

Women's knowledge about cervical carcinoma risk factors and their health behaviours: Study among nurses

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ABSTRACT

Purpose: To determine the level of knowledge regarding cervical carcinoma risk factors and to evaluate selected health behaviours presented by nurses in primary prevention of the reproductive organ malignancies.

Materials and methods: The diagnostic survey with the use of self-constructed questionnaire was applied in the study. Data was collected among 184 nurses from two provinces in Poland.

Results: According to the nurses, family history of cancer was the major risk factor in cervical carcinoma. The second most frequently enumerated risk factor, determining the incidence of cervical carcinoma, was oncogenic HPV types of infections. Nurses also mentioned frequent changes of sexual partners and early sexual initiation. More than 50%

of respondents (54.3%) declared family history of various types of cancer including cervical carcinoma (3.8%). The majority of nurses were sexually active (82.6%) and had one partner (79.9%). Almost all nurses (93.5%) reported they had the cytological examination done regularly and 52.7% had it during last 12 months.

Conclusions: The level of nurses' knowledge regarding predisposing factors of cervical carcinoma development is good. Behaviours declared by the majority of them, belonged to the category of pro-health behaviours, which helps in the early detection and treatment of cancer.

Key words: cervical carcinoma, nurses, risk factors, knowledge, prevention.

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INTRODUCTION

Cervical carcinoma is at the top position among causes of malignant neoplasm incidence among women in Poland, still observing high death rate due to this cancer. This situation is probably a result of diagnosis the cancer very late, in clinically advanced stage of the diseases, that has negative consequences for the recovery. [1-6].

Among the aims stated by the authors of the Code of Cervical Carcinoma Prevention (RSM) [2] and founders of Recommendations of complex changes in the area of cervical cancer prevention (2012) [3] we should enumerate: decreasing the death rate due to cervical carcinoma, increasing the knowledge of women in terms of preventive actions, increasing various specialists engagement in promotion and early detection of pre-cancerous changes, increasing nurses and midwives engagement in educational actions among women, increasing participation of the largest number of women in available forms of prevention such as HPV vaccination and regular cytological examination [2]. The aim of this study was to determine whether nurses possess knowledge in terms of cervical carcinoma risk factors and to assess their health behaviours in the scope of prevention of this cancer.

MATERIALS AND METHODS

The method of diagnostic survey with the use of self-constructed questionnaire was applied in the study. The study was conducted in 2010 among 184 Polish nurses (100%) from Lubelskie (21.2%) and Podkarpackie (78.8%) provinces. Inclusion criteria were: working as a nurse and not being treated from cervical carcinoma. The average age of nurses was 37.15 ± 7.77 . The youngest nurse was 21 and the oldest 56.

The self-constructed questionnaire was created on the basis of Polish and foreign literature review [1-6]. The questionnaire consisted of 47 questions regarding different aspects of knowledge about carcinoma (not only cervical but also breast cancer) risk factors and health behaviours. The tool included also questions which allows socio-demographical and professional characteristic of respondents.

The proper survey was preceded by a pilot survey among 25(100%) nurses, which allowed verification of the research tool. Collected data were entered into a spreadsheet (Microsoft Excel) for descriptive analysis.

Participation in the study was entirely voluntary and anonymous. All respondents were informed about the aim of the study, and those who agreed to participate received the questionnaire.

RESULTS

The majority of nurses 174(93.9%) claimed that cancer running in the family was a risk factor of cervical carcinoma. 163 respondents (88.6%) wrote that HPV infection is a predisposing factor for cancer. However, 150 women (81.6%) believed that frequent change of sexual partners was a cause of cancer development. According to 138 respondents (75.0%) another factor predisposing to cervical carcinoma development was the young age of sexual initiation. 130 questioned (70.6%) thought that the insufficient hygiene of partner's genitals was the cause of cancer. Over a half of nurses 125(68.0%) indicated taking hormonal contraception, and 120(65.3%) respondents listed smoking cigarettes. Low level of personal hygiene among women was enumerated by 112(61.1%) people. Details are presented in Table 1.

