats (No)) respectively, while 49.0% of the studied

sample answered correctly about (HPV can cause genital warts) and 26.6% of them answered correctly about (HPV does not affect chances of getting pregnant), while 36.4% of the studied sample answered correctly about (HPV-positive pregnant women can pass the virus to their babies), while 20.8% and 43.0% of the studied sample answered correctly about (HPV often resolves without treatment) and (An individual can become infected with more than one type of HPV), while 29.2% of the studied sample answered correctly about (Taking vaccine after infection has the same effectiveness as taking it before exposure to HPV (No)), 21.8% of the studied sample answered correctly about (Under circumstances, the vaccination is offered free in government hospital setting (No)) .31.8% of the studied sample answered correctly about (Antibiotic is the treatment for HPV infection (No)). 31.2% of the studied sample answered correctly about (The vaccine gives a lifetime protection against HPV)) and 43.8% of the studied sample answered correctly about (HPV can be prevented by using condom during sexual intercourse).
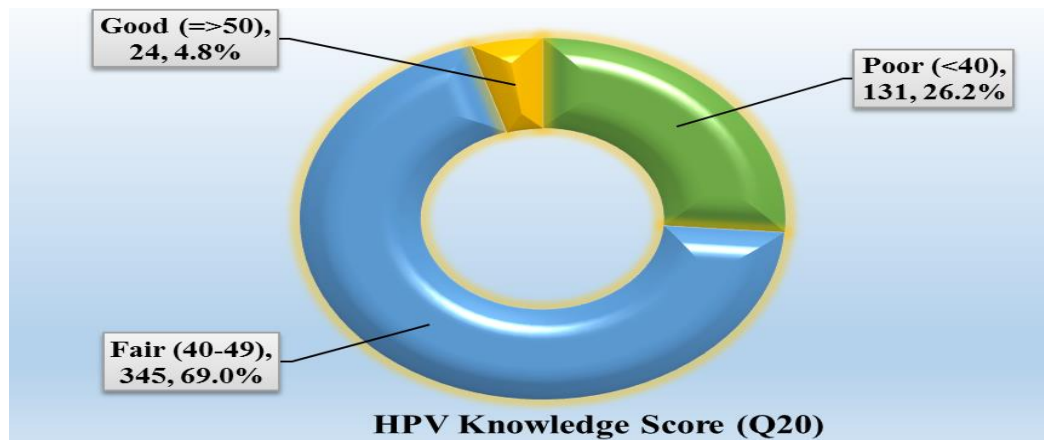
Figure (1) knowledge score towards Human Papillomavirus.

Table (3): Distribution of Studied Sample According to Their Knowledge about cervical cancer general Information.

2- Knowledge regarding general information about cervical cancer	Yes		No	
	No.	%	No.	%
Cervical cancer one of the common cancers among females	356	71.2	88	17.6
Family history is a risk factor of Cervical cancer	348	69.6	74	14.8
Cervical cancer is a communicable disease (transmitted by skin contact, sneezing, coughing) (No)	86	17.2	335	67.0
Cervical cancer can be prevented effectively by HPV vaccine	217	43.4	100	20.0
Cervical cancer most likely caused by HPV types 16 and 18	165	33.0	36	7.2
The Pap test can be used as a screening test for cervical cancer	305	61.0	42	8.4
Drinking coffee can lead to Cervical cancer (No)	73	14.6	215	43.0
The four main treatments of Cervical cancer are: Surgery, Radiotherapy, Chemotherapy, Targeted therapy	349	69.8	33	6.6
Staging your cancer can help the doctor to find the right treatment	360	72.0	40	8.0

Table 3:Show the Knowledge regarding general information about cervical cancer (71.2%) of the studied sample answered correctly about (Cervical cancer one of the common cancers among females), while 69.6% of the studied sample answered correctly about (Family history is a risk factor of Cervical cancer) and 43.4% of them

answered correctly about (Cervical cancer can be prevented effectively by HPV vaccine),while 33.0% of them answered correctly about (Cervical cancer most likely caused by HPV types 16 and 18) . 61.0% of them answered correctly about (The Pap test can be used as a screening test for cervical cancer), while 43.0% of the studied

