IWONA MALINOWSKA-LIPIEŃ[1], AGNIESZKA GNIADEK[1], JOANNA DOROS[2],
TOMASZ BRZOSTEK[1], MARIA CISEK[1], EWA KAWALEC[1], AGATA RECZEK[1]

Profilaktyka raka szyjki macicy w wybranej grupie pielęgniarek na tle Wielowymiarowej Skali Umiejscowienia Kontroli Zdrowia (MHLC)

Cervical cancer prevention in a selected group of nurses on the background of the Multidimensional Health Locus of Control Scale (MHLC)

Streszczenie

Wstęp. Możliwości poprawy profilaktyki i wczesnego wykrywania raka szyjki macicy oraz poprawy wyników leczenia są ściśle związane z wiedzą, postawami i zachowaniami kobiet. Pielęgniarki i położne z uwagi na specyfikę wykonywanej pracy mają do spełnienia znaczącą rolę w zakresie zapobiegania i wczesnego wykrywania kobiecych nowotworów złośliwych.

Cel. Ocena zachowań profilaktycznych zapobiegających rakowi szyjki macicy, w grupie pielęgniarek na tle Wielo-wymiarowej Skali Umiejscowienia Kontroli Zdrowia (MHLC).

Materiał i metody. Badania zostały przeprowadzone we wrześniu 2008 roku wśród 100 losowo wybranych pielę-gniarek pracujących w krakowskich szpitalach. W badaniach posłużono się metodą sondażu diagnostycznego, narzędzia stanowiły: anonimowy autorski kwestionariusz ankiety oraz wielowymiarowa skala umiejscowienia kontroli zdrowia – MHLC (The Multidimensional Health Locus of Control Scale).

Wyniki. Jedna trzecia badanych pielęgniarek przyznała, że poddaje się corocznej kontroli ginekologicznej, 15% raz na pół roku i częściej, a aż 15% kobiet nie pamiętała, kiedy ostatni raz była u ginekologa. Badanie cytologiczne raz na rok wykonywało 31% badanych, raz na dwa lata 18% kobiet, a raz na trzy lata 11%. Prawie jedna trzecia pielęgniarek miała badanie cytologiczne wykonane więcej niż 3 lata temu, a 12% nie pamięta kiedy ostatni raz miało je wykonane. Średnia wartość wewnętrznej umiejscowionej kontroli zdrowia (W) w skali MHLC wynosiła 25,60, co świadczy, że ankietowane były przekonane, że to od nich samych zależy kontrola nad własnym zdrowiem.

Wnioski. Zachowania zdrowotne pielęgniarek zmniejszały ryzyko rozwoju raka szyjki macicy, lecz nie sprzyjały wczesnemu jego wykrywaniu poprzez nie zgłaszanie się systematyczne na wizyty ginekologiczne oraz badania cytologiczne. Pielęgniarki zdecydowanie częściej były prze-konane, że to od nich samych zależy stan zdrowia, jednakże w działaniach profilaktycznych nie przejawiały tego typu zachowań.

Abstract

Introduction. The opportunities to improve prevention and early detection of cervical cancer and improvement of the treatment outcomes are closely related to knowledge, attitudes and women's behavior. Nurses and midwives due to the specificity of their work have a significant role in the prevention and early detection of female cancers.

Aim. Evaluation of prevention cervical cancer in a group of nurses on the background of the Multidimensional Health Locus of Control Scale (MHLC).

Material and methods. The study was carried out in September 2008 among 100 randomly selected nurses working in hospitals all around Cracow. The study used the method of diagnostic survey, tools included: a questionnaire and MHLC Scale).

Results. One third of the nurses acknowledged that they had annually gynecological checkup, 15% every six months and more often, and as many as 15% of women did not remember the last time they were at the gynecologist. Pap smear was performed every year by 31% of respondents, every two years by 18% of women, and once every three years by 11%. Nearly one third of nurses had a smear test done more than three years ago, and 12% did not remember the last time it was made. The average value of the internal health locus on the scale of MHLC was 25.60, indicating that the respondents were convinced that the control over their own health depends on themselves.

Conclusions. Nurses' health behavior reduced the risk of developing cervical cancer, but did not promote its early detection by avoiding the regular gynecological checkups and Pap tests. Nurses were convinced more often that their own health was in their hands but however, did not show this type of behavior in the preventive actions.

