

# DO MEDICAL PERSONNEL CONDUCT BREAST CANCER SCREENING PROPERLY?

## CZY PERSONEL MEDYCZNY WŁAŚCIWIE PRZEPROWADZA BADANIA PRZESIEWOWE W KIERUNKU RAKA GRUCZOŁU PIERSIOWEGO?

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### ABSTRACT

**Introduction.** Breast cancer is the second most frequent type of cancer in the world. As the most frequent female cancer type in Poland, breast cancer comes first in terms of incidence. Poland numbers among countries of medium incidence and mortality of this disease. In 2010, 15 784 cases of breast cancer were recorded, which accounted for 22.4% of the total count of incident tumours. The majority of females do realise the possibility of developing cancer, but are unaware of the associated risk factors. The identification and avoidance of modifiable risk factors presents a viable approach to the reduction of the incidence of breast cancer.

**Aim.** The aim of the study was to collect information on the practical use of prophylactic tests by medical personnel and the knowledge of principles and purpose of screening among patients.

**Material and methods.** The survey, which was carried out in the Women's Health Centre in Lubin, lasted from 1 September 2015 to 31 January 2016 and included 129 respondents. The questionnaire consisted of 14 closed questions. The majority of the questions were concerned with undergoing tests within the framework of breast cancer prevention.

**Results.** The majority of the respondents admitted that the person who had shared with them information regarding breast cancer prevention had been the gynaecologist – 63%. At the same time, the surveyed women declared that it had not been the nurse (85%), the family doctor (84%) or the midwife (73%).

**Conclusions.** The gynaecologist is considered as a main source of information on breast cancer prevention. Gynaecologists do not discharge this duty sufficiently. Family doctors do not discharge their duty of clinical breast examination and informing patients of breast cancer. Women do not undergo prophylactic tests related to breast cancer on a regular basis. Menstruating and non-menstruating women's knowledge of the appropriate time that breast self-examination should be performed is insufficient.

**Keywords:** breast cancer, prevention, breast examination, breast self-examination.

### STRESZCZENIE

**Wstęp.** Rak piersi jest drugą co do częstotliwości występowania chorobą nowotworową na świecie.

**Cel.** Sprawdzenie wiedzy kobiet na temat profilaktyki raka piersi oraz jej praktycznego wykorzystania. Ocena skuteczności personelu medycznego w prowadzeniu profilaktyki raka piersi.

**Materiał i metody.** Badanie ankietowe przeprowadzono w Centrum Zdrowia Kobiet FEMINA w Lubinie. Udział w nim wzięło 129 respondentek. Ankietywane oceniały poziom własnej wiedzy odnośnie profilaktyki raka gruczołu piersiowego, a także podawały główne źródła tej wiedzy.

**Wyniki.** Większość badanych respondentek przyznała, że osobą, która kiedykolwiek udzieliła im informacji odnośnie profilaktyki raka piersi, był lekarz ginekolog – 63%. Jednocześnie badane kobiety deklarowały, że taką osobą nie była pielęgniarka – 85%, lekarz rodzinny – 84% oraz położna – 73%.

**Wnioski.** Analiza badań wykazała, że lekarz ginekolog uznawany jest za główne źródło informacji na temat profilaktyki raka piersi. Uzyskano wyniki świadczące o tym, że lekarze rodzinni nie wywiązują się z obowiązku wykonywania klinicznego badania piersi, a lekarze ginekolodzy wywiązują się z tego obowiązku niewystarczająco. Kobiety nieregularnie wykonują badania profilaktyczne w kierunku raka piersi. Wiedza kobiet odnośnie odpowiedniego czasu przeprowadzania samobadania piersi jest niewystarczająca.

**Słowa kluczowe:** rak piersi, profilaktyka, badanie piersi, samobadanie piersi.

### Introduction

Breast cancer is the second most frequent type of cancer in the world. The age-standardised rate (ASR) of the incidence of breast cancer in 2012 for Mozambique was approx. 15/100,000 women, whereas for the USA it was

approx. 93/100,000 women. The ASR for Poland that year was in the order of 52/100,000 women [1].

As far as all types of tumour are concerned, breast cancer is the fifth most frequent cause of death in the world.

It is estimated that in 2012 it claimed the lives of 522,000 women. The vast majority, 324,000 deaths, occurred in developing countries. In 2013, 5,816 fatal cases of breast cancer were reported in Poland, constituting 13.9% of all deaths of Polish women caused by a malignant tumour during that period. As to fatal cases of cancer in Poland, breast cancer is placed second [2].

