

Attitudes and Awareness Related to Cervical Cancer Vaccine

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Abstract

Introduction: Cervical cancer causes major morbidity and mortality around the world. This makes prophylactic vaccines a significant tool for preventing the disease. As these vaccines become more widely available, they have the potential to drastically lower the cancer's prevalence and burden in the future.

Aim: The aim of this study was to assess the attitudes toward awareness of the human papillomavirus (HPV) vaccination.

Materials and methods: A pilot, cross-sectional, medicosocial survey was conducted using a structured, anonymous online questionnaire, including self-assessment questions on awareness and attitudes towards HPV vaccination. Sixty-four adult female parents of female children participated in the study between June and August 2023. The design and conduct of the study was done with the personal involvement of the researchers. SPSS v. 23.0 was used to analyze the primary statistical information. The results obtained were presented graphically using MS Excel 2010.

Results: We found significantly good awareness and negative attitude towards vaccination as prevention against HPV.

Conclusion: The present study demonstrated that respondents had a relatively good awareness of cervical cancer, the risk factors associated with the disease, and the virus that causes it. There was a correlation between socio-demographic characteristics and awareness of the study population. The respondents had a certain distrust of the vaccine. The dissatisfaction stemmed from the fact that vaccination was not a substitute for routine cervical screening, was not 100% effective, and did not provide protection against any type of papilloma virus or against pre-existing HPV infections.

The low vaccination coverage in Bulgaria leads the authors to believe that our country urgently needs new strategies and approaches in the fight against cervical cancer, through continuous training of medical personnel, inclusion of immunization programs in school health care, and improved health education and awareness of HPV vaccination among adolescent girls and their parents.

Keywords

awareness, HPV, immunization, prevention, primary prevention

INTRODUCTION

Human papillomavirus (HPV) can cause cervical cancer, genital warts, oropharyngeal cancer, anal cancer, and various cancers of the vulva or vagina.^[1]

Cervical cancer is a serious disease that affects thousands of women worldwide. Thanks to the advances in medicine and based on research into this socially important pathology, a vaccine has been developed to prevent the disease from occurring. European guidelines focus on quality primary HPV testing, the organization of HPV-based and cytology screening programs and the implementation of vaccination programs against the papilloma virus. Countries with cervical cancer screening and prevention programs have seen reduced morbidity and mortality caused by this pathology.^[2]

HPV infection is common, sexually transmitted, with infection with the virus usually occurring soon after first sexual contact.^[3] In their study, Sandeva and Kuzmanov concentrated on the sexual behavior of a group of students and showed that sexual life begins relatively early, at around the age of 15, and that a significant percentage of girls engage in high-risk sexual behavior, which is a requirement for unintended pregnancy, STDs, HPV infection, and the development of PMH at a later stage.^[4] Persistent infections with high-risk oncogenic HPV types 16 and 18 can lead to the development of cervical cancer, even after several decades. Many new HPV infections occur in adolescents, but they can also occur in sexually active adults exposed to the virus from a new sexual partner.^[1] Establishing a causal link between papillomavirus infection and cervical cancer is considered one of the most significant scientific advances that makes prevention of these cancers possible through vaccination.^[5]

HPV vaccination is most effective when administered before exposure to HPV, and in early adolescence. Young girls remain the most important focus of the HPV vaccination program^[1], and their parents should be targeted by public programs to raise awareness and create positive attitudes towards vaccinating their children.

Worldwide, a number of studies have focused on the attitudes and awareness of HPV and its associated viral load. These studies have found a low level of knowledge in the population regarding this pathology and the risk factors leading to the disease, which is a barrier to screening.^[6] The authors recommend primary prevention of this type of cancer among schoolchildren.^[7]

A report by the European Federation of Pharmaceutical Industries and Associations (EFPIA), developed by several international organizations, states that Bulgaria is at a critical level of HPV vaccination, despite the reimbursement since 2012. The reason for this, according to the authors of the report, is the lack of a national cancer control plan, as well as immunization programs in schools, while some European countries have successfully implemented such programs. There are after-school immunization programs in our country. Bulgaria's inequity in the access to biomet-

ric testing and new, modern treatments in oncology can be corrected through new strategies and approaches to the fight against cancer, innovations in diagnosis and treatment, ongoing training of medical professionals, improved health literacy, and awareness of the benefits of HPV vaccination.^[8] Vaccination uptake in Bulgaria is alarmingly low, so it is important to assess the attitudes and awareness of human papillomavirus (HPV) vaccination in order to support the development of strategies aimed at increasing vaccination uptake in the Bulgarian population.

