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"Bridging the Knowledge Gap: Evaluating Female Medical Students' Understanding of HPV Prevention and Cervical Cancer Risk in (Your Regionl"

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Abstract

It is possible to avoid cervical cancer by detecting cervical dysplasia, a precancerous condition, early on using a Pap smear. Cervical cancer is less prevalent in countries that have robust screening systems. When it comes to human papillomavirus (HPV) and cervical cancer screening, Saudi Arabia is woefully unprepared. Our objective is to gauge the level of knowledge among female students at Umm Al-Qura University, KSA, about cervical cancer, PAP smears, and HPV. Additionally, we will look at any obstacles to and opinions on the HPV vaccine. At Umm Al-Qura University (UQU), Makkah, Saudi Arabia, 479 female students participated in a cross-sectional study by completing an online questionnaire. Of those who took part, 86.4% were familiar with cervical cancer, whereas 40.7% knew about HPV, 30.5% about the vaccination, and 55.1% about Pap tests. Nearly 60% of those who took part were aware that cervical cancer may be avoided. Of those who needed the HPV vaccination, only 16.5% knew when to get it. With regard to the PAP smear screening, only 7.1% were aware of when to begin. Getting the HPV vaccination was supported by the majority of people (72%). Among married women who consented to Pap smears, only 4% had a personal history of cervical cancer, 2.1% had gotten the HPV vaccination, and 4.4% had actually had one. The number of individuals who demonstrated a high level of expertise was much greater among those specializing in health sciences (college). Health education and awareness efforts should emphasize the significance of HPV vaccination and cervical cancer screening.

Keywords: Awareness, Cervical, Cancer, HPV vaccine, Human papillomavirus, PAP smear

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INTRODUCTION

When it comes to female cancers, cervical cancer ranks second globally [1, 2]. It ranks high among the leading causes of mortality among reproductive-aged women [3, 4]. The majority of cervical cancer cases in Saudi Arabia, however, are discovered at late stages, making care even more challenging [3, 5]. Annually, 250,000 people lose their lives to cervical cancer, and there are about 500,000 new cases globally [4, 6]. Muslims and Jews in the Middle East have the lowest incidence rate when compared to other religious groups [7-9].

Human papillomavirus (HPV), insufficient screening services, inadequate treatment and screening availability, and a social environment that promotes such behaviors are among the several variables recognized as risk factors for cervical cancer [3, 10, 11]. Early detection via cervical screening procedures, such Pap smears, helps prevent cervical cancer [7]. One easy and very sensitive screening technique is the HPV test [8]. In nations where cervical cancer screening systems are well-established, the illness occurs less often [12]. No In Saudi Arabia, women who go to the doctor for a gynecologic checkup are only offered opportunistic screenings, while there are national screening programs in place [9, 13]. Interns and nurses, who provide primary health care (PHC) to the general public and are valuable resources for patients, should be well educated on cervical cancer, according to previous studies [14]. Prior research in Saudi Arabia has shown that screening for cervical cancer and HPV is often inadequate due to a lack of knowledge and expertise [15]. The purpose of this research was to examine the level of knowledge that female students at Umm Al-Qura University in Saudi Arabia had on cervical cancer, HPV, obstacles to getting the vaccine, and their feelings about getting a Pap smear.

Materials and Methods

Study Design, Setting, and Time Frame

A descriptive cross-sectional study was conducted at Umm Al-Qura University (UQU) in Makkah from May to June 2022.

Sample Size

The number of female students at Umm Al-Qura University was 55042 in the most recent enrollment period, with a female student population proportion of 45%. The result is an estimated 382 participants, with a 95% confidence interval and a 5% margin of error.

Study Participants

All female students at UQU in Makkah, Saudi Arabia, were required to be between the ages of 18 and 25. We included college students from all around the world who were willing to take part in the research. Those who did not meet the age requirement, as well as physicians, educators, and anybody not affiliated with UQU, were not eligible to participate.

Data Collection

The literature study served as the basis for the development of an online structured questionnaire that was adjusted [3, 7]. It was 32 questions long and had no open-ended choices. To make it easy for participants to comprehend, it is written in both Arabic and English for each question. The second portion of the survey consisted of sixteen questions designed to test the participants' understanding about cervical cancer, human papillomavirus (HPV), and the vaccination against it. Section 3 of the survey asked participants about their experiences with the HPV vaccination, Pap smears, and the reasons they either agreed or disagreed with the recommendations. The research participants were considered to have high knowledge on cancer cervix, HPV and its vaccine, and Pap smear if they got more than 80% of the knowledge assessment questions right, and poor knowledge if they got less than 80% [16].

