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Świadomość gimnazjalistek i ich rodziców na temat szczepień przeciwko HPV.

Streszczenie

Wstęp. Rak szyjki macicy w Polsce jest piątym pod względem częstości występowania rakiem u kobiet i siódmą nowotworową przyczyną ich zgonów. Zastosowanie dwuwalentnej szczepionki w grupie kobiet, które nie rozpoczęły współżycia płciowego, zmniejsza ryzyko wystąpienia CIN III o 87%, jednak w Polsce nadal takie szczepienie nie jest powszechne.

Cele. 1. Ocena stanu wiedzy uczennic III klas gimnazjów i ich rodziców na temat wirusa HPV oraz szczepień przeciwko wirusowi. 2. Analiza argumentów przeciw szczepieniu HPV wskazywanych przez 16-letnie gimnazjalistki i ich rodziców. 3. Ocena źródeł i dostępu do informacji na temat szczepień przeciwko HPV.

Materiały i metody. W lutym i marcu 2010 roku w grupie 200 uczennic trzecich klas gimnazjów publicznych województwa łódzkiego przeprowadzono ankietę zawierającą 14 pytań, głównie dwuwariantowych (tak/nie). Podobna, odpowiednio zmodyfikowana ankieta została skierowana do rodziców tych uczennic (także 200 ankiet).

Wyniki. Otrzymano 183 ważne ankiety w grupie dziewcząt i 164 w grupie rodziców. W grupie dziewcząt o wirusie HPV słyszało 28,89%, a o jego drodze transmisji 23,89%. 73,89% chciałoby poddać się szczepieniu przeciwko HPV, gdyby było bezpłatne. Pozostałe 26% nie poddałoby się szczepieniu, bez względu na jego koszt, z powodu braku informacji o tej szczepionce. O szczepieniu przeciwko HPV specjalista ginekolog poinformował jedynie 0,55% badanych, a lekarz rodzinny- 1,6%. Współżycia płciowego nie podjęło 91,01% zapytanych dziewcząt, co jednoznacznie kwalifikowałoby je do szczepienia. Główne przyczyny niezaszczepienia córek wskazywane przez rodziców to brak wystarczających środków finansowych oraz brak informacji o korzyściach, skuteczności i bezpieczeństwie szczepienia. O szczepieniu przeciwko HPV informację od lekarza rodzinnego lub ginekologa otrzymało 17,07% zapytanych rodziców.

Wnioski. Stan wiedzy na temat wirusa HPV, jego roli w rozwoju raka szyjki macicy jest niski. Poza kosztem szczepienia, główną przyczyną niepodejmowania tego rodzaju profilaktyki, wskazywaną zarówno przez dziewczęta jak i rodziców, jest brak informacji w zakresie bezpieczeństwa, mechanizmu działania i skuteczności szczepienia. W procesie przekazywania niezbędnych informacji nie uczestniczą w stopniu zadowalającym ani lekarze rodzinni ani ginekolodzy

Słowa kluczowe: wirus HPV, szczepienie, rak szyjki macicy.

The awareness of the HPV vaccines in female students of secondary school and in their parents

Abstract

Introduction. According to the latest data in Poland cervical cancer is the fifth most common cancer in women as well as the seventh cause of death considering cancer mortality rates. Clinical studies on the bivalent vaccine in the group of women who have not initiated sexual cohabitation, clearly reveal reducing the risk of CIN III by 87%, however in Poland such procedure is still not common.

Aims. 1. Assess the state of knowledge of the vaccines against HPV in female adolescents attending third class of secondary school and in their parents 2. Analyse of main arguments against the HPV vaccinations indicated by 16-year-old secondary school students and their parents. 3. Assess the sources and access to information on vaccination against HPV virus.

Materials and methods. In February and March 2010 the survey containing 14 questions (mainly yes/no type) was conducted among 200 female adolescents attending the third class of public secondary school. A similar, appropriately modified questionnaire was directed to the parents of these students (200 questionnaires as well).