The primary-care doctor's responsibility is, among others, to examine the patient's medical history in terms of her predisposition to tumours, train her in breast self-examination and carry out a medical examination of her breast glands on a yearly basis. This applies to women 35+ years old. The doctor is also obliged to share information on prophylactic schemes and health education aimed at eliminating or reducing modifiable cancer risk factors [3, 4]. The duties of the gynaecologist as regards prophylaxis are the same, though limited to cancers of the female sexual organs and breast glands [4]. Furthermore, physical breast examination can be performed without the doctor's order by nurses who have completed a specialist course and midwives [4, 5]. The Polish Oncology Union (Polska Unia Onkologii) recommends carrying out a medical breast examination every 36 months in women who are 20–39 years old and have no symptoms, nor are affected by increased risk factors, and every 12 months in women who are 40 years old. Women with an increased risk of developing cancer at the age of 25+ or 10 years younger than the youngest female having breast cancer diagnosed in the family are recommended to undergo a medical breast examination every 6 months [6].

Ultrasound breast examination is performed at every diagnosis stage, from prophylaxis, to distinguishing clinical or subclinical changes detectable or visible during other imaging tests, and also for the purpose of monitoring biopsies [7]. This diagnostic test is especially useful for women with dense breasts, for whom mammography is significantly less sensitive and specific, especially in young pregnant women and during lactation, when it is necessary to avoid exposure to X-ray radiation.

Unfortunately, there still is no common stance among Polish academic societies as to the application of ultrasound in secondary prevention related to malignant breast tumours. The Polish Ultrasound Society (Polskie Towarzystwo Ultrasonograficzne) recommends prophylactic ultrasound in women without an increased risk of developing cancer every 12 months from the age of 30. Meanwhile, women falling into the high-risk category should undergo such tests annually irrespective of their age. The Ministry of Health recommends breast ultrasound at least every 24

months up to the age of 30, and every 12 months after that. On its official website, the Polish Oncology Union suggests that breast ultrasound be performed every 12 months from the age of 20. Among women with an increased risk of developing cancer, the aforementioned organisation promotes ultrasound every 12 months in patients aged 25+ as complementary to MRM and MRI [7–9].

Mammography in premenopausal women, and in those undergoing hormone therapy, should be performed in the first half of the cycle. This improves the test quality and reduces pain in the patient. During the menopause, the patient may ask for the examination on any day. The Polish Gynaecological Society (Polskie Towarzystwo Ginekologiczne) recommends prophylactic MRM every 24 months in women between 45 and 50 years of age, and once every 12 months from 50 years of age onwards. Among women with a family history of cancer, the first MRM test should be carried out 5 years before the age at which breast cancer was diagnosed in one's relative. The PGS recommends MRM for those in the high-risk category from the age of 35, when the patient's breast glands are characterised by high density, together with complementary ultrasound [7–9]. Within the framework of the screening test programme, mammography is conducted according to recommendations of the American College of Preventive Medicine – every 2 years in women aged 50–69 who fall into the low-risk category for developing breast cancer and every year in women who fall into the high-risk category.

The aim of the study was to collect information on the practical use of prophylactic tests by medical personnel and the knowledge of principles and purpose of screening among patients.

## Material and methods

The survey, which was carried out in the Women's Health Centre (Centrum Zdrowia Kobiet) in Lubin, lasted from 1 September 2015 to 31 January 2016 and included 129 respondents. The questionnaire consisted of 14 closed questions. The majority of the questions were concerned with undergoing tests within the framework of breast cancer prevention. The surveyed women assessed their level of knowledge of breast cancer prevention and provided its main sources. The patients' knowledge of breast self-examination was verified substantively.

## Data analysis

The results obtained in the survey were analysed statistically. The statistical tests were performed using the STATISTICA 9.0 (StatSoft, Poland) software.

## Results

### Characteristics of the study group

The largest groups consisted of women aged 21 to 29 (30%) and those aged 40 to 49 (29%). The study did not include women over 70 years of age (Table 1). The vast majority of the respondents were menstruating (82%).

### Sources of knowledge of breast cancer prevention

The majority of respondents declared that for detailed information on breast cancer prevention they would ask the gynaecologist (88%), whereas 69% would search the Internet. The majority of the respondents admitted that the person who had shared with them information regarding breast cancer prevention had been the gynaecologist – 63%. At the same time, the surveyed women declared that it had not been the nurse (85%), the family doctor (84%) or the midwife (73%) (Table 2).