[1] Department of Medical and Environmental Nursing, Faculty of Health Sciences Jagiellonian University Medical College, Krakow
[2] Independent Public Clinical Hospital in Zabrze

INTRODUCTION

In Poland, likewise in highly developed countries, the risk of cervical cancer decreases, but the trend of mortality is reducing too slowly. According to the Department of Epidemiology and Cancer Prevention Centre of Oncology in Warsaw in 2008, 3.270 women got cervical cancer and 1.745 women died as a result of it [1].

Risk factors for cervical cancer can be divided into major and probable. The main risk factors include: infections caused by Human Papilloma Virus – HPV, age, early initiation of sex, high-risk sexual partners, high number of births, smoking, low socio-economic status and pre-existing pathology found by the Pap test. Whereas the probable risk factors include: long-term use of hormonal contraceptives, inappropriate diet, HIV infection (Human Immuno Varius) and other than HPV, inflammatory genital infections sexually transmitted. Epidemiological studies based on data of family records did not provide evidence of a genetic factor having a strong influence on the inheritance of cervical cancer [2-5].

Cervical cancer is the cancer that can be detected at an early stage. There are proven and widely accepted methods for early detection of this cancer, namely: cytology and colposcopy [6].

Opportunities to improve prevention and early detection of cervical cancer and improving treatment results are closely linked with the knowledge, attitudes and behaviors of women. Nurses and midwives, considering the nature of their work have a significant role to fulfill in the prevention and early detection of female cancers. Health care services provided by them under the program of reducing morbidity and mortality from cancer, include: education on the symptoms that should prompt to undergo a medical examination, advice on breast self-examination and self-control, preventing nicotine dependence, education on the correlation between smoking and cancer cases. Nurses and midwives should also endeavor to weaken carcinophobia among women by transmission of accurate information on the epidemiology, the risk factors and diagnosis of cervical cancer. They should promote the belief that early detection of cervical cancer increases the chances of complete recovery. For this purpose, they must continually expand, update and complement their knowledge about cervical cancer and also other cancers [7-9].

AIM

The aim of this study was to evaluate preventive behavior warding off cervical cancer, in the group of nurses on the background of the MHLC scale.

MATERIAL AND METHODS

The study was carried out in September 2008 among 100 randomly selected nurses between 23 and 40 years of age, working in hospitals in Cracow. The study used a method of diagnostic survey on the basis of the tools: the anonymous questionnaire and MHLC scale. The questionnaire contained 37 questions concerning knowledge of cervical cancer prevention and health behavior undertaken by nurses in this field. Thirty-two questions used in the questionnaire were closed questions, and five of them had an open character. Among the 32 closed questions three were conjunctive questions; all the remaining ones were disjunctive. Applied multidimensional MHLC scale contained 18 statements concerning health issues with which the respondent could agree or disagree. Depending on the response to every statement the appropriate number of points was attributed. The results were interpreted in the field of generalized expectations in three dimensions of health locus of control:

- internal (W) - the control over my own health depends on me;
- impact of others (I) - my own health is the result of the impact of others, especially of the medical staff;
- coincidence (P) - the coincidence or other external factors decide about the state of my health.

The results obtained in the questionnaire were calculated using the diagnostic key separately for each of the three dimensions of health locus of control. The result scope for each of the scales ranged from 6 to 36 points. The higher the score, the stronger the belief that a given factor has an impact on health. In the study by classifying the results, taking the median as the limit of division on high and low results in each of the three dimensions, the combination of 8 types of possible links is obtained.

Types of links are shown in Table 1 [10].

TABLE 1. Types of links of health locus of control in MHLC scale [10].