Results. Ultimately, 183 valid questionnaires were received from girls and 164 from their parents. In the group of female adolescents only 28.89% and 23.89% heard of the HPV virus and HPV's transmission route respectively. Almost 74% would undergo the vaccination against HPV if it was free of charge; the remaining 26% of them refuse, due to the total lack of information about this procedure. Gynecologist informed 0.55% of the respondents about the possibility of vaccination; similarly, GP informed only 0.67% of the surveyed females. Sexual cohabitation was not initiated by 91.01% of the questioned females, which clearly qualifies them for vaccination. Main causes of not vaccinating female adolescents indicated by their parents are insufficient financial resources, lack of information about the benefits, effectiveness and safety of the vaccine. Only 17.07% of the questioned parents received information about the vaccination against HPV from their GP or gynecologist.

Conclusion. The level of knowledge about HPV and its role in development of cervical cancer is low. Apart from the cost of vaccination, the main cause of failing such prevention, indicated both by parents and their daughters, is lack of knowledge in the area of safety, the mechanism of action and the effectiveness of the vaccine. Neither gynecologists nor GPs participate, in a satisfactory way, in the process of sharing necessary information.

Key words: HPV virus, vaccination against HPV, cervical cancer.

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INTRODUCTION

According to the latest data in Poland cervical cancer is the fifth most common cancer [1] in women as well as the seventh cause of death considering cancer mortality rates [2]. Each year in Poland 3431 women contract this disease [1], 1907 of whom die [2].

Chronic infection with human papilloma virus may lead to invasive cervical cancer. According to the World Health Organisation 2 subtypes of the papilloma virus, 16 and 18, are responsible for 70% of intraepithelial neoplasia lesions of 3rd degree, which correspond to precancerous condition [3]. Strongly oncogenic are also other subtypes; however, their incidence is much lower.

The identification of the human papilloma virus as the primary etiology of cervical cancer has enabled invention of the bi- and quadrivalent vaccines, which entered the European market in 2006 [4]. The research on its effectiveness is being continuously conducted. In July 2009, the results of one of the largest international studies (PATRICIA) were published. They were to determine whether, and to what extent, vaccinating young women with three doses of bivalent vaccine would decrease, in comparison to placebo, the risk of cervical intraepithelial neoplasia grade II and III. The study involved 18,644 healthy women, with unaffected cervix, aged 15-25. The vaccine against HPV was received by 9,319 women, and 9,325 constituted a control group. Of particular importance was the result obtained in the group of women who at the moment of administering the vaccine were seronegative and DNA HPV negative, here the effect proved to be maximal – the risk was reduced to 87% CIN III and 70% CIN II [5]. Virtually it signifies that the most satisfactory results could be obtained by vaccinating women who had no previous contact with the virus, which corresponds to the population of females before sexual initiation. According to recommendations of the Polish Gynecological Society and WHO routine vaccinations should be introduced in girls aged 11-12 years and 13-18 years who have not been vaccinated previously or should complete the vaccination series [3,6].

In Poland, since 2009, vaccinations against HPV are included in the list of recommended vaccinations, which are expensive vaccinations not financed from the source in the budget of Minister of Health [7]. It means that they could be vaccinated only in the private sector with full payment that ranges from 1000-1500 PLN [8]. Alarming is the lack of effective and appropriately addressed health-oriented campaign to promote the prevention of cervical cancer. The responsibility of physicians holding the preventive health care is to inform about the recommended vaccinations [9]. Distressing are also the results of the survey conducted among physicians – 76% of gynecologists, 26% of general practitioners and only 14% of pediatricians estimated their knowledge as adequate in understanding issues related to the HPV infections [6]. The data presented above inspired us to carry out our project.

AIMS

The aims of the study were to:

1. Assess the level of knowledge of secondary school female adolescents and their parents about the HPV virus and the vaccine against this virus;
2. Analyse the most commonly selected arguments for and against the vaccination in the group of female students and their parents;
3. Assess the sources and access to information on vaccination against HPV virus.

MATERIALS AND METHODS

In February and March 2010 anonymous survey, in the form of a questionnaire, was conducted among 200 female adolescents. Overall, 5 secondary schools participated in the research.

