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Conditions of attending prophylactic gynecological examinations by women

Abstract

Introduction. Low percentage of women who attend prophylactic examinations and also react early to the first symptoms of a disease is a common problem.

Aim. The aim of the study was to determine demographic and environmental characteristics which had positive effects on having prophylactic gynecological examinations by women as well as to investigate what significance women's practicing of hormonal contraception had in that question.

Material and methods. The study covered 430 women. The conditions of including women into the study group were as follows: age <45 years, commencement of sexual intercourses, maintaining of sexual activity, consent to participate in the study. The method of the study was a diagnostics survey using the questionnaire.

Results. The majority of the surveyed women said that they attended prophylactic gynecological examinations regularly. Having prophylactic gynecological examinations was significantly affected ($p < 0.05$) by mean monthly income per capita in the family, practicing and the type of contraception. The joint effect of the surveyed characteristics proved to be significant ($p < 0.05$).

Conclusions. The model woman who willingly attends prophylactic gynecological examinations is a young person who lives in a big city, has a university education and a very good financial position confirmed by high family income per capita. Practicing of hormonal contraception by women is a factor that has a beneficial effect on women's care of their health understood as having regular prophylactic gynecological examinations.

Keywords: prophylactic gynecological examinations, woman, cervical cancer.

DOI: 10.2478/pjph-2014-0026

INTRODUCTION

Low percentage of women who attend prophylactic examinations and react early to the first symptoms of a disease is a common problem [1-18]. Such behavior can both have individual and social consequences. A progressing disease destroys the organism leading to invalidity or even a premature death, and increases the costs of medical care. The aim of health policy should be to make women realize that their health behavior, which includes having prophylactic gynecological examinations, enables them to avoid neoplastic diseases, or that in the case of early detection of cancer they will have a chance of complete cure [2,5,8-9,11-22].

AIM

The aim of the study was to determine demographic and environmental characteristics which had positive

effects on having prophylactic gynecological examinations by women as well as to investigate what significance women's practicing of hormonal contraception had in that question.

MATERIAL AND METHODS

The study covered 430 female residents of Lublin macro region who visited one of the three randomly selected family doctor's surgeries in the period of 11 months in 2010/2011. The conditions of including a patient into the study group were as follows: age <45 years, commencement of sexual intercourses and maintaining sexual activity, as well as a consent to participate in the study. The women who were mentally ill were excluded from the study. Twenty (4.4%) persons refused to take part in the study without giving a reason.

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The study tool was a questionnaire devised by the study authors, which consisted of two parts. The first part aimed at collecting demographical data, i.e. information about the respondents' age, education level, place of residence and monthly income per capita in the family. The second part contained questions about having prophylactic gynecological examinations and using the methods of conception control. In the process of devising the questionnaire there were used general methodological guidelines presented in the professional literature as well as suggestions and remarks of experts including professors of gynecology, sociology and psychology. The form and vocabulary of the questions were adapted to different intellectual levels of the respondents, i.e. to their perception capacities. In order to verify the questions included in the questionnaire, a pilot survey was carried out in the group of 70 women, the results of which were eventually excluded from this study.

Before the beginning of the survey, each respondent was informed how to complete the questionnaire and that the collected data were anonymous. Moreover, it was explained that the collected material would be used exclusively for scientific purposes aimed at improving the quality of care of a woman in good and bad health.

Descriptive statistics module of Statistica StatSoft v. 8 [23] was used in relation to continuous variables to describe the surveyed group. The results were analyzed by means of contingency tables. In relation to inter-group differences, there were used non-parametric tests χ^2 , McNemar's test as well as evaluation of probability of relative distribution of analyzed characteristics based on Odds Ratio (OR). Moreover, there was used Spearman's rank correlation test. The calculations were conducted for the confidence interval CI=95%, and therefore the differences were considered statistically significant when $p < 0.05$.

In order to determine the existence of multifactorial correlations, an attempt was made to create regression models (logistic regression).

TABLE 1. Respondents' socio-demographic data on the background of the macro region female population.