AIM

The aim of this study was to assess the attitudes and awareness of the human papillomavirus (HPV) vaccination.

MATERIALS AND METHODS

A pilot, cross-sectional, medicosocial study was conducted using a structured, anonymous online survey, which included questions on self-assessed awareness and attitudes towards HPV vaccination.

The questionnaire consisted of 19 open and closed questions grouped into two sections:

- First section – Socio-demographic characteristics of the contingent: contains 5 questions
- Second section – Attitudes and awareness of cervical cancer, the causative agent (HPV), risk factors, fear of infection and questions about the vaccine: contains 14 questions

Sixty-four adult women, parents of female children, participated in the survey which was performed between June and August 2023. The survey design and conduct was done with the researchers' personal involvement.

The signs of observation were divided into the following groups:

Factorial: age, residence, education, marital status, and employment.

Resultant: awareness of human papillomavirus, cervical cancer and risk factors that cause it, HPV vaccine, attitudes about papillomavirus infection, awareness and attitudes about HPV vaccination.

According to the purpose of the study, the size and type of data, the following statistical methods were used:

- Descriptive statistics – to process quantifiable attributes.
- Alternative analysis – to summarize qualitatively measurable dichotomous data: estimation of relative proportion in percentages.
- Parametric analyses: T-test for two independent samples (independent sample *t*-test): the test for statistically significant differences between two means.
- Non-parametric analyses: the Mann-Whitney and Kruskal-Wallis methods when examining rank quantities defined by five-point Likert scales and when

examining metered quantities that do not have a normal distribution.

MS Excel 2010 was used to illustrate the observed processes and phenomena and to illustrate existing patterns.

The critical level of significance used was $\alpha=0.05$.

Data analysis was performed using IBM SPSS Statistics v. 23.

Statistical analysis

Socio-demographic characteristics

The pilot cross-sectional study involved 64 adult female parents of female children. The respondents were between 20 and 62 years of age ($Me=30.00$). The most common value of age in the sample was 21 years. The age values were not normally distributed.

The highest relative proportion of respondents live in a district town (81.29%), followed by those living in small towns (10.94%). The least number of respondents were those inhabiting rural areas (7.81%).

In terms of education indicator, the highest proportion of female respondents were those with higher education (56.25%), while the rest (43.75%) of the sample had secondary education.

Married women (35.94%) predominated in the survey, with almost equal proportion of women living with a partner without a formal marriage (34.38%).

The largest proportion of our respondents were employed (67.19%). It is noteworthy that a considerable proportion of women in the sample (32.81%) are unemployed (Table 1).

Table 1. Demographic characteristics of the study cohort

Demographic indicator	Categories	N	Relative proportion (%)
Age, yrs	20-29	34	53.13
	30-39	11	17.19
	40-49	16	25.00
	Over 50	3	4.69
Residency	City	52	81.29
	Town	7	10.94
	Village	5	7.81
Marital status	Single	13	20.31
	Married	23	35.94
	Consensual union	22	34.38
	Divorced	6	9.38
Education	Secondary	28	43.75
	Higher	36	56.25
Employment	Unemployed	21	32.81
	Employed	43	67.19

Awareness and attitudes

In order to determine the attitudes of Bulgarian women towards the HPV vaccine, the awareness of cervical cancer and the risk factors associated with the disease and the virus that causes it were examined.

The results showed that the highest relative proportion of respondents were partially (35.94%) and fully (34.38%) informed about cervical cancer (CC).

The proportion of women who were unaware of the disease was alarmingly high (10.94%).

A substantial proportion of our sample did not know the conditions that increase the incidence of cervical cancer (18.75%). However, almost half of the respondents said that they were fully aware of them (42.19%) (Table 2).