The demographic information of the participants was gathered in the first phase of the survey. Age, nationality, college, study year, marital status (if married, husband's highest level of education and number of children), mother's and father's levels of education, monthly income, and location of living are among the ten statements included.

Data Analysis

The (SPSS) application, version 26, was used for data analysis. Numbers and percentages were used to convey qualitative data, and the Chi-squared test was used to examine the association between variables.
The $\chi 2$ test was used. A p-value smaller than was used to convey quantitative data, which was presented as mean ± standard deviation (Mean ± SD).

For statistical purposes, a significance level of 0.05 was used.

Results and Discussion

Participants' Demographics

Of the people who took part in the study, 52.4% were between the ages of 22 and 25, 92.9% were Saudi nationals, and 52.6% were

enrolled in some kind of health-related university. Among the married participants, only 11.9% had a bachelor's degree as their spouse, whereas 58% had a master's degree. The majority lived in urban areas, and 28.6% of them had monthly incomes below 5,000 SR. Table 1 shows that almost half of the participants' parents had only completed secondary school.

Table 1. Distribution of studied participants according to their demographics and husband's, mother's, and father's educational level

Variable	No. (%)
Age/years	
18-21	228 (47.6)
22-25	251 (52.4)
Nationality	
Saudi	445 (92.9)
Non-Saudi	34 (7.1)
Specialty	
Medical	252 (52.6)
Non-medical	227 (47.4)
Marital status	
Single	422 (88.1)
Married	57 (11.9)
If married (No.:57), what is your husband's educational level?	
Bachelor	33 (58)
Secondary or less	19 (33.3)
Postgraduate education	5 (8.7)
Residence	
Rural	65 (13.6)
Urban	414 (86.4)
Monthly income / SR	
<5,000	137 (28.6)
5,000-10,000	95 (19.8)
10,000-15,000	111 (23.2)
>15,000	136 (28.4)
Mother's education	
Bachelor	214 (44.7)
Secondary or less	247 (51.6)
Postgraduate education	18 (3.8)
Father's education	
Bachelor	192 (40.1)
Secondary or less	248 (51.8)
Postgraduate education	39 (8.1)

Knowledge about cervical cancer and Human Papilloma Virus (HPV)

The majority of the participants have heard about cervical cancer but only 26.9% knew its causes and risk factors. Of them, 69.1%, 52.4%, 69.3%, and 55.5% knew that pain, bleeding after intercourse, abnormal uterine bleeding, and vaginal secretions are common symptoms of the disease. Regarding the participant's knowledge of HPV, 40.7% heard about it, 30.5% heard about its vaccine, and 55.1% heard about Pap smear **(Table 2)**.

Table 2. Distribution of studied participants according to their response to dichotomous questions related to knowledge about cervical cancer and Human Papilloma Virus (HPV)

Variable	No No. (%)	Yes No. (%)

Knowledge about cervical cancer		
Have you ever heard of cervical cancer?	106 (22.1)	414 (86.4)
Do you know the causes of cervical cancer?	350 (73.1)	129 (26.9)
Do you know the symptoms of cervical cancer? [Pain]	148 (30.9)	331 (69.1)
Do you know the symptoms of cervical cancer? [Bleeding after intercourse]	228 (47.6)	251 (52.4)
Do you know the symptoms of cervical cancer? [Abnormal uterine bleeding]	147 (30.7)	332 (69.3)
Do you know the symptoms of cervical cancer? [vaginal secretions]	213 (44.5)	266 (55.5)
Knowledge about HPV, HPV vaccine, and Pap smear		
Have you ever heard of HPV?	284 (59.3)	195 (40.7)
Have you ever heard of the HPV vaccine?	333 (69.5)	146 (30.5)
Have you ever heard of a Pap smear?	215 (44.9)	264 (55.1)

Practice related to cervical cancer, HPV, and Pap smear

More than half of the participants thought that cervical cancer can be prevented and 47% thought that its mode of transmission is direct transmission (Genital, Skin, hands.). Only 16.5% knew that the best age to take the HPV vaccine is 9-13 years, however, only 6% knew that the frequency of vaccination is 3 doses over 6 months. Only 7.1% knew that the most appropriate time to start the screening program (pap smear test) is after 3 years after marriage and 7.7% knew that the best frequency of pap smear screening test is every 3 years. About 26% (26.7%) of participants females reported that screening for cervical cancer should not stop after vaccination **(Table 3)**.