Variable	Studied group n=430	Macroregion population n=1122458	Significance of differences
Women's age	32.83±10.15	34.52±12.85	$p > 0.05$
	Town <100	41.9	40.5
Place of residence (population in thousands)	Town 101-200	5.3	5.42
	Town >200	21.9	22.8
	Village	30.9	31.3
Education (education time in years)	8-11	12.8	14.0
	12-14	47.7	48.5
	15-17	39.5	37.5
Monthly income per capita (€)	under 100	9.0	10.2
	100-200	47.6	45.2
	200-300	39.4	29.7
	above 300	9.0	14.9

RESULTS

The women's age varied from 17 to 45 years and the mean age was 32.83±10.15. Two hundred and fifty respondents (58.1%) lived in towns or cities, and 180 (41.9%) in villages. The length of education period ranged from 8 to 17 years, and most of the women (47.7%) learned for 12-14 years, which is an equivalent of finishing a secondary school. Monthly income per capita in the family was varied and ranged from <100 to >300 €. Table 1 contains socio-demographic data of the surveyed group on the background of the female population in the macro region.

The statistical analysis of socio-demographic data of the surveyed group in relation to the female population in the macro region did not reveal any statistically significant differences ($p > 0.05$).

The majority of the respondents (341, i.e. 79.3%) said that they regularly attended prophylactic gynecological examinations. The remaining 89 (20.7%) women did not. The data concerning the frequency of gynecological prophylactic visits are presented in Table 2.

The relation between having prophylactic gynecological examinations and the women's age is shown in Table 3.

TABLE 2. Frequency of attending prophylactic gynecological examinations.

Frequency of gynecological prophylaxis		n	%
Regularly	Every two years or less often	66	15.3
	Once a year	40	9.3
	Every six months	235	54.7
Never attends examinations or does that in an irregular manner		89	20.7
Total		430	100.0

TABLE 3. Attending gynecological prophylaxis vs. women's age.

Age	Gynecological prophylaxis				OR	OR SE	95% CI
	Yes		No				
	n=341		n=89				
	n	%	n	%			
Above 40 years	81	23.7	20	22.5	(1vs2) 0.9845	0.2963	0.5458-1.776
25-40 years	181	53.1	44	49.4	(1vs3) 1.2816	0.4346	0.6593-2.4913
Under 25 years	79	23.2	25	28.1	(2vs3) 1.3018	0.3703	0.7454-2.2733

The adopted division into age groups did not significantly differentiate ($p > 0.05$) the fact of having prophylactic gynecological examinations declared by the respondents. Nevertheless, the women aged 25-40 years had such examinations most frequently.

Tables 4 and 5 show the relations between having prophylactic gynecological examinations and respectively – the respondents' education and their place of residence.

The most poorly-educated women came to prophylactic gynecological examinations more than twice as rarely as the better-educated respondents, however this tendency did not reach the level of statistical significance ($p > 0.05$).

TABLE 4. Attending gynecological prophylaxis vs. education.

Time of education (in years)	Gynecological prophylaxis				OR	OR SE	95% CI
	Yes n=341		No n=89				
	n	%	n	%			
8-11	41	12.0	14	15.7	(1vs.3) 0.7054	0.2577	0.3448-1.4434
12-14	163	47.8	42	47.2	(1vs.2) 0.7546	0.2676	0.3766-1.5121
15-17	137	40.2	33	37.1	(2vs.3) 0.9348	0.243	0.5617-1.5558

TABLE 5. Using gynecological prophylaxis vs. place of residence.

Place of residence	Gynecological prophylaxis				OR	OR SE	95% CI
	Yes n=341		No n=89				
	n	%	n	%			
Towns >200 000	81	23.8	13	14.6	(1vs.2) 1.877	0.642	0.9603-3.6696
Towns ≤200 000	156	45.7	42	52.8	(1vs.3) 1.737	0.6345	0.8493-3.5544
Villages	104	30.5	29	32.6	(2vs.3) 0.925	0.248	0.5474-1.5648

The observed relations indicate the existence of a connection between the level of education and a feeling of reluctance to attend prophylactic gynecological examinations (measured indirectly – by the frequency of visits) – Spearman's rank correlation is 0.202.

Among the respondents regularly having prophylactic gynecological examinations there was a predominance of medium-sized towns and villages inhabitants, however, this was not statistically significant ($p>0.05$).

The relation between attending prophylactic gynecological examinations and mean monthly income per capita in the family is presented in Table 6.

TABLE 6. Attending gynecological prophylaxis vs. mean income per capita in the family.