### Performing of clinical breast examinations

The vast majority of surveyed women declared that the family doctor had not examined them for breast cancer – 87%. Fifty nine percent of surveyed women confirmed that the gynaecologist had tested them for breast cancer. Over one third of respondents replied in the negative –

36%. According to 3% of respondents, the gynaecologist had been examining them for the cancer on a regular basis (Table 3).

### Knowledge of the time and frequency of breast self-examination

Only 16% of the women surveyed performed the breast self-examination procedure on a regular basis. Over half (54%) declared that they examined their breasts irregularly, as many as 26% admitted that they usually did not perform this type of examination, while 4% had never done that before.

The majority of interviewees (65%) were of the opinion that a menstruating female should self-examine her breasts once a month, 2–3 days after her period. According to 22% of respondents, a female should do it once every two months on any day; according to 7% – once a month, while menstruating; according to 6% – once a month, 3 days before menstruating.

Among the respondents, 44% women thought that a non-menstruating female should self-examine her breasts once a month, always on the same day; 35% claimed that she should do it once every two months on any day; as many as 17% said that she should do it once a year, while 4% said that she did not have to do it at all (Table 4).

**Table 1.** Characteristics of the examined group

		Number	Percentage of total
Age	< 20 y.o.	3	2.33%
	21–29 years old	39	30.23%
	30–39 years old	24	18.60%
	40–49 years old	37	28.68%
	50–59 years old	22	17.05%
	60–69 years old	4	3.10%
	> 70–69 years old	0	0.00%
Education	primary	4	3.10%
	lower secondary	1	0.78%
	vocational	30	23.26%
	secondary	32	24.81%
	higher	62	48.06%
Place of residence	countryside	20	15.50
	town with a population of up to 20 thousand residents	11	8.53
	town with a population of between 20 and 50 thousand residents	24	18.60
	town with a population of between 50 and 100 thousand residents	59	45.74
	town with a population of over 100 thousand residents	15	11.63

**Table 2.** Sources of detailed information on breast cancer prevention by surveyed women

Where would you look for detailed information on breast cancer prevention?	Yes		No		I do not know	
	N	% of total	N	% of the whole	N	% of total
On the Internet	89	68.99	36	27.91	4	3.10
In the press, TV	30	23.26	92	71.32	7	5.43
At the family doctor's	56	43.41	66	51.16	7	5.43
At the gynaecologist's	113	87.60	14	10.85	2	1.55
Would ask the midwife	65	50.39	53	41.09	11	8.53
Would ask the nurse	28	21.71	91	70.54	10	7.75
Has any of the persons mentioned above ever shared any information on breast cancer prevention with you?	Yes		No		I do not know	
	N	% of total	N	N	% of total	N
Family doctor	11	8.53	108	83.72	10	7.75
Gynaecologist	81	62.79	41	31.78	7	5.43
Midwife	28	21.71	94	72.87	7	5.43
Nurse	8	6.20	110	85.27	11	8.53

**Table 3.** Frequency of breast examination by the family doctor/gynaecologist

Has the family doctor ever examined your breasts?	Number	Percentage of total
Yes	13	10.08
Yes, (s)he does it regularly	0	0.00
No	112	86.82
I do not remember	4	3.10
Has the gynaecologist ever examined your breasts?	Number	Percentage of total
Yes	76	58.91
Yes, (s)he does it regularly	4	3.10
No	46	35.66
I do not remember	3	2.33

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**Table 4.** Knowledge of the frequency of breast self-examination among the surveyed women

When should a menstruating female self-examine her breasts?	Total		Menstruating females		Non-menstruating females	
	N	% of total	N	% of group	N	% of group
Once a month 2–3 days after menstruation	84	65.12	72	67.92	12	52.17
Once a month during menstruation	9	6.98	8	7.55	1	4.35
Once a month 3 days before menstruation	8	6.20	6	5.66	2	8.70
Once every two months on any day	28	21.71	20	18.87	8	34.78
When should a non-menstruating female self-examine her breasts?	Total		Menstruating females		Non-menstruating females	
	N	% of total	N	% of group	N	% of group
She does not have to	5	3.88	5	4.72	0	0.00
Once a year	22	17.05	19	17.92	3	13.04
Once a month, always on the same day	57	44.19	46	43.40	11	47.83
Once every two months on any day	45	34.88	36	33.96	9	39.13