Mode of transmission of HPV	
Direct transmission (Genital, Skin, hands.)	225 (47)
Indirect transmission (Shared objects, surfaces)	24 (5)
Airborne or aerosol transmission	8 (1.7)
Bloodborne transmission	64 (13.4)
I don't know	234 (48.9)
Do you know what is the best age to take the HPV vaccine?	
>35	12 (2.5)
9-13	79 (16.5)
Don't know	388 (81)
Do you know how often the vaccination doses are repeated?	
3 doses over 5 years	19 (4)
3 doses over 6 months	32 (6)
3 doses over 2 years	21 (4.4)
I don't know	407 (85)
Do you know what is the most appropriate time to start the screening program (pap smear test)?	
>30	30 (6.3)
After 3 years of marriage	34 (7.1)
At the age of 21	80 (16.7)
I don't know	335 (69.9)
Do you know what is the best frequency of pap smear screening tests in females between 21-29 years old?	
Every 3 years	62 (12.9)
Every 5 years	37 (7.7)
I didn't hear about it	380 (79.3)
Do you think screening for cervical cancer should stop after vaccination?	
No	128 (26.7)
I don't know	330 (68.9)
Yes	21(4.4)

Sources of information about cervical cancer

Attitude towards HPV vaccine and Pap smear

As for the participant's attitude toward the vaccine shows that most of the participants (72%) agreed to have the HPV vaccine. For those who refused to have the HPV vaccine, the most common barriers were that they didn't hear about it (17.3%), were worried about side effects (11.5%), and not believing in the benefits of vaccination (8.4%). Most of the participants also accepted a Pap smear after marriage for early diagnosis (79.3%). For those who refused, the most common causes were not seeing a reason for the screening test and feeling uncomfortable with a pelvic exam **(Table 4)**.

Table 3. Distribution of studied participants according to their responses to multiple choice questions related to knowledge about cervical cancer and Human Papilloma Virus (HPV)

Variable	No. (%)
Do you think cervical cancer can be prevented?	
No	15 (3.1)
Don't know	178 937.2)
Yes	286 (59.7)

Table 4. Attitude of the participants towards HPV vaccine and Pap smear and causes of refusal

Variable	No. (%)
Do you agree to have the HPV vaccine?	
Agree	345 (72)
Don't agree	134 (28)
What is the reason for your refusal to vaccinate? (No.:134) (more than one answer was allowed)	
I didn't hear about it	83 (17.3)
It is rare and is not worth the vaccination	27 (5.6)
I don't believe in the benefits of vaccination	40 (8.4)
Being worried about side effects	55 (11.5)
I don't know where the vaccine is available	26 (5.4)
I have no time	17 (3.5)
Being afraid of the vaccine injection	26 (5.4)
Family refusal	19 (4)

The vaccine might be unaffordable	20 (4.2)
Do you accept a Pap smear after marriage for early diagnosis?	
Accept	380 (79.3)
Refuse	99 (10.7)
Why did you refuse? (No.:99)	15 (3.1)
being worried about another bad result	45 (9.4)
I feel uncomfortable with a pelvic exam	58 (12.1)
I don't see a reason for the screening test	
I didn't hear about it	30 (6.3)
Family refusal	11 (2.3)

Regarding the participants' practice, it shows that only 4% of the participants had a personal history or a relative with cervical cancer and only 2.1% were vaccinated with the HPV vaccine. Only 4.4% of them ever had a Pap smear **(Table 5)**.

Knowledge Level

Participants with an age ranged from 22-25 years and those studying in a medical college had a significantly higher level of knowledge compared to others (p=< 0.05). Participants who had a previous vaccination with the HPV vaccine also had a significantly higher percentage of those who had a good level of knowledge (p=< 0.05) **(Table 6)**. Participants age 22-25 years and those having a medical specialty, who previously heard about cervical cancer, HPV, and its vaccine, and Pap smear had a significantly higher percentage of those who accepted to have the HPV (p=< 0.05). Participants who had themselves or a relative with cervical cancer and those who had a Pap smear also had a significantly higher percentage of those who had a good level of knowledge (p=< 0.05) **(Table 7)**.