INCOME per capita (€)	Gynecological prophylaxis				OR	OR SE	95% CI
	Yes n=341		No n=89				
	n	%	n	%			
<100	29	8.5	10	11.2	(1vs.2) 0.1003	0.0223	0.0649-0.1551**
					(1vs.3) 0.2451	0.0564	0.1562-0.3847**
100-200	164	48.1	29	32.6	(1vs.4) 0.7123	0.3367	0.282-1.799
200-300	91	26.7	36	40.4	(2vs.3) 2.2372	0.6302	1.288-3.8858**
					(2vs.4) 1.389	0.4999	0.686-2.8124
>300	57	16.7	14	15.8	(3vs.4) 0.6209	0.2219	0.3081-1.2509

** high statistical significance

The adopted division of mean monthly income per capita in the family significantly differentiated ($p<0.05$) attending prophylactic gynecological examinations. The poorest women

had such examinations from 4 to 10 times as rarely as the respondents who declared higher incomes.

Using of conception control methods was admitted by 219 (50.9%) women, 124 (28.8%) of whom used oral contraceptives and 95 (22.1%) other contraception methods or agents. The remaining 167 (49.1%) women denied controlling their fertility. Table 7 presents the data related to the regular use of gynecological prophylaxis and using (or not) birth control methods.

TABLE 7. Methods of birth control vs. using gynecological prophylaxis.

Methods of birth control	Gynecological prophylaxis				OR	OR SE	95% CI
	Yes n=341		No n=89				
	n	%	n	%			
Oral contraception	109	32.0	15	16.8	(1vs.2) 3.3538	1.1837	1.6793-6.6983**
Other methods	65	19.1	30	33.7	(1vs.3) 1.9146	0.6191	1.0158-3.6084*
No contraception	167	48.9	44	49.5	(2vs.3) 0.5709	0.1589	0.3309-0.9849*

Women using oral contraceptives came to prophylactic gynecological examinations nearly twice as often as the respondents who declared not using of any birth control methods ($p<0.05$), and more than 3 times as often as the women who declared taking advantage of other methods ($p<0.05$).

Using regression analysis, an attempt was made to determine the joint effect of two studied characteristics on the fact of having gynecological prophylaxis. The pairs of characteristics included: the women's education level and place of residence, a mean monthly income per capita in the family and place of residence, age and place of residence as well as age and practicing contraception. The results of statistical analysis are shown in Table 8.

TABLE 8. Joint effect of the studied characteristics on the fact of using gynecological prophylaxis.

Studied characteristics	Wilks' lambda	R.Rao	df 1	df 2	p level
Education	0.6939	1.8403	9	107	0.0711
Place of residence	0.7602	2.1766	6	88	0.0593
Joint effect	0.7901	1.9059	18	124	0.0107
Mean monthly income	0.8439	2.1403	9	107	0.0295
Place of residence	0.7012	2.0360	6	86	0.0409
Joint effect	0.9001	1.9548	18	120	0.0085
Age	0.8653	2.3950	12	48	0.0327
Place of residence	0.7425	2.2172	6	36	0.0456
Joint effect	0.7201	1.9335	18	84	0.0097
Age	0.8653	2.3950	12	48	0.0327
Methods of contraception	0.6928	1.3241	8	18	0.0517
Joint effect	0.7345	1.6934	16	64	0.0385

The joint effect of two examined characteristics on the fact of using gynecological prophylaxis proved to be statistically significant in all the combinations ($p<0.05$).

DISCUSSION

Civilization development coincides with a dynamic rise in the incidence of breast and female genital neoplasms [1,3,4,6-10,11,13,15-18]. The basis in prophylaxis of these diseases is the knowledge of risk factors, regular gynecological examinations and the active attitude of women towards their health [2,4-20].

Comparing of socio-demographic data of the study respondents, in relation to the macro region population, did not show any statistically significant differences ($p > 0.05$), which implies the group's homogeneity. Therefore, that allows for generalizing about the observations made.