Over a half of nurses indicated the presence of at least one cancer incidence in their family. These were: pulmonary carcinoma 27 (14.7%), breast carcinoma 17(9.2%), colorectal carcinoma 15 (8.2%), cervical carcinoma 7(3.8%), endometrial carcinoma 5 (2.7%), leukemia 5(2.7%) and ovarian carcinoma 2 (1.1%).

All 184 (100.0%) nurses claimed, that they were not vaccinated against HPV virus (human papilloma virus).

The majority of nurses (152, 82.6%) declared having active sexual life, and 147 (79.9%) respondents claimed that they had one partner. 5 (2.7%) women admitted to have more than one partner.

The vast majority of women 172(93.5%) had at least one cytology, however 12(6.5%) admitted that they has never had this test. Over a half of respondents 97(52.7%) wrote that they undergone cytology within the last 12 months. Detailed data are presented in Table 2.

According to the majority of nurses (156, 84.8%) the result of cytology was within the normal range. 5.4% nurses did not remember the result and 3.3% had results requiring further diagnostics. Most respondents 156(84.8%) claimed that the cytological examination should be performed at least once a year. A much smaller number of nurses 27(14.7%) indicated performing cytological examination once in 3 years' time. 1(0.5%) person believed that the examination should be performed only in the case of symptoms occurrence.

Only some woman 11(6.0%) wrote that they use oral hormonal contraception, but 173 (94.0%) nurses declared not taking it. The period of taking hormonal contraception by respondents was between 6 months to 9 years, average time was 1.1 year.

Table 1. Risks factors of cervical carcinoma in the opinion of surveyed nurses

No	Risk factors	Definitely yes		Rather yes		Do not know		Rather no		Definitely no		Lack of answer	
		N	%	N	%	N	%	N	%	N	%	N	%
1.	Early sexual initiation – before 18 years of age	82	44.6	56	30.4	14	7.6	9	4.9	1	0.5	22	12.0
2.	Increased sexual activity	51	27.7	52	28.3	22	12.0	23	12.5	3	1.6	33	17.9
3.	Frequent change of sexual partners	98	53.3	52	28.3	10	5.4	12	6.5	0	0.0	12	6.5
4.	HPV infection	120	65.2	43	23.4	7	3.8	1	0.5	0	0.0	13	7.1
5.	Insufficient hygiene of partners' genitals	63	34.2	67	36.4	21	11.4	13	7.1	0	0.0	20	10.9
6.	Low level of personal hygiene	43	23.4	69	37.3	23	12.5	21	11.4	1	0.5	27	14.7
7.	Smoking cigarettes	51	27.7	69	37.5	18	9.8	18	9.8	3	1.6	25	23.9
8.	Hormonal contraception	57	31.0	68	37.0	19	10.3	17	9.2	1	0.5	22	12.0
9.	Drugs	24	13.0	46	25.0	50	27.2	28	15.2	4	2.2	32	17.4
10.	The use of stimulants	18	9.8	45	24.5	45	24.5	35	19.0	4	2.2	37	20.1
11.	HIV	60	32.0	42	22.8	39	21.2	17	9.2	1	0.5	25	13.6
12.	Cancer in family history	132	71.1	42	22.8	1	0.5	3	1.6	0	0.0	6	3.3
13.	Childbirth before the age of 25	6	3.3	9	4.9	36	19.6	64	34.8	37	20.1	32	17.4
14.	Early menstruation	8	4.3	26	14.1	31	16.8	64	34.8	20	10.9	35	19.0
15.	Many children	17	9.2	45	24.5	42	22.8	37	20.1	13	7.1	30	16.3
16.	Environmental factors	23	12.5	61	33.2	40	21.7	27	14.7	3	1.6	30	16.3
17.	High-fat diet	14	7.6	42	22.8	55	29.9	34	18.5	5	2.7	34	18.5
18.	Obesity	14	7.6	41	22.3	50	27.2	37	20.1	8	4.3	34	18.5
19.	Low physical activity	13	7.1	39	21.2	238	20.7	48	26.1	11	6.0	35	19.0
20.	No risk factors	5	2.7	3	1.6	25	13.6	6	3.3	66	35.9	79	42.9