sample answered correctly about (Drinking coffee can lead to Cervical cancer (No), approximately 69.8% and 72% of the studied sample answered correctly about (The four main treatments of Cervical cancer are: Surgery, Radiotherapy, Chemotherapy, Targeted therapy) and (Staging your cancer can help the doctor to find the right treatment).
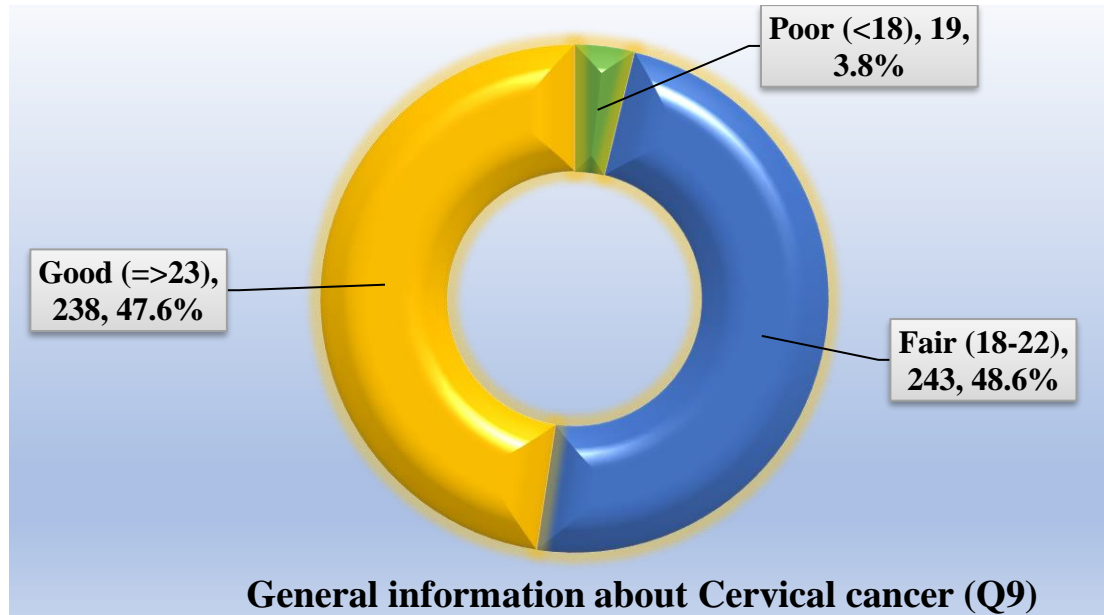

General information about Cervical cancer (Q9)

Figure (2) knowledge score towards cervical cancer.

Table (4): Distribution of Studied Sample according to their Knowledge about signs, symptoms of cervical cancer from HPV:

3-Signs and symptoms of cervical cancer from HPV:	Yes		No		Don't know	
	No.	%	No.	%	No.	%
Pelvic pain	330	66.0	68	13.6	102	20.4
Fever & weakness	285	57.0	86	17.2	129	25.8
Unusual vaginal discharge (heavy, watery, bloody, foul odor)	394	78.8	20	4.0	86	17.2
Early stage of Cervical cancer generally produces no symptoms	304	60.8	50	10.0	146	29.2
Vaginal bleeding after intercourse	232	46.4	26	5.2	242	48.4
Vaginal bleeding after menopause	217	43.4	35	7.0	248	49.6
Vaginal bleeding between periods	249	49.8	31	6.2	220	44.0
Anemia	324	64.8	22	4.4	154	30.8

Table 4: Regarding the knowledge of paramedical staff about signs, symptoms of cervical cancer, 66.0% of paramedical staff answered correctly about (Pelvic pain), 57.0% of paramedical staff answered correctly about (Fever & weakness), while 78.8% of paramedical staff answered correctly about (Unusual vaginal discharge (heavy, watery, bloody, foul odor)), 60.8% of paramedical staff answered correctly about

(Early stage of Cervical cancer generally produces no symptoms), while 46.4% (Vaginal bleeding after intercourse), 43.4% of paramedical staff answered correctly about (Vaginal bleeding after menopause), approximately 49.8% and 64.8% of paramedical staff answered correctly about (Vaginal bleeding between periods) and (Anemia).

Table 5: Regarding the knowledge of paramedical staff Risk factors for HPV persistence and development of Cervical cancer.

