# Risk Factors and Health Behaviors in Breast Cancer Prevention-Comparison of The Knowledge of Students of The Medical University and University of Economics in Poznań/Poland

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## Abstract

Although breast cancer is one of the well-known tumors, it remains one of the biggest oncological and social problems in Poland and other countries. The incidence of breast cancer is increasing—especially among young women—which is really disturbing. Therefore, there is a need for women to adopt wide-ranging prevention measures from an early age. Furthermore, building health awareness and spreading knowledge about breast cancer will greatly help in preventing this disease.

The aim of this study was to compare the knowledge of selected young female students from Poznań about the risk factors and health behaviors in the prevention of breast cancer. The study was conducted using a survey questionnaire prepared for this purpose. The questionnaire consisted of 16 single- or multiple-choice closed questions. The study involved a total of 83 women, including 42 students from the Medical University and 41 from the Poznań University of Economics and Business. The results of the study were statistically analyzed using IBM SPSS Statistics version 24.

Both groups of students were aware that BRCA1 and BRCA2 mutations and a strong positive family history were the risk factors for breast cancer. However, the rest of the factors were less known to them. The majority (64.3%) of students from the Medical University claimed that they could perform a breast self-examination, but only 24.4% of students from the University of Economics and Business declared that they could do a self-examination. Only 21.4% of students from the Medical University and 24.4% of students from the University of Economics and Business declared that they performed a regular breast examination.

The results showed that the surveyed students had only average knowledge about risk factors and health behaviors in the prevention of breast cancer. The students seemed to know the correct answer for many questions, but some questions revealed that their knowledge level was insufficient. Students from the Medical University were more likely to give correct answers than those from the University of Economics and Business. These indicate that there is a constant need for public prevention activities to raise health awareness among women and reduce the risk of breast cancer.

**Keywords:** Breast Cancer; Risk Factors; Prevention; Epidemiology

## Introduction

"In the combat with breast cancer knowledge is women's best ally, fear is their greatest enemy…" [1]. Breast cancer constitutes one of the greatest oncological and social problems in Poland and many other regions of the world [2].

In Poland, the ineffectiveness of anticancer therapy is mainly caused by delayed commencement. Breast cancer is often diagnosed at an advanced stage when therapeutic possibilities are limited. Although prevention campaigns are conducted around the country, most of the Polish women exhibit reluctance toward prophylactic examinations. This may be linked to their selective, often stereotype-based knowledge of the risk factors linked to breast cancer and the prevention of this disease. In recent years, there is a noticeable improvement in oncological awareness. However, the need for continued education and actions targeting breast cancer prevention remains to be met. Promotion of knowledge concerning the scientifically proven risk factors of breast cancer and adopting health-promoting behaviors from the earliest age may have a remarkable impact on the lifestyle of women and increase their awareness, thereby limiting their exposure to the risk factors of this disease. On the other hand, building the conviction that early diagnosis leads to complete cure of breast cancer may help break the reluctance and fear of Polish women toward preventive exams and contribute to improving the efficiency of anticancer therapy. The quality of oncological prevention determines the efficiency of treatment and the survival rate of women suffering from the disease [1, 2].

The incidence of breast cancer is increasing among young women. However, appropriate knowledge about the scope of risk factors and prevention of this cancer type may aid in winning the fight against cancer. Therefore, the present study was conducted to analyze the knowledge of young female students from Poznań about the risk factors and prevention of breast cancer and carry out a comparison in terms of selected differentiating factors. The results obtained in the study emphasized the purposefulness and need for continued education and preventive actions against this disease.

## Study Objective

The objective of the study was to examine and compare the knowledge of students from the Medical University and University of Economics and Business in Poznań on the risk factors linked to breast cancer and the prevention of this disease.

## Materials and Methods

The study was conducted among the students (future midwives and nurses) of the Faculty of Sciences at the Poznań University of Medical Sciences (UM) and the Faculty of Management at the Poznań University of Economics and Business (UE), from May to June 2016. A total of 83 students from these two universities were included in the study. The selection of the universities was intentional. The Medical Sciences University was chosen because the issues of breast cancer are strictly linked with its profile, whereas the profile of the Economics and Business University does not include such topics, and therefore, the study's objective can be met. Participation in the study was entirely voluntary and anonymous.