Source: authors' study

Table 2. Cytology in the group of surveyed nurses

No	Date of the last cytology	Answer	
		N	%
1.	Never	12	6.5%
2.	Do not remember	7	7.0%
3.	Within last 12 months	97	97.0%
4.	From 1 year to 5 years	56	56.0%
5.	More than 5 years	12	12.0%
All together		184	100.0%

Source: authors' study

Alcohol was drunk occasionally by 120 nurses (65.2%), 63 respondents (34.2%) declared abstinence, and only 1(0.5%) indicated frequent consumption of alcohol. 14(7.6%) nurses confessed that they smoke cigarettes, and 21(11.4%) respondents declared occasional cigarette smoking.

The majority of nurses surveyed (149, 81.0%) were non-smoking people. The period of smoking cigarettes by respondents was between 8 to 30 years (average was 16.4 years).

Almost a half of nurses 85(46.2%) believed that they are at risk of factors conducive to cancer incidence. 32 women (17.4%) did not see

this threat in their lives. Other 67 respondents (36.4%) did not expressed their opinion in this matter. Every fifth woman 34(18.5%) claimed that the life style of their family predestinates to the incidence of cancer.

DISCUSSION

In Poland and worldwide, cervical carcinoma constitutes a great medical, personal and social problem [1-12]. The knowledge of disease prevention, medical society and women engagement in early identification of risk factors and regular cytological examination comprise basic elements of cervical carcinoma prevention. The results indicated that according to nurses the main risk factor is cancer running in the family, followed by HPV infection, frequent changes of sexual partners and early sexual initiation.

This results do not correspond with the results obtained by Knihinicka-Mercik et al. [13], in which the respondents indicated in the first place non-treated vaginitis and cervicitis, followed by cigarettes smoking and alcohol consumption. Cancer running in the family, viral infections of

genitals and frequent changes of sexual partners were listed in the later positions.

However, Lewitowicz et al. [7] in the studies conducted between 2010 and 2012, among 149 students of Jan Kochanowski University in Kielce (Poland) stated that the majority of women (94%) associated HPV infection with the induction of cervical carcinoma. Many sexual partners were listed by every fifth person, almost a half wrote about low social and economic standard of living and inappropriate diet, every fourth about low level of hygiene as a risk factor of this cancer. Only 13.0% of respondents chose cigarettes smoking.

Duval et al. [8] performed in 2007 in Canada studies among 946 nurses. Over a half of them (74.0%) indicated HPV infection as a risk factor, as well as 77.0% cancer running in the family. From the studies concerning cervical carcinoma risk factors ran by Phainmongkhol et al. [9] in Thailand in 2008 results that the majority of respondents (81.8%) identified the importance of HPV infection in etiopathogenesis of the disease.

Similarly, in 2012 Shashank et al. [10] conducted a study among 316 nurses in Tertiary Level Teaching Institution of Rural, India in which only 23.4% of nurses wrote about HPV infection as a cervical carcinoma risk factor. The study performed in 2009 by Urasa and Darj [11] in Tanzania revealed that 38.7% African nurses knew that HPV infection correlates with the risk of cancer. A bit different result concerning this correlation was obtained by Nieco Awodele et al. [12] during trial conducted among nurses in Lagos University Teaching Hospital in Nigeria, because over a half of nurses (52.0%) had knowledge in this matter.