The questionnaire directed to the female students consisted of 14 questions (mainly yes/no type), which concerned 4 groups of issues:

Sexually transmitted diseases – in general; questions 2,3

1. HPV virus and primary prevention of HPV infection; questions 4,5,6
2. Arguments for and against executing HPV vaccinations; questions 7,8,9,10
3. Access to information on vaccinations; questions 11,12,13

The first question was to eliminate the girls who have already been vaccinated against HPV. Next questions were answered only by the females who have not yet been vaccinated. The final question was to verify the validity of surveying in the chosen group of female adolescents.

The layout and content of the questionnaire for female adolescents is presented in Table 1.

The main reasons of choosing 16-year-old girls for this trial were legal and socio-cultural aspects as well as recommendations of the World Health Organisation [3].

Turning age 16 is associated with certain legal consequences and requires conscious consent of the patient for undergoing any medical procedures [10].The average age of sexual initiation in Poland is 18-19 years [11] and WHO recommends widespread implementation of vaccination against HPV in women who do not have contact with the virus, which refers to the population of females who have not yet initiated sexual cohabitation [3].

However, it should be noted that 16-year-old girls, despite their rights, still in the vast majority are dependent on their parents whose role in their health care is undeniable. Therefore the second questionnaire was addressed to their guardians.

The survey directed to the parents consisted of 13 questions related to 3 groups of issues:

1. HPV virus and primary prevention of HPV infection; questions 1,2,3,4,5,6
2. Arguments against vaccinating daughters; questions 7,8,9,10,11
3. Access to information on vaccinations; questions 12,13

The content of the questionnaire for parents is presented in Table 2.

TABLE 1. Questionnaire directed to female adolescents.

1. Have you already been vaccinated against HPV?	Yes/No
If you answered 'Yes' you can finish the questionnaire now, If you answered 'No', please go to the questions below.	
2. Do you know that some diseases may be transmitted sexually?	Yes/No
3. Could you give an example of such a disease?	Yes/No
If yes, write it here.	
4. Have you ever heard about Human Papillomavirus?	Yes/No
5. Do you know that Human Papillomavirus (HPV) can be sexually transmitted as well?	Yes/No
6. Do you know that there is an effective vaccine against HPV, which reduces the risk of infection to a very important degree?	Yes/No
7. Do you know what is the cost of full vaccination cycle?	Yes/No
8. Which sum of money, in your opinion, could your parents at the moment intend to vaccine you against HPV?	a. 1500 PLN
	b. 700 PLN
	c. 400 PLN
	d. I think they could intend no money at this moment
9. Do you want to be vaccinated against HPV if the vaccine was free of charge?	Yes/No
If you answered 'Yes', please do not answer the next question, If you answered 'No', please go to Question No. 10	
10. Which of the following statements suit you?	a. I'm afraid of pain, I wouldn't get vaccinated even if the vaccine was free of charge.
	b. I know nothing about this vaccine so I won't undergo this vaccination.
	c. I feel that this vaccine won't bring me any benefits so I won't undergo the vaccination cycle.
	d. I'm afraid that it can be dangerous for health so I won't get vaccinated.
	e. I don't have enough time to get the vaccine.
	f. I would like to be vaccinated, but my parents do not support this idea.
	g. other
11. Has your GP informed you about the possibility of vaccination against HPV?	Yes/No
12. Have you ever been to the gynecologist?	Yes/No
13. Has the gynecologist ever mentioned to you the possibility to be vaccinated against HPV?	Yes/No
14. Have you already initiated sexual cohabitation?	Yes/No

TABLE 2. Questionnaire directed to the parents.