The results of the analysis showed that the respondents

Table 2. Awareness of human papillomavirus (HPV) and the risk factors leading to it

Categories	Awareness of cervical cancer (CC) N (%)	Awareness of risk factors N (%)
Not at all	7 (10.94)	12 (18.75)
Limited	6 (9.38)	5 (7.81)
Cannot judge	6 (9.38)	1 (1.56)
Partially	23 (35.94)	19 (29.69)
Completely yes	22 (34.38)	27 (42.19)

were relatively aware of human papillomavirus (HPV) as follows: completely (39.06%) and partially (39.06%).

The respondents were mostly informed about HPV by medical sources (57.81%) and Internet (35.94%). Despite the relatively high proportion of respondents unfamiliar with the virus (17.19%), all respondents indicated that they sought information.

The highest relative proportion of our respondents thought that the threat of infection with human papillomavirus was real (64.06%). Worryingly, a relatively high proportion of respondents could not judge whether they experienced a threat of infection with the virus (18.75%), from which we can conclude that they probably lack sufficient information related to the disease and its causative agent.

Based on awareness of HPV, respondents had mixed attitudes about the threat of the virus, with more than half experiencing fear of infection (54.69%) and a smaller proportion unable to judge (21.88%) (Table 3).

A significant association was found between the age of the study population and their cervical cancer awareness. The awareness decreased with increasing of age ($p=0.035$). We have demonstrated that the proportion of respondents living together without being married had higher knowledge compared to married respondents ($p=0.021$).

No statistically significant relationship was found between the residence, education, or employment of the study group on the studied factor ($p>0.05$).

There was statistically significant correlation between

Table 3. Awareness about human papillomavirus (HPV)

Questions	Categories	N	Relative proportion (%)
Knowledge of human papillomavirus (HPV)	Completely not	11	17.19
	Limited	2	3.13
	Cannot judge	1	1.56
	Partially	25	39.06
	Completely yes	25	39.06
Choice of source for information on HPV	Internet	23	35.94
	Radio	1	1.56
	Specialized literature	37	57.81
	Close friends, family, acquaintances	3	4.69
What do you think is the threat of papilloma virus infection?	Exaggerated	1	1.56
	Real	41	64.06
	I can't judge	12	18.75
	Underestimated	10	15.63
Are you afraid of contracting the papilloma virus?	Absolutely not	4	6.25
	Rather not	11	17.19
	Cannot estimate	14	21.88
	Rather yes	17	26.56
	Absolutely yes	18	28.13

awareness of risk factors leading to cervix uteri malignancy and demographic variables like age and marital status. As age decreased, awareness of the factors that pose a risk for its occurrence increased ($p=0.009$). Considering marital status, an interesting correlation was found. Unmarried respondents had the highest awareness of CC, followed by those cohabiting with a partner ($p=0.023$).

sociation between the study group's awareness of HPV and the demographic characteristics of residence, education, and employment ($p>0.05$).

There was no statistically significant association between age, place of residence, education, marital status, employment status of the respondents and the choice of information source regarding the causative agent of cervical cancer ($p>0.05$) (Table 4).

Table 4. Relationship between demographics and awareness of HPV CC and risk factors

Demographic indicator	Awareness of cervical cancer (CC)	Awareness of risk factors	Knowledge of human papillomavirus (HPV)	Choice of source for information about HPV
Age	$p=0.035$	$p=0.009$	$p=0.004$	$p>0.05$
Marital status	$p=0.021$	$p=0.023$	$p=0.011$	$p>0.05$
Residency	$p>0.05$	$p>0.05$	$p>0.05$	$p>0.05$
Education	$p>0.05$	$p>0.05$	$p>0.05$	$p>0.05$

The place of residence, education, and employment did not influence the awareness of CC and risk factors leading to the disease ($p>0.05$).

There was a statistically dependent relationship between the knowledge of human papillomavirus of the study cohort with two of the demographic indicators, age ($p=0.004$) and marital status ($p=0.011$). As age increased, knowledge about it decreased. Singles were most knowledgeable about human papillomavirus, while those cohabiting with a partner had insufficient information about the problem.