A survey questionnaire specifically developed for this study was used as the study tool. It consisted of a metric part, containing questions on sociodemographic data, and a substantive part, including 16 single- or multiple-choice closed questions related to the risk factors and prevention of breast cancer. To compare and assess the dependence of the participants' knowledge (the dependent variable) on the field of education and the remaining differentiating factors (the independent variables), a statistical analysis and chi-square independence and Cramer's V tests were performed. Results of likelihood for the given test at the level $0.05 < p < 0.1$ were interpreted as significant at the level of statistical tendency.

## Results

### Study group characteristics

The survey had 83 respondents, aged 20–27, divided into two groups. Out of the total respondents, 42 were from the Faculty of Health Sciences of the UM and 41 were from the Faculty of Management of the UE. The main criterion of the analysis was the division of students into two groups based on their field of education resulting from the university profile. During the analysis, the mode of studies was taken into account, divided into full-time and extramural. Table 1 presents the group sizes of the surveyed students.

**Table 1:** Group size of the surveyed students

| UNIVERSITY | | | |
|---|---|---|---|
| Medical University | | University of Economics | |
| 42 | | 41 | |
| MODE OF STUDY | | | |
| Full-time study | Extramural study | Full-time study | Extramural study |
| 22 52.4% | 20 47.6% | 21 51.2% | 20 48.8% |
| AGE GROUP | | | |
| 20–23 | 24–27 | 20–23 | 24–27 |
| 19 45.2% | 23 54.8% | 20 48.8% | 21 51.2% |

## Relationship between students' knowledge of breast cancer risk factors and prevention and their university, with division into mode of studies

In the first stage of the study, it was investigated whether UM and UE students differed in their knowledge on the risk factors and prevention of breast cancer. A considerable majority of full-time and extramural UM students provided correct answers for questions related to the prevention of breast cancer, while slightly more than half of UE students provided correct answers. One-third of the surveyed students believed that breast cancer could be prevented by an active lifestyle and healthy nutrition (full-time UM vs UE, $p=0.048$; extramural UM vs UE, $p=0.025$) (Table 2). In the following step, the students were asked to indicate the factors they thought would increase the risk of breast cancer. In both the analyzed study modes, BRCA1 and BRCA2 gene mutation was most frequently selected as the potential risk factor of breast cancer. The majority of UM respondents also indicated that older age, late motherhood, hormonal replacement therapy, and cancer history may contribute to the development of tumors. However, only a few UE students mentioned them. The remaining factors were selected only by a considerably lower number of students from both universities (Table 3). Another question concerned the symptoms of breast cancer. The answers given to this question were similar between the groups of full-time and extramural students. The most commonly selected answers were perceptible bump, effusion from the mammary gland, and the "orange peel" symptom, while the students of both universities pointed to swelling and breast redness and color change least frequently (Table 4). Subsequently, it was verified how students of both universities responded to the question regarding the age group with the highest risk of breast cancer. It was observed that the response of full-time students to this question was not significantly related to their university profile. The majority of students from UM and UE studying full-time provided the correct answer. However, among the group of students from extramural mode, the relationship between the analyzed variables turned out to be statistically significant. The majority of extramural UM students provided the correct answer, whereas only less than half of UE students provided the correct answer. Close to a third of extramural UM students stated that age group of 60–79 are at the greatest risk of breast cancer (full-time UM vs UE, $p=0.576$; extramural UM vs UE, $p=0.047$) (Table 5). Another question examined the knowledge of students about the best breast change diagnostics in women up to the age of 50. Full-time students from both universities mostly pointed to breast ultrasonography (USG), while one half of the respondents also selected breast self-examination (BSE). However, only a few individuals knew that mammography (MMR) is also one of the best diagnostic methods for breast cancer in women of this age group. Interestingly, this answer was given by a higher percentage of students from UE than from UM. In the subsequent step, the answers of extramural students were analyzed. Again, USG and BSE were most frequently selected by students of UM and UE, while a similar, but considerably lower number of participants selected MMR (Table 6). Subsequently, the relationship between university and response to the best method of breast change diagnostics in women above the age of 50 was analyzed. However, no significant relationship between the analyzed variables could be found for both full-time and extramural students. A considerable majority of students of both universities and both modes provided the correct answer to this question (MMR). Interestingly, all UE extramural students marked the correct answer, whereas one extramural UM student believed that the best diagnostic method for changes in this age group is USG (full-time UM vs UE, $p=0.584$; extramural UM vs UE, $p=0.349$) (Table 7). Next, knowledge of the correct frequency of BSE was compared, for which the obtained results indicated a significant relationship among full-time students. All UM students provided the correct answer (once a month), whereas several of the UE students selected one of the remaining, incorrect options. However, no statistically significant relationship was observed among extramural students—students of both universities mostly provided the correct answer to the question on the frequency of BSE (full-time UM vs UE, $p=0.052$; extramural UM vs UE, $p=0.465$) (Table 8). In the following step, it was examined whether the university profile is linked to the answer to the question on the correct BSE time. No such relationship could be detected among full-time students. However, the analyzed variables were found to be statistically significantly correlated among extramural students. The vast majority of the UM extramural students provided the correct answer to the question on the correct BSE time. However, only half of the UE extramural students provided the correct answer, and as many as one-fourth believed that the BSE time is irrelevant (full-time UM vs UE, $p=0.522$; extramural UM vs UE, $p=0.023$) (Table 9).