Considering the fact that all the women were at a reproductive age (17-45 years), the use of prophylactic gynecological examinations should be regarded as rather small. Only 64.0% of the respondents had such examinations frequently enough. The other ones did that rarely, irregularly or never. The collected material does not enable for determining the reasons for that situation. That might have been caused by the lack of sufficient knowledge about the benefits resulting from gynecological prophylaxis. Such conclusions are suggested by the results of the studies conducted by PBS DGA (Social Research Agency), in which more than a half of women (53.4%) thought that they were healthy and did not see the need of having prophylactic examinations. Others said they did not have time or money for that or they did not know where such examinations were performed, or they were too young to worry about possible risks to health (2). Those motives are worrying since the information about them was collected in the period of conducting a wide-scale programme of cervical carcinoma prevention. It should be added that the attendance rate of women, even when personally invited to the surgery, was only about 25% in some regions of our country [6].

A similar situation in terms of prophylactic examinations is also in other countries, both rich and poor ones [5,12,14,16,19-22]. In the Republic of South Africa low prophylaxis attendance rate is accompanied by increased incidence of cervical carcinoma (5). In recent years, there have been introduced prophylactic programs in such countries to order to increase social awareness and encourage women to take part in such examinations. This is done through radio and television programs, by distributing of brochures and employing of persons to visit women at their homes. This last method proves to be the most effective – over 75% women attend prophylactic examinations. Similar methods were employed to reach women in a poor rural region in Brazil – brochures, newspaper announcements, cars with loudspeakers and social workers to make home visits [22]. The effect of these activities was similar to the one in the Republic of South Africa – home visits proved to be the most effective, although fewer women (45.6%) were convinced to attend the examinations.

The importance of prophylactic programs and advertising the possibilities of having prophylactic care was also confirmed by the studies conducted in the USA (21). In 26 workplaces, there were conducted education campaigns, discussions and lectures on the subject and their effect on health behaviors was checked. It turned out that as a result of the

prophylactic actions there was an increase in women's attendance of mammography tests (from 5.6% to 7.2%), clinical examination of the breast (from 2.1 to 5.8%) and the Pap smear (from 1.9 to 4.7).

Using statistical analyses an attempt was made to determine a social model of the woman who regularly attends prophylactic examinations and a model of the woman who does not have such examinations. The results created the basis for making conclusions about the effects that age, education, place of residence and financial status had on the fact of attending gynecological examinations. It turned out that women aged above 40, poorly educated, with a low family income per capita and inhabitants of villages or small towns by far most rarely reported having regular examinations. Similar results were achieved by other authors [10,13,15,24]. A special situation, which motivates a woman to have regular gynecological examinations is the use of hormonal contraception (13). The presented results confirm that statement. Among the women who were under constant medical care, there was a predominance of the respondents aged below 25 years, who used this method of birth control. In addition, there was observed a continuous preference for oral contraceptive pills – the probability of such a choice was over three times as high as the one of choosing other, alternative methods.

A visit to a gynecological surgery is a difficult situation for many women. Gynecological examination is related to an intimate sphere of life, causes a feeling of shame or often embarrassment [7]. It happens that women, despite being aware of necessity of such examination, postpone their appointments or come to a gynecologist only when they have a health problem. The conducted study indicates a relation between the level of education and feeling reluctance about visiting a gynecologist (measured indirectly – by frequency of such visits); Spearman's rank correlation is 0.202. The women with the lowest level of education attended prophylactic examinations over twice as rarely.

The conducted surveys definitely confirm the necessity to undertake education actions aimed at increasing awareness of women, in all periods of life, about the benefits of regular gynecological examinations. This has been confirmed by observations from professional literature [8,9,25]. However, a few important problems arise. While propagating health and implementing prophylactic actions it is necessary to investigate carefully health behaviors of people in a particular area. Attending gynecological examinations depends on a number of factors, i.e. a woman's period of life, a degree of health awareness, access to health centers, social status, health state, and so on. It is worthwhile using the most effective techniques of encouragement. In recent years the system of personal invitations has become quite popular, which has considerable significance, especially in relation to poorly-educated women [4,8-9]. Education programs must be – which is worth emphasizing – realized over long periods of time, and family doctors, local self-governments, non – government organizations and media should be involved in the process of inviting women.

CONCLUSIONS

1. The model woman who willingly attends prophylactic gynecological examinations is a well-educated young person living in a big city, with a good financial status confirmed by family income per capita.
2. Practicing hormonal contraception by women is a factor, which has a beneficial effect on their health care understood as regular attending of prophylactic gynecological examinations.

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