1.Has your daughter already been vaccinated against HPV?	Yes/No
If you answered ,Yes' please do not go to the questions below. If you answered ,No' please go to the questions below.	
2. Have you ever heard about the Human Papillomavirus (HPV)?	Yes/No
3. Do you know that Human Papillomavirus may be transmitted sexually?	Yes/No
4. Do you know that Human Papillomavirus is the primary cause of cervical cancer?	Yes/No
5. Do you know that there is an effective vaccine against HPV?	Yes/No
6. Would you like to vaccinate your daughter against HPV if the vaccine was free of charge?	Yes/No
If you answered ,Yes' please go to Question No.7 If you answered ,No' please go to Question No. 8	
7. Which of the following factors decide that you have not vaccinated your daughter yet?	a. I do not have sufficient financial resources;
	b. I did not have time to focus on it;
	c. I did not obtain enough information concerning safety, potential benefits and side effects of the vaccine.
	d. I do not know where I could vaccinate my daughter
	e. others
8. Which of the following factors decided that you would not vaccinate your daughter?	a. I have no idea what this vaccine is.
	b. I feel that it may be dangerous for health.
	c. I do not have enough time to focus on it
	d. the efficacy of the vaccine is still not confirmed.
	e. I'm the opponent of the vaccines
	f. other
9. Do you know what the cost of full vaccination cycle is?	Yes/No
10. Which sum of money could you intend at this moment to vaccinate your daughter against HPV?	a. 1500 PLN
	b. 700 PLN
	c. 400 PLN
	d. I could intend no money
11. Would you vaccinate you daughter if the vaccine was free of charge?	Yes/No
12. Did your GP or gynecologist informed you about the possibility to vaccinate your daughter against HPV?	Yes/No
13. Does your GP inform you about other recommended vaccinations ?	Yes/No

RESULTS

Ultimately, out of 200 (in each group) questionnaires, 183 were valid in the group of girls and 164 in the group of their parents. The criterion for rejecting the questionnaire was not responding to more than half of the questions included in the survey, providing mutually exclusive or inconsistent with the instructions replies.

In the analyzed group 91% of 16-year-old females have not yet initiated sexual cohabitation so they could be potentially qualified to the vaccination. The survey revealed

that in the group of 183 girls only 1.64% had already been vaccinated against HPV (Table 3).

Among the questioned females 99.44% knew about sexually transmitted diseases, out of which 83.89% were able to provide at least one correct example.

The most frequent answers were: AIDS/HIV 68%, 12% gonorrhoea, 7% syphilis. Cervical cancer was on the fourth place; however this answer was mentioned only by 4% of female adolescents. The remaining, singly selected answers are illustrated in Figure 1.

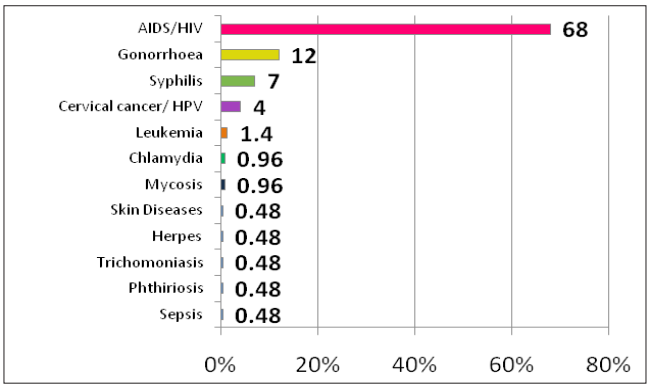

FIGURE 1. Most frequent examples of sexually transmitted diseases given by female adolescents.

Assessing the state of knowledge concerning HPV and vaccination caused far more problems.

Only 28.89% and 23.89% heard of the HPV virus and HPV's transmission route respectively. Approximately 36.1% were aware of the existence of primary prevention of HPV infection (Table 4).

Almost ¾ of the surveyed girls were willing to vaccinate against the virus if the vaccination was free of charge, not necessarily knowing the purpose of such protection (Table 3).

With regard to reasons of not vaccinating, the study has shown that a significant barrier to the implementation of the vaccination is its price. Only 5.55% of female students knew the cost of full cycle of the vaccine. On the contrary, about 70% of the questioned girls stated that at this moment their parents are not able to spend more than 400 PLN on the vaccination (Table 5).

The surveyed girls who would not get vaccinated even if it was free of charge (26%), as a main reason indicated lack of information about the vaccination (51.43%) and belief that it could be dangerous to their health (25.71%) (Table 6).

Surprising were the results of the third group of questions, which concerned the problem of access to information about the vaccination. Only 15% of the questioned females have already been to the gynecologist; however, only 0.55% obtained necessary information about the possibility of administering HPV vaccination. On the other hand, GPs provided with the information only 0.67% of the girls (Table 7).