Types of links	W (internal)	I (impact of others)	P (coincidence)
Strong internal type	high	low	low
Strong external type	low	high	high
Type reducing impact of others	high	low	high
Type magnifying impact of others	low	high	low
Type reducing impact of coincidence	high	high	low
Type magnifying impact of coincidence	low	low	high
Undifferentiated- potent type	high	high	high
Undifferentiated- weak type	low	low	low

RESULTS

The study included 100 nurses between the age of 23 to 40 years old. The average age was 30.41 years. The largest group consisted of 24-year old women – 12%, whereas the smallest one consisted of 39-year old women – 2%. Exactly half were women up to 30 years of age. Almost two-thirds of women (72%) lived in the city. Among the surveyed women the married women accounted for 63% of respondents, the remaining women were unmarried. The nurses with secondary education accounted for 53% of respondents, while other women had a university degree. Nearly half of the surveyed nurses (43%) worked in internal medicine ward, 22% in cardiology, 19% in the intensive care unit, the remaining 16% of nurses worked in a surgical ward. The most (91%) of the surveyed women indicated the cervical cancer as the most often gynecological cancer occurring among women living in Poland. The mostly

indicated by respondents risk factor for cervical cancer, were human papilloma virus infections (HPV) – 69% and the genetic factor (65%) (Table 2). Only 70% of surveyed nurses gave correct answers about the degree of purity of the vagina corresponding with the cytosmear containing tumor cells. Sixty-seven percent of nurses reported that Pap tests should be performed once a year, and 14% that once every 2 years. As many as 8% of nurses did not know how often Pap test should be done (Table 3).

TABLE 2. Risk factors for cervical cancer in the opinion of the surveyed nurses.

Risk factors for cervical cancer in the opinion of the surveyed nurses	N=100%
Infection caused by human papilloma virus (HPV)	69%
Genetic factor	65%
Frequent changes of sexual partners or intercourse with a man frequently changing sexual partners	30%
No birth of children	27%
Smoking cigarettes	23%
Early sexual initiation	22%
Age	20%
Late menopause	14%
Early occurrence of menarche	14%
Numerous births	5%
I do not know	5%

TABLE 3. Knowledge and the actual having Pap test done by the respondents.

The frequency of *Pap tests*	Knowledge N=100%	Behaviour N=100%
Once a year	67%	31%
Every two years	14%	18%
Once every three years	9%	11%
Less often than once every 3 years	2%	28%
I do not know /I have not done such a test	8%	12%

Assessing risk factors for cervical cancer, occurring in the study group of women it was found that 32% of them had started sexual life between 16 and 19 years old, and 47% reported that they had had in life so far only one sexual partner. More than one third of nurses (38%) had never given birth, and only 8% of all respondent nurses had born three or more children. More than half of nurses (59%) admitted that in the past they had experienced genital tract inflammation.

Nearly half of respondents (43%) took currently or in the past hormonal contraception, and half of them (51%) started it after 20 years of age. One third of respondents (34%) admitted to have undergone an annual gynecological checkup, 15% of women every six months and more frequently, and as many as 15% of women did not remember the last time they had been at the gynecologist. Pap test was performed each year by one third of respondents (31%), once every two years by 18% of women, and every three years by 11%. Nearly one third of nurses (28%) had a Pap test done more than 3 years ago, and 12% did not remember the last time it had been made (Table 3). Among the risk factors life style dependent occurring in the studied group of the nurses it was found out that 22% of them were current smokers, smoking mainly 10 or more cigarettes a day. The most of surveyed women (72%), despite they had active practice as a nurse, had never educated patients on the prevention of cervical cancer.

Results of MHLC scale

Analyzing the results obtained in the three dimensions of health locus of control scale of MHLC the average value of internal health locus of control (W) was 25.60, which indicates that the respondents were convinced that the control over their own health depends on themselves. The average value of the impact of others on health locus of control was (I) 19.07, which in the opinion of the respondents indicates the situation that to a lesser extent than the internal control, the health status is the result of the impact of others, especially of the medical staff. The surveyed women were the least convinced that health status was determined by coincidence (P) – 17.01 points (Table 4).

TABLE 4. MHLC – average scores of the surveyed women in particular dimensions of health locus of control.

Dimension – control	Identification	Averages scores
Internal	W	25.60
Impact of others	I	19.07
Coincidence	P	17.01

By varying the surveyed women according to the eight types of health locus of control, the largest group consisted of 36 women with the type reducing impact of coincidence, subsequently 26 women with the undifferentiated-potent type, then 18 women with the strong-internal type and 14 women with the type reducing impact of others. The strong-external type, the type magnifying the impact of others, and the type magnifying the impact of coincidence were manifested by two women for each of these types. None of the women belonged to the undifferentiated-weak type. Because, in the study group the exact half were women 30 years old and less, they were divided into two age groups, and then they were again differentiated according to the type of health locus of control.