4-Risk factors for HPV persistence and development of Cervical cancer	Yes		No		Don't know	
	No.	%	No.	%	No.	%
Poor hygiene (No)	400	80.0	26	5.2	74	14.8
Weakened immune system	418	83.6	25	5.0	57	11.4
Other STDs (Chlamydia infection….)	338	67.6	44	8.8	118	23.6
Pregnant women (No)	253	50.6	41	8.2	206	41.2
Having many children	135	27.0	170	34.0	195	39.0
Long term use of oral contraceptives	201	40.2	107	21.4	192	38.4
Smoking	266	53.2	79	15.8	155	31.0

table 5: Regarding the knowledge of paramedical staff Risk factors for HPV persistence and development of Cervical cancer, (5.2%) of paramedical staff answered correctly about (Poor hygiene (No)), while (83.6%) of paramedical staff answered correctly about (Weakened immune system). (67.6%) of paramedical staff answered correctly about (Other STDs (Chlamydia infection….)), (8.2%) of paramedical staff answered correctly about (Pregnant women (No)), while (27.0%) of paramedical staff answered correctly about (Having many children), (40.2%) of paramedical staff answered correctly about (Long term use of oral contraceptives), while (53.2%) of

paramedical staff answered correctly about (Smoking).

Discussion: The study contains numbers of socio-demographic information about paramedical staff found in table (1), the highest percentage of age group (20-29 years) was (66.4%) and the lowest percentage was (4.2%) in the age group (50-59). This result agrees with study done in Baghdad Teaching Hospitals (55.26%) done by (Al-Sarray.,2019). And disagrees with a study in south India was (15.33) done by (Mehaboob et al., 2016) . There are two likely reasons for this difference either, in recent past years, the enrolment at the Iraqi Ministry of Health

increased, which led to an increase in youth of these ages or the inclination of Indian society for social work round these ages. More participants in this study was female (64.6%), while male was (35.4%). In comparison with some neighboring countries, these are similar to what had been reported in India by (J. Singh & Baliga, 2021) (58.2%) of results were female and also (71.6%) of the participants was females done by (Swarnapriya, Kavitha, & Reddy, 2016) in India. This will be explained by that the females participant were having more interesting to participate. The study was observed (32.6%) single para-medical staff, the percentage (65.4%) were married and (2% widow and divorced), this result disagrees with the study result done in Iran by(Najafi-Sharjabad & Rayani, 2019) and in Pakistan by (Majid et al., 2022) which shows that most of the students were single (81.5%),(68%) respectively. About (51.6%) of para-medical participants had diploma , These results are different from what had been found in Malaysia (40.2%) done by (Widjaja, 2019).

In the figure (4-1) The knowledge of paramedical staff regarding definition of Human papillomavirus was (fair) less than (50%) for all questions except (52.6%) for (HPV is a type of sexually transmitted disease) and (65.4%) for (HPV may cause cervical cancer). The good knowledge score was (4.8). This result agree with another survey that was done in in KwaZulu-Natal, South Africa by (Eche & Vermaak, 2022). While This result disagree with another survey that was done in Malaysia by (Widjaja, 2019) the percentage of the participant that was have a good information about the same subject were (59.8%). The possible explanation for this disagreement of study due to para-medical staff don't know correctly the definition of Human papillomavirus according the WHO.

The good knowledge score (47.6%) regarding General information about Cervical cancer in figure (4-2). This study reveals that less than half, of the participants had heard about cervical cancer. Concerning this aspect, the information of the studied sample exceed (60%) and some answers across (70%), except (43.4%) for (Cervical cancer can be prevented effectively by HPV vaccine), (33%) for (Cervical cancer most likely caused by HPV types 16 and 18) and (43%) for (Drinking coffee can lead to Cervical cancer (No)). This result agree with the finding of other survey that was done in Southern Ethiopia by (Tekle et.al., 2020). While This result disagree with another survey that was done in Gondar town, North West Ethiopia by(Mengesha et.al., 2020) the percentage of the participant that was have a good information about the same subject were (65.1%).

Conclusion: Most of studied samples (para-medical staff) had acceptable knowledge scores.

Recommendation: It is recommended to do National education programs on human papillomavirus and cervical cancer are needed to be presented to the public through cooperation between health authorities, society organizations and non-governmental organization.

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