In the group of the questioned parents 3 out of 164 declared that their daughters had already been vaccinated against HPV virus and therefore they were asked not to answer the remaining questions of the survey.

The awareness of parents about the vaccine and HPV virus (the first group of questions) was noticeably higher. Approximately 52% have heard of the HPV and knew that it is sexually transmitted. Half of the parents connected HPV virus with the etiology of cervical cancer and 65% heard about the existence of effective vaccine prevention of this virus. Nearly 70% of the questioned parents were willing to administer the vaccination to their daughters (Table 8, Table 3).

TABLE 3. Data collation concerning vaccination rates.

Issue	n	%
	Female adolescents	
Has been already vaccinated against HPV	3	1.64
Is willing to be vaccinated if the vaccine was free of charge	133	73.89
Issue	n	%
	Parents	
Has been vaccinated	3	1.64
Is willing to administer the vaccination to their daughter	100	69.4
Is willing to administer the vaccination to their daughter if it was free of charge	108	79.41

TABLE 4. The awareness of HPV and the primary prophylaxis of infection.

Issue	Female adolescent	
	n	%
Heard about HPV	52	28.89
Knows that it may be sexually transmitted	43	23.89
Knows that there is an effective vaccine against HP	65	36.11
Knows the approximate cost of the full vaccination cycle	10	5.55

TABLE 5. Theoretical sum of money declared to be available by parents according to female adolescents' responses.

The sum of money which according to the girls their parents can currently spend on vaccination	n	%
1500 PLN	15	8.33
700 PLN	28	15.56
400 PLN	69	38.33
Would not be able to spend any amount of money	54	30
Did not respond	14	7.78
TOTAL NUMBER OF DAUGHTERS ANSWERING THE QUESTION:	180	100

TABLE 6. The reasons of not getting vaccinated given by the girls*.

The reasons of not undergoing the vaccination indicated by female adolescents*	n	%
Fear of pain	4	5.71
Unawareness of the vaccination	36	51.43
The belief that vaccination is unnecessary and would not bring any benefit	3	4.29
The benefit that it could be dangerous to their health	18	25.71
Lack of time for vaccinating	7	10
Lack of parental consent for vaccination	0	0
Other:	2	2.86
TOTAL NUMBER OF DAUGHTERS ANSWERING THE QUESTION:	70	100

*it was possible to indicate more than one answer to the question. This question was addressed to female adolescents who previously answered that they would not undergo the vaccination even if it was free of charge.

TABLE 7. Sources and access to information concerning vaccination.

Issue	Female adolescents	
	n	%
Has already been to the gynecologist	27	15
Was provided with the information on the possibility of vaccination against HPV by the gynecologist	1	0.55
Was provided with the information on the possibility of vaccination against HPV by the GP	3	1.67

TABLE 8. Parents knowledge about HPV and the primary prophylaxis of infection.

Issue	Parents	
	n	%
Heard about HPV	84	51.22
Knows that it may be sexually transmitted	84	51.22
Associates the virus with cervical cancer etiology	80	50
Knows that there is an effective vaccine against HPV	104	65
Knows the approximate cost of the full vaccination cycle	44	27.5

TABLE. 9 The reasons for not vaccinating daughters up till now indicated by their parents*.

Issue*	n	%
Insufficient financial resources	36	27.3
No time for vaccinating	8	6.1
Lack of information about benefits and possible side effects of the vaccination	72	54.5
Unawareness of the place of vaccination	16	12.1
Other	0	0
TOTAL NUMBER OF ANWSERS:	132	100
TOTAL NUMBER OF PARENTS ANSWERING THIS QUESTION:	100	69.5

*It was possible to provide more than one answer to the question. Only those parents who declared that they would like to vaccinate their daughter were asked to answer this question.

TABLE. 10 The reasons why parents would not vaccinate their daughters against HPV*.

Issue*	n	%
Unawareness of the vaccination	20	26.3
The belief that vaccination could be dangerous for their daughters' life	16	21
Lack of time	4	5.3
Skepticism related to the effectiveness of the vaccine	26	34.2
Objection to any vaccines	4	5.3
Other	6	7.9
TOTAL NUMBER OF ANWSERS:	76	100
TOTAL NUMBER OF PARENTS ANSWERING THIS QUESTION:	44	30.5

* It was possible to provide more than one answer to the question. Only those parents who previously answered that they would not vaccinate their daughter were asked to answer this question.

