

The knowledge of risk factors and prevention of breast cancer in Polish women

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Summary

Purpose: Currently, breast cancer is one of the most common malignancies among women and it constitutes a significant medical, economic, and social problem. **Materials and Methods:** The study was conducted in a group of 600 healthy women (aged 18 to 88 years) between September 2011 and February 2015 living in the region of Wielkopolska (Poland) in a private gynecological practice. A survey questionnaire designed specifically for purposes of the study was a tool used to conduct the study. **Results:** With regards to risk factors for breast cancer: 93% - familial history of breast cancer, 46% - use of hormone treatment, and 40.16% - taking contraceptive pills. **Conclusions:** A significant component of breast cancer prevention should be providing information regarding prevention tests and increasing accessibility to medical services.

Key words: Risk factors; Prevention; Breast cancer; Predisposing factors; Familial history; Hormone treatment; Contraceptive pills.

Introduction

Currently, breast cancer is one of the most common malignancies among women and it constitutes a significant medical, economic, and social problem [1]. Globally, this cancer is thought to be the most common malignancy. It mainly affects women living in countries with a high level of economic development (in 2010 it was a cause of death of 68,000 women aged 15–49 years) [2, 3]. Unfortunately, epidemiological factors and predictions indicate that breast cancer incidence has been increasing, especially among women aged 45–69 years. [4–6]. Based on epidemiological studies, the American National Cancer Institute states that the life-long risk of breast cancer in women is approximately 12% [7].

Important aspects of prevention and successful treatment of breast cancer include both primary and secondary prevention, as well as elimination of risk factors. Primary prevention includes activities that can be undertaken by women themselves. It mainly includes a healthy lifestyle based on appropriate nutritional habits (a diet with a low amount of compound fats and simple sugars), physical activity (prevention of being overweight or obese), non-smoking, and using only controlled hormonal therapy. Current knowledge on the genetic basis of breast cancer development is still incomplete (presence of BRCA1, BRCA2, and TP53 genes is strongly associated with predisposition for breast cancer in a general population of women). On the other hand, secondary prevention includes examinations aimed to stop the disease

thanks to detection of early symptoms. Only when the disease is diagnosed early, the survival chance is increased even by 25% [8]. Asymptomatic lesions can often be treated even in 100% and there is no need to cripple a patient or to apply long-term therapy [1]. Additionally, the risk of metastasis formation or recurrence is reduced, therefore the life expectancy and life quality increase.

In today's world, the level of knowledge in the population is one of factors of pro-healthy activities [9]. Therefore, in order to increase the health status in people, it is important to promote healthy behavioural patterns and an appropriate lifestyle. An individual sense of responsibility for one's own health is a factor that is decisive with regards to regular medical visits and prophylactic tests. Medical staff also plays an important role as it is responsible for educational activities aimed to provide patients with information and to eliminate false stereotypes in the field of health and diseases [10]. This paper aimed to assess sources and level of knowledge in women at the age between 18 and 88 years regarding risk factors and breast cancer prevention.

Materials and Methods

This study used a cross-sectional descriptive study design. It was conducted in a group of 600 women (aged 18 to 88 years) between September 2011 and February 2015 living in the region of Wielkopolska (Poland) in a private gynecological practice. A method of a diagnostic survey was used in the study. A survey questionnaire designed specifically for purposes of the study was a tool

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Table 1. — General characteristics of the study group.

	n	%
Age of the study group (years)		
18–30	278	46.3
31–40	118	19.7
41–50	108	18.0
51–60	81	13.5
61–70	10	1.7
71–88	5	0.8
Place of residence		
City under 10 thousand inhabitants	120	20.0
City 10–20 thousand inhabitants	130	21.7
City 20–50 thousand inhabitants	150	25.0
City above 50 thousand inhabitants	200	33.3
Marital status		
Single	272	45.3
Married	250	41.7
Widow	29	4.8
Divorced	49	8.7
Education		
Primary	51	8.5
Vocational	70	11.7
Secondary	232	38.7
Higher	247	41.1
Current position		
Student	199	33.2
Unemployed	30	5.0
Worker	279	46.5
Other	92	15.3
Financial situation		
Poor	42	7.0
Satisfactory	368	61.3
Good	169	28.2
Very good	21	3.5

used to conduct the study. The questionnaire questions were closed, and it was possible to provide more than one answer to some questions. Respondents were instructed in detail how to fill in the questionnaire properly, and they were also familiarised with the objective of the study. All participants voluntarily agreed to participate in the study, was completely anonymous, and the study group was selected randomly. The obtained results were subject to a statistical analysis. Statistical tests were performed with computer software: STATISTICA 9.0. Data confidentiality and survey procedures were reviewed with each participant before the questionnaire questions. Researchers assured participants that the contents of the interview would be used solely for research purposes.

Results

The study included 600 women of childbearing potential (between 18 and 88 years). In the study group, 5% had their first visit at OB/GYN at the age of 10–15 years, 23% at the age of 16–20 years, 70% at the age of 21–25 years, whereas 2% at the age of 25 years. In the study group, menarche was at the age of 10–12 years in 48% of women, at the age of 13–16 years in 50%, at the age of 17–19 years in 2%. General char-

Table 2. — Risk factors for breast cancer.

	n	%
Delayed menarche	35	5.8
Delayed menopause	155	25.8
Familial history of breast cancer	558	93.0
Premature menarche	166	27.7
Premature menopause	24	4.0
No breastfeeding	122	20.3
Use of hormone treatment	276	46.0
Use of contraception	241	40.2
Tobacco smoking	168	28.0
Alcohol consumption	159	26.5
Being overweight/obese	230	38.3
No physical activity	172	28.7
BRCA1 gene mutation	482	80.3

Table 3. — Secondary prevention and sources of knowledge with regards to risk factors for breast cancer.

	n	%
<i>When, in your opinion, should a breast self-exam be performed?</i>		
Mid-cycle	129	21.5
At the end of the cycle	11	1.8
After the menses	445	74.2
Before the menses	15	2.5
<i>Can you perform a breast self-exam?</i>		
Yes	491	81.8
No	109	18.2
<i>How often, do you think, should a breast self-exam be performed?</i>		
Once a week	481	80.2
Once a month	32	5.3
Once every few months	73	12.2
Once a year	14	2.3

acteristics of the study group are presented Table 1.