Analysis of the variables of age in relation to the types of health locus of control showed that in the group of women under 30 years of age, the type reducing impact of coincidence predominated (48%), subsequently the undifferentiated-potent type (20%), the strong-internal type (16%), and the type reducing impact of others (12%). The strong-external type was manifested by 4% of the respondents, while this type did not occur among women over 30 years of age.

Among women over 30 years of age the undifferentiated-potent type predominated (32%), then the type reducing impact of coincidence (24%), the strong-internal type (20%), and the type reducing impact of others (16%). The same number of women manifested the type magnifying the impact of others and the type magnifying the impact of coincidence which was 4% of each, none of the both types occurred among the women under the age of 30 years (Table 5).

TABLE 5. Age as a criterion for differentiating the surveyed nurses by type of health locus of control.

Type of health locus of control	Age				Total
	23-30 years old		31-40 years old		
	N	%	N	%	
Reducing the impact of coincidence	24	48	12	24	36
Undifferentiated-potent	10	20	16	32	26
Strong-internal	8	16	10	20	18
Reducing the impact of others	6	12	8	16	14
Strong-external	2	4	-	-	2
Magnifying the impact of others	-	-	2	4	2
Magnifying the impact of coincidence	-	-	2	4	2
Undifferentiated-weak	-	-	-	-	0
Total	50		50		100

The level of education as a variable affecting the health locus of control showed that the women with higher education compared with the women with secondary education demonstrated stronger internal control (W-27, 37 vs. W-23, 83) and a stronger impact of other people (I-19, 39 vs. I-18, 75) on health control. Whereas coincident in opinion of people with higher education, played a less significant role (P-15, 76) in the health locus of control, than in opinion of people with the secondary education (P-18, 26), as shown in Table 6.

TABLE 6. Education of the surveyed women and the average scores of the particular dimensions of control.

Education	N=100%	W	I	P
Secondary	53%	23.83	18.75	18.26
Higher	47%	27.37	19.39	15.76

Legend: W – internal, I – impact of others, P – coincidence

By analyzing in detail the various types of health locus of control in relation to risk factors occurring in the study group, it was showed that along with increasing importance of coincidence in health locus of control, the frequency of the gynecologist checkups decreased from the average value of P-12, 33 to P-24, 27. Internal health locus of control had no effect on the frequency of gynecological control, whereas the women who did not remember when the last time they had been to a gynecologist considered the impact of the internal control the weakest of other respondents (W-21, 26). The women who had a gynecological control fewer than once every two years or did not remember when they had been to the gynecologist for the last time, assessed that the impact of others on the health of the respondents had no significant effect (I-16, 75 vs. I-16, 40), unlike the internal control (W-27, 30, vs. W-21, 26), and the coincidence (P-19, 40 vs. P-20, 60) (Table 7).

TABLE 7. Frequency of the respondents' gynecological checkups as well as frequency of their Pap tests, and the average dimension of health control.

N= (100%)	Frequency of gynecological checkups						Frequency of Pap tests				
	15%	34%	14%	20%	15%	2%	31%	18%	11%	28%	12%
Dimension of health control	Once every six months and more	Once a year	Once every two years	Less than once every 2 years	She cannot remember when was the last time	She does not go at all	Once a year	Once every two years	Once every three years	Less than once every 3 years	Never
W	25.89	25.9	26.57	27.3	21.26	26.68	26.29	26.03	25.69	22.66	27.33
I	18.35	18.89	19.07	16.75	16.4	24.96	20.39	21.04	17.73	16.35	19.84
P	12.33	12.11	13.35	19.4	20.6	24.27	12.83	13.81	18.61	20.67	19.13

Legend: W – internal, I – impact of others, P – coincidence

It was observed that with decreasing frequency of Pap test in the group of the examined women the average scores of internal and external health locus of control decreased, and the importance of the coincidence increased. The women having Pap test once a year, reached the following average results: W-26, 29, I-20, 39, P-12, 83, which indicates a strong sense of internal and external control of the location of health, and the weak effects of coincidence on health.

The lowest average score concerning the internal dimension was received by the women who had Pap test done at least every 3 years (W-22, 66). The influence of others had a weak importance (I-16, 35) in maintaining health according to the women performing Pap test less frequently than every 3 years, but then the coincidence played a causal role according to them (P-20,67) (Table 7).