The analysis of the literature [2,7-12,14, 15] indicates that the infection of oncogenic types of HPV plays a significant role in cervical carcinoma etiopathogenesis. HPV infection occurs most frequently among women under the age of 25 [14]. The presence of HPV DNA was found in 99.7% of cervical carcinoma incidence, what confirms the correlation between the development of cervical carcinoma and HPV [15,16]. 16 and 18 or 45 and 56 HPV strains were observed in 70.0% cases [16]. In own studies it was observed that none of the nurses surveyed was vaccinated against HPV, which may be related to their age (the average age of nurses was 37.15 ± 7.773). In 2001 fully paid HPV vaccination was introduced in the Protective Vaccination Program in Poland. In 2010, 150 territory units gave funds to vaccinated 30.000 girls. Vaccination against HPV are fully refunded only in 6 European countries. In many countries the introduction of vaccination decreased the number of registered cervical carcinoma incidence [3]. Vaccination against HPV provides effective protection against cervical carcinoma, however only in women vaccinated before sexual initiation.

Polish Gynecological Society and Polish Pediatric Society advice the vaccination of 11-12 year old girls [2]. After vaccination, women should participate in screening tests such as cytology [17].

In the studies performed among Canadian nurses, it was found that over a half of them (68.0%) was vaccinated against HPV, taking into consideration territorial division the largest number of inoculated against HPV respondents (87.0%) derived from British Columbia, and the smallest number (19.0%) from New Scotland [8].

The available analysed data obtained by different authors [8-12,17-19] show that nurses irrespective of the fact whether they are Europeans, American, Asian, African know about the importance of vaccination against HPV and are its supporters.

Early sexual initiation constitutes another cause of HPV infection, doubling the probability of cervical carcinoma development. The number of sexual partners greatly increases the risk of incidence. The changes of sexual partners often lead to viral infection, whose reservoir is a man [15]. The majority of the examined nurses declared having one partner. Similarly in the study by Pilewska-Kozak et al. [20] which showed that the vast majority of students (81.1%) of Medical University in Lublin (Poland) declared having regular partner. In Knihinickiej-Mercik studies [13] over a third of the examined women had more than one sexual partner. Almost a half of nurses participated in our study had two children, and only 3.2% of women declared more offspring. The average age of having first child was 24. Giving birth to three or more children was a factor increasing two to four times the risk of cervical carcinoma [15].

Other risk factors are low socioeconomic status and CIN [14]. Low socioeconomic status is linked with bad living conditions, insufficient personal hygiene and inappropriate diet. A correlation between inappropriate diet and the development of CIN and persistent HPV infection was observed in numerous studies [15,17].

Changes in cytological examination were observed only among 3.3% of all examined nurses. Many authors noticed that the incidence of cervical carcinoma is connected with economic conditions. Higher incidence was present among women with low standard of living and low level of general hygiene. In societies of low socioeconomic status the frequency of sexually transmitted diseases increased: HIV and herpes virus two to four times increases the risk of cervical carcinoma [15].

Cigarettes smoking plays a crucial role in cervical carcinoma development [2,14] doubling the probability of cancer development [15]. In the group of nurses surveyed almost every fifth nurse admitted to cigarettes smoking, there were also some who described it as addiction. The influence

depends on the number of smoked cigarettes. Carcinogenic effect of nicotine does not depend on other risk factors. The unfavorable influence of passive smoking was proved [15]. The number of cigarettes daily smoked by the nurses surveyed corresponds with the analysis of the health behaviours among nurses studying in Bydgoszcz and Włocławek (Poland), where similar unfavorable intensification of cigarettes smoking was observed. Almost every fourth studying nurse (22.2%) declared cigarettes smoking [18].

In the studies of women in Wrocław (Poland), Przestrzelska et al. [4] indicated that over a half of respondents (54.7%) smoked cigarettes.