With regards to risk factors for breast cancer: 5.83% - delayed menarche, 25.83% - delayed menopause, 93% - familial history of breast cancer, 27.67% - premature menarche, 4% - premature menopause, 20.33% - no history of breast feeding, 46% - use of hormone treatment, 40.16% - taking contraceptive pills, 28% - tobacco smoking, 26.5% - alcohol consumption, 38.33% - being overweight/obese, and 28.67% - no physical activity. In the study group 80.33% of women agree that breast cancer can be genetically inherited with BRCA1 mutation (Table 2).

Among the respondents, 48% of women stated that an ultrasound examination is part of breast cancer prevention, 50% - mammography and 2% - breast self-exam. Secondary prevention and sources of knowledge with regards to risk factors for breast cancer are included in Table 3.

Discussion

Breast cancer is the most common malignancy among Polish women. There are many factors predisposing for breast cancer, and not all of them can be changed. However, in order to reduce the mortality rate as low as possible primary prevention should be used, namely women should adapt their lifestyles appropriately, as well as secondary prevention, namely screening tests.

Primary prevention

Current medical knowledge on risk factors for breast cancer allows for modification or elimination of some unfavourable behaviours. Risk factors mainly include spirits, a diet with a high intake of saturated fats, obesity - especially abdominal obesity after the menopause. Whereas a diet with a high intake of vegetables and fruit (a high supply of folic acid) and regular physical activity significantly reduce the risk of breast cancer. Risk factors for breast cancer that are especially important include prolonged breast exposure to estrogens that is especially prolonged in women with premature menarche, and delayed last menses, who have not given birth or who gave birth to their first child late (after the age of 30 years). Therefore, promoting early motherhood or reasonable use of exogenous hormones administered as hormone therapy seems to be a feasible strategy [11]. The effects of contraceptive pills on the increased risk of breast cancer development is a topic of many controversies and a subject of many ongoing trials [12]. Any possible unfavourable correlation with breast cancer development seems to be significant mainly in females with a high genetic risk [13]. Based on the analysis performed on material collected, it can be concluded that according to respondents risk factors for breast cancer mainly include a familial history of breast cancer (91.67%) and the use of hormone treatment, and contraception (45% vs. 40%). Muszyńska *et al.* [14] and Pacian *et al.* [9] obtained similar results on the state of knowledge among Polish women with regards to risk factors for breast cancer [9, 14]. Unfortunately, knowledge on other risk factors is not satisfactory. Therefore, all activities included in secondary prevention targeted at early detection of lesions are especially justified.

Secondary prevention

Diagnostics of breast lesions include: a breast self-exam, physical examination, and medical history, as well as imaging studies such as mammography and breast ultrasound examination. Sensitivity of a screening test should be sufficient to detect lesions that are clinically inactive. Mammography is such a study with regards to breast cancer screening tests. Its sensitivity is assessed as 77–95%, and specificity at 94–97% [15]. Mammography is the most important screening test allowing for early detection and diagnosis of even small nodules with a diameter of approximately 0.5 cm, as well as asymptomatic lesions at an early stage. In 2009 the U.S. Preventive Services Task Force (USPSTF) published recommen-

dations to perform mammography every two years in a group of women at the age of 50–74 years. Experts in this group have not found enough evidence to recommend mammography to women at the age of 75 years or older [16]. In Poland, there is the Population Programme of Early Breast Cancer Detection providing free mammography to women at the age of 50–69 years. However, it has to be emphasised that screening programmes for breast cancer and cervical cancer became available to Polish women at least two decades later than in the case of the United Kingdom or Finland [17].

An ultrasound examination also plays an important role in the diagnosis of breast cancer. Breast ultrasonography cannot replace mammography in a programme of screening tests. This method is necessary to confirm changes observed in a palpation examination and it is the best diagnostic method in women with dense, glandular breasts [6].

A self-exam should be performed by all women at all ages. It is recommended to perform a breast self-exam regularly once a month two to three days after menses, and postmenopausal women should perform it at a selected day of a month. A breast self-exam is often named as a non-invasive screening test. However, one of its limitations is the fact that it is not regularly performed by women. According to the present authors' observations, 82% of respondents can perform a breast self-exam and 80% of them performs this examination regularly, once a month. In studies by Tavafian *et al.* [18] and Naghibi *et al.* [19], the rate of women performing a breast self-exam was lower, but it may be due to cultural differences [18, 19]. The World Health Organization (WHO) does not recommend a breast self-exam or a breast physical examination as screening tests, but recommends to perform a mammography every one to two years in women at the age of 50–69 years [20]. The clinical value of a physical examination is affected by physician's experience as well as the fact whether its standardisation has been determined and implemented. Nonetheless, a breast physical examination is a significant and fully reasonable management strategy in countries where mammography is poorly accessible [16, 21, 22].

Conclusion

A significant component of breast cancer prevention should be providing information regarding prevention tests and increasing accessibility to medical services. Medical personnel should act to increase the level of health consciousness among women and to eliminate psychological or cultural limitations.

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