It was found that there was no statistically significant as-

We demonstrated an association between education and respondents' perceived threat of infection with the virus ($p=0.023$). The respondents with higher education felt that the threat of HPV infection was real, while those with secondary education underestimated it. Relative to other demographic indicators, no statistically significant association was found ($p>0.05$).

There was no significant association between the fear of infection and demographic characteristics such as age, place of residence, education, marital status, and employment ($p>0.05$) (Table 5).

Table 5. Relationship between demographics and attitudes towards HPV infection

Demographic indicator	Attitudes towards the threat of human papillomavirus (HPV) infection	Attitudes towards the fear of contamination with the virus that causes CC
Age	$p>0.05$	$p>0.05$
Marital status	$p>0.05$	$p>0.05$
Residency	$p>0.05$	$p>0.05$
Education	$p=0.023$	$p>0.05$
Employment	$p>0.05$	$p>0.05$

The results showed that most of the half of the respondents (60.94%) were fully competent about the usefulness of the vaccine as prevention against HPV infection. Based on the awareness of the vaccine as a prevention against HPV, half of the study cohort definitely approved of vaccination (50%) with: strongly approve (29.69%), and somewhat approve (20.31%). They got this information from medical sources (42.19%) and from the Internet (37.5%). At the same time, a small proportion of respondents did not seek information on the subject (10.94%).

Vaccination was somewhat effective (29.69%) for nearly one-third of respondents and completely effective (9.38%) for a smaller proportion. Negative attitudes towards vac-

ination were held by a proportion of respondents, who found it somewhat ineffective (4.69%) and none of the respondents identified it as completely ineffective. The lack of judgement of the female respondents about the effectiveness of the vaccine is worrying, which is noted by the highest proportion of the sample (56.25%).

The results revealed that vaccination as prevention against HPV is not common among the Bulgarian population, as more than half of the respondents did not know anyone who was vaccinated (53.13%).

Unfortunately, more than half of the respondents (60.94%) felt some distrust towards the vaccine. According to the respondents, dissatisfaction arises from the fact that vaccination is not a substitute for routine cervical screening (10.94%), no vaccine is 100% effective (14.06%), and it will not provide protection against any type of HPV or against existing HPV infections (10.94%), reinforced by the fear of side effects (35.94%).

Respondents' opinions on the need for more information about the papillomavirus vaccine were mixed. Some of them were of the opinion that they did not need more information (21.88%) and were not interested in the topic (7.81%). The rest said they needed more information because they had no opinion (35.94%), were considering vaccination (12.50%), were professionally involved in vaccination (17.19%) or were against vaccination (4.69%) (Table 6).

Table 6. Awareness and attitudes about the vaccine against HPV infection

Questions	Categories	N	Relative proportion (%)
Awareness of vaccination as prevention against HPV	I am absolutely not familiar with	13	20.31
	I am somewhat familiar with	10	15.63
	Cannot judge	2	3.13
	I am familiar with	30	46.88
	I am absolutely aware	9	14.06
Approval to the HPV vaccine	Completely disapprove	3	4.69
	Somewhat disapprove	1	1.56
	Cannot decide	28	43.75
	Somewhat approve	13	20.31
	Strongly approve	19	29.69
Perception of the effectiveness of vaccination as prevention against HPV	Somewhat ineffective	3	4.69
	Cannot judge	36	56.25
	Somewhat effective	19	29.69
	Completely effective	6	9.38
Do you know anyone vaccinated against HPV?	Yes, I do	30	46.88
	No, I do not know	34	53.13
Sources of information on the HPV vaccine	Television	2	3.13
	Internet	24	37.50
	The press	1	1.56
	Specialized literature	27	42.19
	Relatives, friends, family, acquaintances	3	4.69
	I am not looking for information	7	10.94

What is your opinion on the HPV vaccine?	Absolutely negative	1	1.56
	Rather negative	3	4.69
	Cannot judge	31	48.44
	Rather positive	24	37.50
	Absolutely positive	5	7.81
Reasons for distrust about the HPV vaccine	Fear of showing side effects	23	35.94
	Not 100% effective	9	14.06
	This vaccine does not protect against all types of HPV	7	10.94
	I am not reserved	25	39.06
Reasons for additional information about the HPV vaccine	I am considering getting vaccinated	8	12.50
	I am against vaccination	3	4.69
	I am professionally involved in vaccination	11	17.19
	I do not need more information	14	21.88
	I do not care about the topic	5	7.81
	I have no opinion	23	35.94