**Table 2:** Relationship between the type of university and study mode and the response to the question on breast cancer prevention

| What is the main focus of breast cancer prevention? | | University—full-time study | | $\chi^2$ | p | Cramer's V |
|---|---|---|---|---|---|---|
| | | Medical University | University of Economics | | | |
| Detection of precancerous lesions and their removal | N | **2** | **2** | **6.06** | **0.048** | **0.375** |
| | % | 9.1% | 9.5% | | | |
| Performance of different examinations aiming at the earliest possible detection of tumor | N | 19 | 12 | | | |
| | **%** | 86.4% | **57.1%** | | | |
| Active lifestyle and healthy nutrition | N | 1 | 7 | | | |
| | % | 4.5% | 33.3% | | | |

| What is the main focus of breast cancer prevention? | | University—extramural study | | $\chi^2$ | p | Cramer's V |
|---|---|---|---|---|---|---|
| | | Medical University | University of Economics | | | |
| Detection of precancerous lesions and their removal | N | 3 | 3 | **7.40** | **0.025** | **0.430** |
| | % | 15.0% | 15.0% | | | |
| Performance of different examinations aiming at the earliest possible detection of tumor | N | 16 | 9 | | | |
| | % | 80.0% | 45.0% | | | |
| Active lifestyle and healthy nutrition | N | 1 | 8 | | | |
| | % | 5.0% | 40.0% | | | |

**Table 3:** Knowledge of full-time and extramural students on the risk factors of breast cancer

| The factor increasing the risk of breast cancer is: | | University—full-time study | | University—extramural study | |
|---|---|---|---|---|---|
| | | Medical University | University of Economics | Medical University | University of Economics |
| Older age | N | 19 | 12 | 12 | 7 |
| | % | 86.4% | 57.1% | 60.0% | 35.0% |
| Late motherhood | N | 15 | 12 | 13 | 7 |
| | % | 68.2% | 57.1% | 65.0% | 35.0% |
| Hormonal replacement therapy | N | 16 | 15 | 14 | 9 |
| | % | 72.7% | 71.4% | 70.0% | 45.0% |
| BRCA1 and BRCA2 gene mutation | N | 21 | 21 | 19 | 19 |
| | % | 95.5% | 100.0% | 95.0% | 95.0% |
| Excessive consumption of alcohol and animal fat | N | 13 | 14 | 8 | 10 |
| | % | 59.1% | 66.7% | 40.0% | 50.0% |
| Positive family history | N | 19 | 18 | 19 | 18 |
| | % | 86.4% | 85.7% | 95.0% | 90.0% |
| Late menopause | N | 12 | 11 | 10 | 7 |
| | % | 54.5% | 52.4% | 50.0% | 35.0% |
| Cancer history | N | 17 | 15 | 13 | 11 |
| | % | 77.3% | 71.4% | 65.0% | 55.0% |
| First menstruation at an early age | N | 12 | 11 | 11 | 7 |
| | % | 54.5% | 52.4% | 55.0% | 35.0% |