TABLE 11. Theoretical sum of money declared to be available by parents.

The sum of money which parents would be able to spend at the moment on vaccinating their daughter against HPV	n	%
1500 PLN	0	0
About 700 PLN	12	8.6
About 400 PLN	64	45.7
Would not be able to spend any amount of money	64	45.7
TOTAL NUMBER OF PARENTS:	164	100

Question number 6 in the parent's questionnaire divided them into two groups: those who were willing to vaccinate their child (79.4%) – Group I, and those who would not vaccinate their daughter (20.6%) – Group II. Parents from Group I responded that they did not vaccinate their daughters until now because of:

- Insufficient information about potential benefits and side effects of vaccination (54.5%)
- Deficiency of financial resources (27.3%)
- Lack of information where such procedure could be performed (12.1%)

All the answers are fully presented in Table 9.

Parents from Group II pointed to:

- Lack of knowledge about vaccination (26.3%)
- Skepticism related to the effectiveness of vaccination (34.2%)
- Concern that the vaccination could be dangerous to their daughter's health (21%)

All the answers are fully presented in Table 10.

Currently over 90% of the parents could not spend more than 400 PLN to vaccinate their child (45.7% – any sum of money; 45.7% – maximum of 400 PLN) (Table 11).

About 28% were aware of the cost of the full cycle of vaccination (Table 8).

Among the questioned parents, 17.07% received information from their GP or gynecologist about possibility to vaccinate their daughter against HPV. About other recommended vaccinations GP informed only 13% of the parents.

DISCUSSION

According to the latest clinical trials, WHO and PGS (Polish Gynaecological Society) recommendations, the HPV vaccines should be commonly administered in women who have not had any contact with the virus, which practically corresponds to the population who has not initiated sexual cohabitation [3,6].

Data concerning the average age of sexual initiation in Poland and Europe vary, but oscillate between 18 and 19 [11], generally being lower in boys.

Turning age 16 involves important legal, social and psychological effects. In Poland, it is tantamount to acquisition of a right to state a voluntary agreement, necessary in case of undertaking any medical procedure [10]. Moreover, it involves completion of first level education, which results in total change of environment. Furthermore, the 16-year-old adolescent stays under the persistent influence of hormonal

stimuli. All those circumstances promote irresponsible behaviour, and the rate of those who declare having already initiated sexual cohabitation significantly increases. In our trial it has amounted to 8.89%.

Besides the HPV vaccines and/or regular cytological examination plays an important role in cervical cancer prophylaxis [12]. However, in our trial only 15% of 16-year-old girls has followed the first visit to the gynecologist and it had no correlation with sexual initiation. Therefore, primary prophylaxis, in this particular group, seems to be more reasonable.

The results of the questionnaire in the field of HPV vaccines information availability were alarming. Only 0.55% of the surveyed girls declared that they were informed by the gynecologist about the possibility to execute the vaccination and only 1.67% of them declared that the general practitioner, who they visit much more often, informed them about the vaccine.

In the group of parents, only 17.07% received such information. Both groups cast a doubt on efficacy and safety of the vaccine. In this situation taking a reasonable decision about undergoing vaccination seems to be impossible.

CONCLUSIONS

The awareness about sexually transmitted diseases as well as HPV and HPV vaccine among female 16-year-old-adolescents was low. Over ¼ and almost ¼ heard about the HPV virus and its route of transmission respectively.

The awareness about the virus among their parents was low as well. Slightly over half of them could give the correct answer to the questions concerning the virus.

Neither gynecologists nor general practitioners participate, to a satisfying degree, in sharing information about HPV infections and the available prophylaxis.

Major causes of the primary prophylaxis failure are both lack of information about the vaccine's safety, efficacy and mechanism of action, as well as high cost of the complete vaccination series.

Creating a successful and effective campaign to promote the cervical cancer prophylaxis among teenage girls attending secondary school should become a priority for principal organs responsible for public health of the Polish society.

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