**Table 5.** Frequency of mammography and breast ultrasound among the surveyed women

How often do you undergo breast ultrasound?	Number	Percentage of total
Regularly, once every two years	10	7.75
Regularly, but less frequently than once every two years	3	2.33
Regularly, once a year	29	22.48
Regularly, and more often than once a year	4	3.10
Irregularly, from time to time	19	14.73
I have had breast ultrasound done once	24	18.60
I have never had breast ultrasound done	40	31.01
How often do you go to mammography?	Number	Percentage of total
Regularly, but less frequently than once every two years	9	6.98
Regularly, once every two years	7	5.43
Regularly, and more often than once every two years	1	0.78
Irregularly, from time to time	6	4.65
I have undergone mammography only once	14	10.85
I have never had mammography	92	71.32

**Table 6.** Frequency of mammography undergone by the surveyed women at the age of 50+

How often do you go to mammography?	Number	Percentage of total
Regularly, but less frequently than once every two years	5	19.23
Regularly, once every two years	5	19.23
Regularly, and more often than once every two years	0	0
Irregularly, from time to time	4	15.38
I have undergone mammography only once	7	26.92
I have never had mammography	5	19.23

**Undergoing procedures related to breast cancer prevention**

As many as 35.7% of interviewees said they underwent ultrasound tests on a regular basis, including 22.5% once a year, 7.8% once every two years, 3.1% more than once a year and 2.3% less frequently than once in two years.

The majority of respondents (71%) admitted to not having had the MRM test done before. Mammographic screening was regularly undergone by 13% of respondents, including 7% less frequently than once every two years, 5% once every two years and 1% more frequently than once every two years (Table 5). Among the interviewees aged 50+, 42% irregularly underwent MRM testing, 27%

had undergone it once and 15% underwent it from time to time. Regular MRM testing had been undergone by 38% of survey participants older than 50, including 19% less frequently than once every two years and 19% once every two years. Nineteen percent in that group had never had MRM testing done before. None of the participants aged 50+ declared that they'd had MRM testing done more often than once every two years (Table 6).

**Discussion**

The survey was aimed at examining women's knowledge of screening for breast cancer, and practical use of that knowledge, as an indicator of the quality of prophylaxis

practised by medical personnel. The resulting image of Polish patients' awareness of the most frequent malignant type of tumour in women reveals many aspects requiring diligent medical intervention.

The vast majority (88%) of the women declared that it was the gynaecologist that they would ask for detailed information on breast cancer prevention. On the other hand, as many as 69% would search the Internet, whilst 23% would turn to the press and television, whose value has been repeatedly undermined due to uncertainty surrounding data credibility, reliability and completeness. One of the roles of the family doctor is the coordination of screening for the detection of tumours among patients, for whom the family doctor is often the first port of call. Unfortunately, the percentage of women who do not consider the family doctor a source of knowledge of breast cancer screening exceeds half (51.2%). Furthermore, respondents would more frequently consult with the midwife (21.7%) than with the family doctor (8.5%). Equally noteworthy is the difference between patients' expectations of the family doctor (43.4%) and the knowledge actually gained (8.5%). Although the figures are more favourable for gynaecologists (respectively 87.6% and 62.8%), it should be observed that as many as 25.2% of patients leave the office underinformed. The low value of contact with medical personnel as a method for gaining information on breast cancer prevention, is testified to by results of studies conducted by Lipińska et al. [10], according to which only 23% of respondents view such contact as their main source of knowledge (with radio and television being the most popular – 59%). A similar percentage regarding information acquisition from healthcare professionals (doctor 30%, television (46%), radio (17%), press (47%) and Internet (38%), was obtained by Najdyhor et al. [11]. Regrettably, according to the results obtained by Paździor et al. [12], only 19% consider healthcare professionals as a source of information (gynaecologist). The most frequent sources of knowledge are medical leaflets and brochures (61%) and television and the press (57%).

Aside from sharing reliable and detailed information on breast cancer prevention, it is both the gynaecologist's and family doctor's duty to clinically examine breasts on a regular basis. Sadly, doctors do not undertake this kind of examination sufficiently. As many as 87% of women have never had their breasts examined by their family doctors. Thirty six percent of patients have not even had their breasts examined by the gynaecologist. What is more, barely any doctor examines breasts regularly (0% by the family doctor and 3% by the gynaecologist). The lack of examination of breasts displays itself most clearly in studies con-

ducted by Cichońska et al. [13]. Only 16% of interviewees declare that during their visits to the gynaecologist they have had their breasts tested. Similar results were obtained by Wroński et al. [14], where 83% of his 500 female interviewees have not had their breasts examined manually during their visits to the primary health care office. Undoubtedly, the easiest and most available element of breast cancer prevention is self-examination of the glands. Despite this, only 16% of respondents perform this on a regular basis.