Wachoł-Sławińska and Włoch [19] examined health behaviours of nurses showed that the dominant number of nurses (46.5%) regularly smoked cigarettes. Similar data were obtained by Urbańska and Kurowska [21] among 49.4% nurses in Bydgoszcz (Poland). Cancer occurring in the family increases the risk of cervical carcinoma incident especially when it is genital carcinoma. Over a half of the nurses surveyed declared the presence of at least one cancer and 3.8% indicated that it was cervical carcinoma. In the studies by Pilewskiej-Kozak et al. [20] performed among students of Medical University in Lublin (Poland), 6.3% of respondents declared the incidence of cervical carcinoma in their family. The self-risk assessment may constitute the motivation to start preventive actions. Almost a half of nurses in Lubelskie and Podkarpackie provinces believed that they are at the risk of cervical carcinoma, and over a one third did not have an opinion in this matter. The increase in the risk of cancer is induced by the lifestyle of the families of women surveyed. This opinion was expressed by 41.8% of the respondents. Similar number of women 39.7% did not have an opinion in this matter. In the studies by Pilewska-Kozak et al. [20] high risk of cervical carcinoma incidence among almost a half of the students surveyed was proved. Lewandowska's et al. [5] studies showed that 34.0% of women in Podkarpacie (Poland) did not follow the rules of cervical carcinoma prevention. Iwanowicz-Palus et al. [22] claimed in their studies that women underlined the correlation between the healthy lifestyle and the cervical carcinoma prevention. According to 18.5% of the nurses surveyed their family lifestyle predisposes to carcinogenic changes.

The lack of health state control and treatment of postnatal cervical lesions, as well as pathological changes leading to dysplasia belong to other factors of the cervical carcinoma development [20]. Early detection of cancer in preclinical stage is possible due to secondary prevention via screening studies i.e. cytological examination performed among women once in three years' time [2,14]. The Population Program of Prevention and Early Detection of cervical carcinoma in Poland

provides free cytological examination to all women aged between 25 and 49. The cytological examination enables early detection of changes, which if not treated may lead to cancer development [2]. The huge role is played by the personal initiative of women, who should participate consciously and systematically in those examinations [4]. There is many controversy regarding cytological examination concerning sensitivity of the tests used, abnormal results, costs, performing first examination and intervals between tests. Indisputably it seems that the introduction of preventive screening tests with the use of cytological examination decreased the death rate due to cervical carcinoma by 60.0-90.0% in Western Europe [6]. Quite large number of the examined nurses (6.5%) did not undergo this examination. According to Public Opinion Research Center (CBOS) 30.0% of women in Poland never had cytological examination and only 45.0% of women underwent it. The causes of undergoing this examination were most frequently preventive (in order to check health state) (49.0%), being sent by the doctor (21.0%), visit to gynecologist during pregnancy (16.0%) and in the smallest amount participation in screening tests (7.0%) [23]. In the studies by Przestrzelska et al. [4] it was proved that women in Wrocław (Poland) underwent cytological examination during the visit at gynecologist due to the genital complaint. A small number of respondents (6.7%) indicated conscious participating in preventive examination after doctor and midwife recommendations. On the basis of bibliography [17] it was claimed that over a half of cervical carcinoma incidents are present among women who never had cytological examination. In Poland cytological examination most frequently is performed among women aged 30 to 39 (91.6%) with university diploma (90.7%) and city residents (80.3%). Divorced women (90.1%) declare undergoing cytological examination and women living in relationships (89.0%) [24].

On the basis of the study results and the available literature it was proved that the knowledge of nurses about cervical carcinoma risk factors is satisfactory and generally it is manifested in declared by them lifestyle. They are substantively prepared to perform tasks in the scope of health education and health promotion.

CONCLUSIONS

1. The majority of nurses know the factors predisposing to cervical carcinoma development.
2. None of the nurses surveyed was vaccinated against HPV, which may be related to their age.
3. Behaviours declared by the majority of the respondents may be described as pro-health

behaviours, however the percentage of cigarettes smokers is worrying as well as frequency of undergoing cytology.

4. Despite generally pro-healthy behaviours declared by nurses surveyed they believe that they are at risk of factors conducive to cancer incidence.

Conflicts of interest

There is no conflicts of interest.

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