There was an association between respondents' awareness of vaccination as prevention against HPV and marital status ($p=0.004$), and it was found that the married group was the most knowledgeable about the issue, followed by those with a partner without marriage. We found no statistical correlation with the other demographics ($p>0.05$). We found a statistically significant association between respondents' need for additional information about the vaccine and two of the demographics, education ($p=0.005$) and employment ($p=0.001$). The educated and employed needed more information, while the unemployed were not interested in the topic (Table 7).

No statistically significant association was found between demographics and respondents' approval of the human papillomavirus vaccine ($p>0.05$).

We found a significant association between the opinion of women who participated in our study about the effectiveness of vaccination and their education. More educated respondents considered the vaccine to be effective ($p=0.040$). We found no correlation between the opinion about effectiveness and the other demographic characteristics ($p>0.05$). There was no statistically significant association between vaccine bias of the study cohort and demographic characteristics ($p>0.05$) (Table 8).

Table 7. Relationship between demographics and awareness of HPV vaccination

Demographic indicator	Awareness of vaccination as prevention against HPV	Do you know anyone vaccinated against HPV?	Reasons for additional information about the HPV vaccine
Age	$p>0.05$	$p>0.05$	$p>0.05$
Marital status	$p=0.004$	$p>0.05$	$p>0.05$
Residency	$p>0.05$	$p>0.05$	$p>0.05$
Education	$p>0.05$	$p=0.040$	$p=0.005$
Employment	$p>0.05$	$p>0.05$	$p=0.001$

Table 8. Relationship between demographics and attitudes towards HPV vaccination

Demographic indicator	Approval of the HPV vaccine	Perception of the effectiveness of vaccination as prevention against HPV	Reasons for distrust about the HPV vaccine
Age	$p>0.05$	$p>0.05$	$p>0.05$
Marital status	$p>0.05$	$p>0.05$	$p>0.05$
Residency	$p>0.05$	$p>0.05$	$p>0.05$
Education	$p>0.05$	$p=0.040$	$p>0.05$
Employment	$p>0.05$	$p>0.05$	$p>0.05$

DISCUSSION

By tracking the attitudes and awareness of respondents in our survey, we sought to ascertain their attitudes towards the HPV vaccine regarding cervical cancer (CC) and the risk factors associated with the disease and the virus that causes it.

Seng et al., in a study about awareness of cervical cancer (CC) among women in Malaysia, found a lack of knowledge and information about CC among the study group. Insufficient communication by a health-care professional, leading to low attendance of women and low awareness of CC, is believed to be the cause.^[9] In our study, the relatively high proportion of informed respondents about cervical carcinoma (70.32%) and risk factors leading to it (71.88%) was evidently reported.

Abduxike et al., in a cross-sectional study assessed parental knowledge and awareness of papillomavirus and related diseases, and the effect of HPV vaccines. The study found good awareness of the virus, associated diseases and the vaccine. The authors concluded that the implementation of awareness campaigns significantly influenced parents' opinions about the uptake of the HPV vaccine as prevention against cervical cancer.^[10] This underscores the importance of our study in assessing attitudes and awareness about HPV, which can help inform government strategies to promote vaccination against the papillomavirus.

From the results obtained, the respondents' awareness proved to be relatively good, while Mbulawa et al. in their study on knowledge of HPV in South Africa, demonstrated low levels of knowledge and awareness of the disease, among the female and male South Africans they surveyed. The authors found that younger, more educated, higher-income family respondents were more familiar with the problem, while knowledge was limited in rural areas. This calls for health promotion strategies that will benefit all genders in the future.^[11] Our data corroborate the results of Mbulawa et al. – awareness, regarding cervical cancer and the risk factors associated with the disease and the virus that causes it, decreases with increasing age. In contrast to their study, we also found a statistically significant association between awareness of risk factors leading to malignancy of cervix uteri and marital status. We did not find any association between the studied factor and the residence, education or employment of the study group.