Table 5. Distribution of studied participants according to their practice related to cervical cancer, HPV, and Pap smear

Practice related to cervical cancer, HPV, and Pap smear	No No. (%)	Yes No. (%)
Do you or a relative have cervical cancer?	460 (96)	19 (4)
Have you ever been vaccinated with the HPV vaccine?	469 (97.9)	10 (2.1)
Have you ever had a Pap smear?	458 (95.6)	21 (4.4)

Table 6. Relationship between participants' level of knowledge and their demographics, husband's, mother's, and father's education, previous hearing about cervical cancer, HPV and its vaccine, Pap smear and their related practice

Variable	Knowledge level		χ^2	p-value
	Poor No. (%)	Good No. (%)		
Age/years				
18-21	224 (98.2)	4 (1.8)	14.14	< 0.001
22-25	226 (90)	25 (10)		
Nationality				
Saudi	416 (93.5)	29 (6.5)	2.35	0.125
Non-Saudi	34 (100)	0 (0.0)		
Specialty				
Medical	224 (88.9)	28 (11.1)	23.9	< 0.001
Non-medical	226 (99.6)	1 (0.4)		
Marital status				
Single	394 (93.4)	28 (6.6)	2.1	0.147
Married	56 (98.2)	1 (1.8)		
If married (No.:57), what is your husband's educational level?				
Bachelor	32 (97)	1 (3)	2.32	0.507
Secondary or less	19 (100)	0 (0.0)		
Postgraduate education	5 (100)	0 (0.0)		
Residence				
Rural	61 (93.8)	4 (6.2)	0.001	0.971
Urban	389 (94)	25 (6)		
Monthly income / SR				
<5,000	131 (95.6)	6 (4.4)	3.97	0.265
5,000-10,0001	88 (92.6)	7 (7.4)		
10,000-15,000	107 (96.4)	4 (3.6)		
>15,000	124 (91.2)	12 (8.8)		
Mother's education				
Bachelor	199 (93)	15 (7)	1.77	0.412
Secondary or less	235 (95.1)	12 (4.9)		
Postgraduate education	16 (88.9)	2 (11.1)		
Father's education				
Bachelor	180 (93.8)	12 (6.3)	1.51	0.47
Secondary or less	235 (94.8)	13 (5.2)		
Postgraduate education	35 (89.7)	4 (10.3)		
Have you ever heard of cervical cancer?				
No	106 (100)	0 (0.0)	8.77	0.003
Yes	344 (92.2)	29 (7.8)		
Have you ever heard of HPV?				
No	284 (100)	0 (0.0)	44.95	< 0.001
Yes	166 (85.1)	29 (14.9)		
Have you ever heard of the HPV vaccine?				
No	333 (100)	0 (0.0)	70.4	< 0.001
Yes	117 (80.1)	29 (19.9)		
Have you ever heard of a Pap smear?				
No	215 (100)	0 (0.0)	25.13	< 0.001
Yes	235 (89)	29 (11)		
Do you or a relative have cervical cancer?				
No	432 (93.9)	28 (6.1)	0.02	0.882
Yes	18 (94.7)	1 (5.3)		
Have you ever been vaccinated with the HPV vaccine?				
No	445 (94.9)	5 (5.1)	34.67	< 0.001
Yes	5 (50)	5 (50)		
Have you ever had a Pap smear?				
No	429 (93.7)	29 (6.3)	1.41	0.234
Yes	21 (100)	0 (0.0)		

Table 7. Relationship between participants' attitude and their demographics, husband's, mother's, and father's education, previous hearing about cervical cancer, HPV and its vaccine, Pap smear and their related practice