The women who smoked cigarettes, at the time of the study exhibited a weaker internal control (W-24, 95), than the women non-smoking (W-26, 25). The influence of others on the women smoking was stronger (I-20, 36), than on non-smoking (I-17, 78). The coincidence played a slightly more significant role among non-smoking women (P-17, 43), than among smoking (P-16, 59).

Similarly, the respondents who used hormonal contraception obtained higher average scores concerning the internal health locus of control (W-26, 73), than women not using hormonal contraception ever (W-24, 47). Both surveyed groups achieved similar average scores concerning the external health locus of control. The influence of coincidence on health had a stronger significance for the women who had never used hormonal contraception (P-19, 16), than for those who used it currently or in the past (P-14, 86).

DISCUSSION

Cancer is the second factor after cardiovascular disease, responsible for mortality in Polish society. The greatest mortality is observed in relation to lung cancer and among women to breast cancer. Cervical cancer takes 5th place after breast and lung cancers, colorectal and ovarian cancers, in the number of deaths in the population of women [1]. Awareness of mortality risks due to cancer diseases among the respondents was unsatisfactory, as much as 91% of the

nurses mistakenly believed that cervical cancer was the most common gynecological cancer among Polish women. Gaps in knowledge in the study population was also revealed in the fact that only two thirds of respondents reported that in prevention of cervical cancer, Pap test should be done once a year. The ignorance was translated into health behavior undertaken by surveyed women, because the Pap tests were performed once a year by just less than one third of the respondents. Worrying was the fact that 28% of the nurses reported that they had had a Pap test done more than 3 years ago, and as much as 12% could not remember the last time they had performed it. Such attitude of the nurses is inconsistent with recommendations of the Polish Gynecological Society (PTG), which recommends an annual Pap test after completing 25 years of age (at least 30 years of age) or with the early start of sexual intercourse, not later than 3 years after sexual initiation. Correct Pap test results and lack of risk factors for cervical cancer, as recommended by PTG, permit for screening tests every 3 years among those women [11], of this fact 33% of the nurses did not know. The problem of not calling for the Pap tests by the nurses is even more surprising because of the fact that nurses – as health care workers – should have the screening tests done according to recommendations and should know that if the worrying signs occur it may be too late for treatment [12]. The nurses argued the failure to perform annual Pap tests by the lack of symptoms, and not the fact that the last Pap test result was normal so, according to recommendation of PTG, they could have the Pap tests done less frequently. Awareness of the prevention tests need among the nurses performing Pap test once a year was significantly higher, than in the group not having the test done. Respondents having the test done annually reached in MHLC scale average scores higher in the strong sense of internal and external health locus of control and weaker in the impact of coincidence for health. The frequency of visits to the gynecologist of the surveyed women in comparison to the frequency of Pap test performance fared much better. Comparing the respondents' attending to preventive visits to the gynecologist with the average results of the particular dimensions of health locus of control, it was found that along with increasing importance of coincidence for the health locus of control (from the P-15, 11 to P-28, 05), the frequency of visits to the gynecologist decreased. Internal health locus of control did not affect the frequency of visits to the gynecologist, what however is important, the women who did not remember when they had been to the gynecologist for the last time evaluated the impact of internal control the weakest among all other respondents. This may mean that it is unlikely that these women, despite the doctor's recommendation or various health campaigns would increase the frequency of visits to the gynecologist, because they disregard the opinion of others. Confirmation of these findings may be the result of research relating to the participation of women in Pap tests within the confines of the prevention program to detect cervical cancer. In Poland, in 2007-2009, only one quarter (24.14%) of all women to whom an invitation for a free Pap test within the program for early detection of cervical cancer was sent, had the test done. More often, the women living in the rural communities than the women living in urban areas benefited from the program

(39.3% vs. 16.8%, with the exception of Malopolska, where the women living in the urban more frequently called for the Pap tests) [13, 14]. English study conducted by Stein et al., whose goal was to evaluate optimizing methods of inviting women for Pap tests, showed that neither a telephone call nor a letter signed by a celebrity or a boss of the prevention program were an incentive to call for the testing. Despite undertaking the special forms of inviting women to the Pap test they did not take the opportunity [15]. Perhaps this was due to the fact that in case of their health, they did not take into account the opinion of others, nor they were convinced of the meaningfulness of performing these tests, thinking that by chance they did not fall ill. This condition would require a reflection on the importance of knowledge acquisition in relation to behavior, especially in case of health, presented by nurses as well as other health sector workers.