According to one of the studies regarding knowledge of HPV, the causative agent of cervical cancer, and vaccination, conducted among a group of nursing students in Saudi Arabia, Abdelaliem et al. found low levels of knowledge of HPV, and moderate attitudes towards vaccination against the virus itself. The study suggests that additional measures such as curriculum adjustments and curriculum activities need to be incorporated. Clinicians' recommendations play an important role in the parents' decision to vaccinate their children against HPV.^[12] The present results of our study contradict the study of Abdelaliem et al. We proved that respondents were relatively familiar with human papillomavirus (HPV) and found a statistically dependent relationship

between the studied indicator and the age of respondents.

The relatively high results obtained by the respondents regarding the threat and fear of infection with human papillomavirus (HPV) can be linked to a study by Qaderi et al. The authors followed Iranian women's psychological reactions to a positive HPV test result. The initial reactions the authors found to positive HPV results were shock, unrealistic fear, confusion, distress, and financial concerns. The fears of partner infection indicated that women consider HPV to be more than just a cause of cervical cancer.^[13]

Respondents' positive attitudes about vaccination are likely motivated by the fact that the combination of HPV vaccination and cervical screening may provide the best protection against cervical cancer. Vaccination against human papillomavirus also reduces the risk of developing cancer at sites other than the cervix.

In a meta-analysis of vaccination programs covering girls in 14 high-income countries with substantial vaccination coverage, the number of anogenital warts among women aged 25-29 years was shown to have largely declined over the 8-year period since vaccination began, with a slightly higher proportion among boys (48%) aged 15-19 years, and among men (32%) aged 20-24 years, compared with the pre-vaccination period.^[14]

Another study conducted in the USA in women aged 20-29 years found that over a 10-year period after vaccination, there was a significant decline in the prevalence of HPV types among vaccinated and unvaccinated populations, confirming direct and group herd protection.^[14,15] A correlation was found between susceptible individuals and immunized ones, in which the risk of infection decreased.^[16] From the results of our study, we found that a relatively high proportion (60.94%) of respondents confirmed their knowledge of the vaccine's benefit. They obtained their information mainly from specialized literature and the internet, which is in contrast to the results of the study by Tapera et al. on knowledge, attitudes and practices regarding cervical cancer, its prevention and treatment. They found that knowledge of the causes and prevention of cervical cancer was associated with frequent radio listening, making a recommendation on the need for increased health education through telephone messages, communication with health workers and various media campaigns among the community in Harare, Zimbabwe.^[17]

In a study by Gamaoun on awareness and knowledge of cervical cancer methods and prevention among a group of 500 Tunisian women, a relatively high proportion of positive attitudes towards the HPV vaccine (over 80%) and a lower proportion (about 40%) of those informed about papillomavirus infection and the disease it causes were found.^[18] In our study, the results revealed that vaccination as prevention against HPV is not common among the Bulgarian population, despite the positive attitude of the respondents about vaccination. This proves the low vaccination activity in our country.

More than 12 years of monitoring the safety of vaccination show that vaccines have not caused serious adverse

reactions^[19], but more than a third of the Bulgarian women surveyed are reserved about vaccination precisely because they believe that there are side effects. The most common problems were short-term soreness and other local symptoms at the injection site.^[20] These problems are similar to those usually encountered with other vaccines. Although the safety of the HPV vaccine has been established, even when administered to people who are already infected with HPV, the maximum benefit of vaccines has been shown to occur before individuals are sexually active.^[21]

In an analysis of parents' attitudes and knowledge about the cervical cancer vaccine and the factors influencing their choice of whether to vaccinate their children in Kaunas, Lithuania, Zastavna et al. concluded that the driver for a successful vaccination program is parental awareness of the risk of HPV infection, vaccine safety, and "regularity and transparency of adverse effect monitoring." In the authors' study, they found that the most common reason for vaccine distrust was impaired sexual activity in children, and the motivation among parents was mainly due to the risk of possibly developing cervical cancer.^[22] This differs from our results in which the most common reason for distrust of the vaccine was fear of side effects (35.94%).