Variable	Attitude towards HPV vaccine		χ^2	p- value
	Accept No. (%)	Don't accept No. (%)		
Age/years				
18-21	147 (64.5)	81 (35.5)		
22-25	198 (78.9)	53 (21.1)	1	
Nationality				
Saudi	323 (72.6)	122 (27.4)		
Non-Saudi	22 (64.7)	12 (35.3)		
Specialty				
Medical	200 (79.4)	52 (20.6)	1	
Non-medical	145 (63.9)	82 (36.1)		
Marital status				
Single	303 (71.8)	119 (28.2)		
Married	42 (73.7)	15 (26.3)		
If married (No.:57), what is your husband's				
Do you or a relative have cervical cancer?				
No	327 (71.1)	133 (28.9)	5.06	0.024
Yes	18 (94.7)	1 (5.3)		
Have you ever been vaccinated with the HPV vaccine?				
No	336 (71.6)	133 (28.4)	1.63	0.201
Yes	9 (90)	1 (10)		
Have you ever had a Pap smear?				
No	327 (71.1)	133 (28.9)	5.06	0.024
Yes	18 (94.7)	1 (5.3)		
educational level?				
Bachelor	23 (69.7)	10 (30.3)	0.7	
Secondary or less	15 (78.9)	4 (21.1)		0.871
Postgraduate education	4 (80)	1 (20)		
Residence				
Rural	45 (69.2)	20 (30.8)		
Urban	300 (72.5)	114 (27.5)		
Monthly income / SR				
<5,000	97 (70.8)	40 (29.2)		
5,000-10,0001	60 (63.2)	35 (36.8)		
10,000-15,000	84 (75.7)	27 (24.3)		
>15,000	104 (76.5)	32 (23.5)		
Mother's education				
Bachelor	155 (72.4)	59 (27.6)		
Secondary or less	177 (71.7)	70 (28.3)		
Postgraduate education	13 (72.2)	5 (27.8)		
Father's education				
Bachelor	141 (73.4)	51 (26.6)		
Secondary or less	175 (70.6)	73 (29.4)		
Postgraduate education	29 (74.4)	10 (25.6)		

Awareness About Cervical Cancer, HPV and Vaccine, and Pap Smear

The purpose of this study was to determine how well female students at Saudi Arabia's Umm Al-Qura University understood cervical cancer and HPV, as well as their feelings on the vaccine and Pap smear screening.

The following percentages of individuals were familiar with cervical cancer, HPV, its vaccination, and Pap smears: 86.4%, 40.7%, and 30.5%, respectively. These percentages are in line with what was found in the two prior investigations before this one [17]. Among Moroccan university women, Yacouti et al. [18] discovered that 81.9% had heard about cervical cancer, 14.7% about HPV, and 7.8% about the vaccination. Contrarily, Al Nafisah et al. found that 70% of Saudi women in the Qassim area had heard of cervical cancer and 7.2% of those same women had heard of HPV [19]. A high proportion of our participants (58%), holding a bachelor's degree in education, may account for the high numbers in our research.

Data Sources Regarding Cervical Cancer

While health experts were the most popular source of knowledge on HPV, media and blogs accounted for 58.7 percent of cervical cancer-related information. Aga et al. [20] discovered that among health profession students at King Saud Bin Abdulaziz University for Health Science, the majority of information about HPV comes from hospitals.
Exploring the Relationship Between HPV and Cervical Cancer
There is a way to avoid cervical cancer, according to 59.7 percent of people in this research [21]. Among students at Jeddah, Saudi Arabia's King Saud Bin Abdulaziz University, Aga et al. [20] also found a comparable result.

Direct transmission is the most common way that HPV is spread, according to most participants (47%). The correct time to begin the screening program was only known by 7.1% of participants. However, when asked how often and when to discontinue screening, few people got the answer right. Al-Shaikh et al. [7] previously found that among 1400 students enrolled in the Health Colleges of Princess Nora Bint Abdul Rahman University in Riyadh, very little was known about this topic. Pap smears were not well-known as screening tools, and 95.7% of students surveyed had little information about them; just 46.7% had heard of the test [7]. One possible explanation for Saudi women's lack of understanding is the country's lack of a comprehensive screening program or public education initiatives.

Understanding when and how much of the HPV vaccination is best administered was severely lacking in the current investigation. In a similar vein, Alsous et al. reported that participants in this cross-sectional study from Iraq, Jordan, Qatar, and the United Arab Emirates had low levels of knowledge and awareness about human papillomavirus (HPV) and its vaccine, whereas individuals from the United Arab Emirates had significantly higher levels of knowledge and awareness [22]. The absence of a standardized cervical cancer screening program, which might include media campaigns to educate the public and encourage Pap smears among women, may contribute to this lack of understanding [23]. The vast majority of Saudis agreed that the Pap smear was an accurate diagnostic tool [7].