The level of medical knowledge of society is one of the fundamental determinants of attitudes and behaviors related to health maintenance and disease prevention. It is expected that the knowledge of professionals in the field of risk factors for cancer is better than of those not associated with health care. However, in the present study as many as two-thirds of the nurses mistakenly identified a genetic factor as a cause of cervical cancer. Frequent changes of sexual partners or intercourse with a man changing sexual partners were identified as risk factors by only one third of respondents, and smoking by less than a quarter. Even worse results in terms of knowledge about the risk factors for cervical cancer were obtained in the studies performed in population of 100 women treated at the surgical department in Katowice.

Unfortunately as much as 52% of women, whose average age was 45 years, did not know the causes of female genital cancer, and over half of respondents (55%) could not give a single cause of breast cancer or female organs [16]. If knowledge of the surveyed nurses on the major risk factors is so much unsatisfactory then they have no grounds to consider themselves as potentially vulnerable to the development of cervical cancer, and thus to motivate themselves to the prevention activities. This fact is not confirmed by the results obtained with the MHLC scale, as the average value of internal health locus of control for the population of 100 surveyed nurses was 25.60, which indicated that mostly they believed that the control over their own health depended on themselves. The average value of the impact of others on the health locus of control was 19.07 and this explains, that according to the respondents their health status was to a lesser extend the result of the impact of others, especially the medical staff, than of their internal control. The lowest average score, which was 17.01, was obtained for the third dimension of health locus of control – the coincidence. The surveyed women were the least convinced that the coincidence or other external factors decided about the status of health. Although women's knowledge about the risk factors for cervical cancer was unsatisfactory, however, most women – with the exception of calling for the gynecological examination and having Pap test performance, showed a positive behavior to prevent the development of this cancer. None of the women had sexual intercourse before the age of 16, 47% had in life so far only one sexual partner, the majority (78%) of them did not smoke cigarettes, and as much as 57%

of respondents did not use hormonal contraception ever. Among the surveyed nurses 43 women who had been taking hormonal contraception, 32% had used it for over 5 years.

However, the results of the MHLC Scale for the women who used hormonal contraception showed that they attributed a little importance to the coincidence. This way of thinking was likely to translate into the attitude of the women to their own health, the coincidence had less significant impact on whether they would remain healthy.

CONCLUSIONS

1. Knowledge of nurses about the main risk factors for cervical cancer is unsatisfactory.
2. Health behavior of nurses reduced the risk of developing cervical cancer, but did not promote its early detection by not calling for regular gynecological checkups and Pap tests.
3. Nurses were more often convinced that their own health status depends on themselves; nevertheless in preventive actions they did not show this type of behavior.
4. Nurses with higher education exhibit stronger internal control, stronger impact of others and less importance of coincidence than women with secondary education.

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Informacje o Autorach

Mgr Iwona Malinowska-Lipień – asystent; dr n. med. Agnieszka Gniadek – adiunkt, Zakład Pielęgniarstwa Internistycznego i Środowiskowego, Wydział Nauk o Zdrowiu, Uniwersytet Jagielloński; mgr Joanna Doros – pielęgniarka, Samodzielny Publiczny Szpital Kliniczny w Zabrzu; prof. dr hab. med. Tomasz Brzostek – kierownik, Zakład Pielęgniarstwa Internistycznego i Środowiskowego, Wydział Nauk o Zdrowiu, Uniwersytet Jagielloński; dr n. med. Maria Cisek – starszy wykładowca; mgr Ewa Kawalec – asystent; dr n. med. Agata Reczek – adiunkt, Zakład Pielęgniarstwa Internistycznego Środowiskowego, Wydział Nauk o Zdrowiu, Uniwersytet Jagielloński.

Adres do korespondencji
Mgr Iwona Malinowska-Lipień
ul. Kopernika 25, 31-501 Kraków
E-mail: iwona.malinowska-lipien@uj.edu.pl