Public distrust and criticism of HPV vaccination has increased significantly in Europe in recent years, with recommendations aimed at providing more information related to vaccine safety and rebuilding trust in health workers and authorities. Karafilakis et al. pointed out in their study that a large proportion of respondents linked their fears to lack of information and fear of vaccine side effects. Our study found that more than half of the respondents (60.94%), experienced some distrust towards the vaccine, and a difference of opinion among respondents regarding the need for more information. The same findings were found in a study by Karafilakis et al. on the trust in the HPV vaccine in a number of European countries. Very low vaccination rates were shown to be associated with a lack of trust. The researchers conclude that the skepticism about the vaccine can be eliminated by including more information campaigns focusing on the effectiveness and side effects of the vaccine, maintaining trust in health authorities and institutions to prevent more cases of mistrust.^[23]

Khan et al. reported that for several decades the burden of HPV-related malignancies has been increasing at an alarming rate due to lack of adequate awareness and vaccine coverage. With the advent of new treatment related technologies pertaining to therapeutic interventions and use of effective vaccine coverage, the burden of this disease can be reduced in the population.^[24]

A comprehensive HPV vaccination program has the potential to reduce the incidence of CC among girls and women by up to 90% worldwide.^[21] In addition, vaccines can reduce the need for screening and follow-up medical care, biopsies, and invasive procedures associated with follow-up from abnormal cervical screening, thereby helping to reduce healthcare costs and concerns associated with follow-up procedures. There is a need to raise awareness

among respondents about the problem of human papillomavirus (HPV) and vaccination against HPV infection.

CONCLUSION

The present study found a relatively good awareness among the respondents about cervical cancer, the risk factors associated with the disease and the virus that causes it.

There is some hesitation related to the fact that the vaccine does not provide protection against all types of HPV infections, they are not aware of its side effects, it has not been proven to cure but only as a prophylaxis against infection with the virus, without replacing routine screening.

Vaccination activity in Bulgaria is very low. This gives the authors reason to believe that our country urgently needs new strategies and approaches in the fight against cervical cancer, through continuous training of medical personnel, inclusion of immunization programs in school health care, and improved health education and awareness of HPV vaccination among adolescent girls and their parents.

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Отношение и осведомлённость относительно вакцины против рака шейки матки

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Резюме

Введение: Рак шейки матки является причиной высокой заболеваемости и смертности во всём мире. Это делает профилактические вакцины важным инструментом профилактики этого заболевания. Поскольку эти вакцины становятся более доступными, они могут значительно снизить распространённость и бремя рака в будущем.

Цель: Целью данного исследования была оценка отношения к осведомлённости о вакцинации против вируса папилломы человека (HPV).

Материалы и методы: Пилотный, поперечный, медико-социальный опрос был проведён с использованием структурированного анонимного онлайн-опросника, включающего вопросы самооценки по осведомлённости и отношению к вакцинации против HPV. В исследовании с июня по август 2023 года приняли участие шестьдесят четыре взрослые женщины – родители девочек. Разработка и проведение исследования проводились при личном участии исследователей. Для анализа первичной статистической информации использовался SPSS v. 23.0. Полученные результаты были представлены графически с помощью MS Excel 2010.

Результаты: Мы обнаружили значительно хорошую осведомлённость и негативное отношение к вакцинации в качестве профилактики против HPV.

Заключение: Настоящее исследование показало, что респонденты имели относительно хорошую осведомлённость о раке шейки матки, факторах риска, связанных с этим заболеванием, и вирусе, который его вызывает. Была выявлена корреляция между социально-демографическими характеристиками и осведомлённостью исследуемой популяции. Респонденты испытывали определённое недоверие к вакцине. Недовольство возникло из-за того, что вакцинация не заменяла рутинный скрининг шейки матки, не была на 100% эффективной и не обеспечивала защиту от любого типа вируса папилломы или от уже существующих инфекций HPV.

Низкий охват вакцинацией в Болгарии заставляет авторов полагать, что наша страна срочно нуждается в новых стратегиях и подходах в борьбе с раком шейки матки посредством непрерывного обучения медицинского персонала, включения программ иммунизации в школьное здравоохранение и улучшения санитарного просвещения и осведомлённости о вакцинации против HPV среди девочек-подростков и их родителей.

Ключевые слова

осведомлённость, HPV, иммунизация, профилактика, первичная профилактика