How I Feel About the HPV Vaccine and Pap Smears The majority of survey participants were open to getting the HPV vaccination, which shows that people are well-informed about the vaccine and its significance. The vaccine's widespread and simple availability contributed significantly to this. In 2018, researchers from Saudi Arabia (Malibari et al., [24]) came to a similar conclusion. The majority of women in his survey were in favor of vaccination and wanted their daughters to be too, according to his findings.

We discovered that people's lack of knowledge about the vaccination was the biggest obstacle to its use. Jradi et al. [3] found that vaccination rejection was associated with a lack of knowledge of the HPV vaccine, therefore this finding was in line with their findings. There was a robust relationship between knowing about the HPV vaccination and actually obtaining it. Yacouti et al. [18], who conducted an earlier investigation in Morocco, also found this.

Research shows that there are a lot of barriers that prevent adolescents from getting the HPV vaccination. For example, according to research by Azer et al. 2022, the lack of access to HPV vaccination in the country is the primary factor preventing students from getting the vaccine [25]. Concerns over the vaccine's side effects and safety were also listed as primary causes in studies by Altamimi et al. (2020) and Al-Shaikh et al. (2014) [7, 9].

However, in order to detect cervical cancer early, the majority of participants also agreed to have Pap screenings after becoming married. This is in agreement with what Yacouti et al. found [18]. Results showed that more people were open to getting a Pap smear in the future than were before. Most people who declined Pap smears said they were uncomfortable with pelvic exams and didn't understand the need for the screening test [26]. This outcome is indicative of people's ignorance of the Pap smear as an important tool for screening for cervical cancer [27].

Participants in this research who were between the ages of 22 and 25 and who were enrolled in health or medical schools had a much greater proportion of cervical cancer knowledge [28]. In a Polish investigation, Osowiecka et al. [29] likewise found this effect. According to that research, it was because of the information they had received while in medical school. With the help of these resources, they might learn more about cervical cancer. On the other hand, a Saudi research conducted by Al-darwish et al. on students at the College of Medicine, King Faisal University, Al-Ahsa, KSA found that there was a knowledge gap when it came to cervical cancer prevention, early warning signals, and risk factors [30].

The proportion of individuals with a decent level of awareness about cervical cancer, PAP smear, HPV, and its vaccination was much greater among those who had heard about these topics before compared to those who had not [31]. Compared to previous studies conducted in the Middle East, the present study's finding that 85% of participants having heard of HPV is comparatively high. Only 30% of people in one study by Ortashi O et al. in the Emirates had heard of HPV [4].

In their research of 1616 female first-year college students at the University of Niš in Serbia, Rančić et al. discovered that 67% of the participants had heard about HPV before [8]. The fact that 58% of the participants had a bachelor's degree in education and 52% were medical or health-related college students may explain this. They will learn about HPV as part of their course work, which might increase their understanding of the virus. On the other hand, students in both the medical and non-medical fields indicated a lack of familiarity with cervical cancer, HPV, and the vaccination against it [32]. Possible causes include insufficient public education and the lack of a vaccination program.

Similar to Alsous et al. [22], other research found that three of the participating nations (i.e., Iraq, Jordan, and Qatar) did not include the HPV vaccine in their national immunization schedule and did not have public information campaigns about the HPV virus. In 2014, researchers in Saudi Arabia found the same thing (Al-Shaikh et al., 2014).

Those who were vaccinated against HPV in this research knew much more about cervical cancer than those who were not. The results may be explained by the fact that the sample who received HPV vaccinations tended to have a better understanding of cervical cancer [33]. This group may have received the HPV vaccination since they were previously educated. As a whole, 94% of the group with limited awareness did not get the HPV vaccination; this might be because Saudi Arabia has just recently started a vaccine program. These findings were in agreement with a recent research conducted in 2022 by Yacouti et al. A larger number of individuals who were willing to take the HPV vaccination had better knowledge about cervical cancer and the vaccine, as well as acceptance of Pap screening tests, according to this research [18].

Prior research has shown that primary health care (PHC) settings should be included in a long-term awareness campaign aimed at preventing cervical cancer. All public health clinics throughout the country should participate in a population-based screening program, according to these research [34].

Limitations

A limitation of this study was the usage of a self-reported questionnaire that could have a recall bias.

CONCLUSION

Certain details about cervical cancer, PAP smears, HPV, and its vaccination were found to be lacking in this research. Because of this, public education efforts on the significance of HPV vaccine and cervical cancer screenings are required. Reiterating the need of doctors and other medical staff informing patients about HPV screenings and vaccines is crucial.

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