An extension of palpation is breast ultrasound. This type of testing is of high diagnostic value. Used within the framework of breast cancer prevention as a self-examination technique, it supplements MRM. It also enables the early detection of neoplastic changes before symptoms develop. Only 36% of respondents declare that they regularly undergo a breast ultrasound. The results of the conducted studies unequivocally demonstrate that the respondents do not have their breasts tested with ultrasound on a regular basis, let alone frequently (31% have never had it done and 19% have undergone it just once). The results of the studies obtained by Lipińska et al. [10] show that only 28% of respondents undergo breast ultrasound. On the other hand, the studies by Najdyhor et al. [11] show that 56% of surveyed women have had breast ultrasound, whereas only 30% have been examined within a year of the study.

Mammography is also an effective screening test for breast cancer. It is what the Breast Cancer Early Detection Population Programme (Populacyjnego Programu Wczesnego Wykrywania Raka Piersi) is based on [15]. The sensitivity of mammography for postmenopausal women is estimated at 90–95%. According to randomised clinical trials among women aged 50–69 who have been undergoing MRM yearly or once every two years, mortality dropped by 25–30%. In addition to the decrease in the mortality rate due to breast cancer, the aims which the programme has been created to fulfil are: improving the level of knowledge of women as regards breast cancer prevention and implementing diagnostic procedure rules in Poland. Screening is prescribed for women who have medical insurance, are aged 50–69 (with age determined on the basis of year of birth) and who within the past 24 months have not undergone MRM, and those who within the framework of the programme in the last year have been earmarked for MRM after 12 months due to diagnosis of breast cancer in their daughter, mother or sister, or their being carriers of the mutation in genes BRCA1 or BRCA2. The programme does not include women with a history of malignant breast tumours<sup>22</sup>. Of the respondents aged 50+, as many as 19% have never had MRM. Whereas this test has been

irregularly undergone by 43% of respondents. Thirty-eight percent of women older than 50 have been having MRM on a regular basis, including 19% once every two years and 19% less frequently than once every two years. According to the results of their research, a total of 81% of respondents aged 50+ have been undergoing MRM with varying frequency. Hence, the results demonstrate that the vast majority of the women surveyed undergo MRM; however, these are not regular endeavours. As reported by Lipińska et al., in the group of women over 50 years of age, 77% declare that they have their breasts examined by MRM [10]. Meanwhile, the study by Najdyhor et al. shows that 52% have had MRM at some point [11]. However, the author draws our attention to the fact that as many as 68% have not accepted any invitation to mammography. According to the authors, women do not register for MRM due to their fear of having the disease diagnosed and lack of knowledge of prophylaxis, which testifies to how important is the process of raising awareness among patients and motivating them to participate in the examination. Furthermore, Brzozowska et al. [16] suggests that women who are significantly quicker to have breast cancer treated are under the gynaecologist's constant supervision before the cancer develops, and participate in screening programmes. Similar correlation is referred to by Arndt [17].

In conclusion, it should be observed that the interviewees are aware of the issue of breast cancer and usually undergo at least one type of screening. Even so, doctors are faced with a serious challenge of further educating patients and motivating them to undergo more frequent and regular examination. Another significant issue is the standardisation of recommendations related to effective breast cancer screening. This action will likely improve cooperation with patients and thereby increase the effectiveness of prophylaxis.

## Conclusions

1. The gynaecologist is considered as a main source of information on breast cancer prevention.
2. Family doctors do not discharge their duty of clinical breast examination and informing patients of breast cancer.
3. Gynaecologists do not discharge this duty sufficiently.
4. Women do not undergo prophylactic tests related to breast cancer on a regular basis.
5. Menstruating and non-menstruating women's knowledge of the appropriate time that breast self-examination should be performed is insufficient.

## Ethical consideration

All participants voluntarily agreed to participate in the study. Each participant had been made aware of data confidentiality and survey procedures before the questions were asked. The researchers assured the participants that the contents of the interview would be used solely for research purposes.

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### Conflict of interest statement

The authors declare no conflict of interest.

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