**Table 4:** Knowledge of full-time and extramural students on the symptoms of breast cancer

| Breast cancer symptoms | | University—full-time study | | University—extramural study | |
|---|---|---|---|---|---|
| | | Medical University | University of Economics | Medical University | University of Economics |
| Swelling | N | 17 | 14 | 13 | 14 |
| | % | 81.0% | 70.0% | 65.0% | 70.0% |
| Redness, color change | N | 14 | 17 | 14 | 16 |
| | % | 66.7% | 85.0% | 70.0% | 80.0% |

| Breast cancer symptoms | | University—full-time study | | University—extramural study | |
|---|---|---|---|---|---|
| | | Medical University | University of Economics | Medical University | University of Economics |
| Perceptible bump | N | 21 | 20 | 20 | 20 |
| | % | 100.0% | 100.0% | 100.0% | 100.0% |
| Effusion from the nipple | N | 20 | 19 | 19 | 19 |
| | % | 95.2% | 95.0% | 95.0% | 95.0% |
| "Orange peel" symptom | N | 20 | 16 | 18 | 17 |
| | % | 95.2% | 80.0% | 90.0% | 85.0% |

**Table 5:** Relationship between the type of university and study mode and the response to the question concerning the age group with the greatest breast cancer risk

| Which age group has the highest risk of breast cancer? | | University—full-time study | | $\chi^2$ | p | Cramer's V |
|---|---|---|---|---|---|---|
| | | Medical University | University of Economics | | | |
| 30–49 | N | 0 | 1 | | | |
| | % | 0.0% | 4.8% | | | |
| 40–59 | N | 2 | 3 | | | |
| | % | 9.1% | 14.3% | 1.98 | 0.576 | 0.215 |
| 50–69 | N | 19 | 15 | | | |
| | % | 86.4% | 71.4% | | | |
| 60–79 | N | 1 | 2 | | | |
| | % | 4.5% | 9.5% | | | |
| Which age group has the highest risk of breast cancer? | | University—extramural study | | $\chi^2$ | p | Cramer's V |
| | | Medical University | University of Economics | | | |
| 30–49 | N | 1 | 2 | | | |
| | % | 5.0% | 10.0% | | | |
| 40–59 | N | 4 | 3 | | | |
| | % | 20.0% | 15.0% | 7.98 | 0.047 | 0.447 |
| 50–69 | N | 15 | 9 | | | |
| | % | 75.0% | 45.0% | | | |
| 60–79 | N | 0 | 6 | | | |
| | % | 0.0% | 30.0% | | | |

**Table 6:** Knowledge of full-time and extramural students on the best methods for diagnosing breast changes in women up to the age of 50

| What is the best diagnostic method for breast changes in women up to the age of 50? | | University—full-time study | | University—extramural study | |
|---|---|---|---|---|---|
| | | Medical University | University of Economics | Medical University | University of Economics |
| Breast self-examination | N | 11 | 11 | 9 | 11 |
| | % | 50.0% | 52.4% | 47.4% | 55.0% |
| Breast ultrasonography | N | 19 | 17 | 18 | 15 |
| | % | 86.4% | 81.0% | 94.7% | 75.0% |
| Mammography | N | 4 | 7 | 7 | 4 |
| | % | 18.2% | 33.3% | 36.8% | 20.0% |
| Magnetic resonance | N | 2 | 1 | 5 | 7 |
| | % | 9.1% | 4.8% | 26.3% | 35.0% |

**Table 7:** Relationship between the type of university and study mode and the response to the question about the best diagnostic method of breast changes in women above the age of 50

| What is the best diagnostic method for breast changes in women above the age of 50? | | University—full-time study | | $\chi^2$ | p | Cramer's V |
|---|---|---|---|---|---|---|
| | | Medical University | University of Economics | | | |
| Breast self-examination | N | 0 | 1 | 1.08 | 0.584 | 0.158 |
| | % | 0.0% | 4.8% | | | |
| Mammography | N | 21 | 19 | | | |
| | % | 95.5% | 90.5% | | | |
| Magnetic resonance | N | 1 | 1 | | | |
| | % | 4.5% | 4.8% | | | |
| **What is the best diagnostic method for breast changes in women above the age of 50?** | | University—extramural study | | $\chi^2$ | p | Cramer's V |
| | | Medical University | University of Economics | | | |
| Breast ultrasonography | **N** | 1 | 0 | 2.11 | 0.349 | 0.229 |
| | **%** | 5.0% | 0.0% | | | |
| Mammography | N | 18 | 20 | | | |
| | % | 90.0% | 100.0% | | | |
| Magnetic resonance | N | 1 | 0 | | | |
| | % | 5.0% | 0.0% | | | |

**Table 8:** Relationship between the type of university and study mode and the knowledge on the desired frequency of breast self-examination

| How often should breast self-examination be performed? | | University—full-time study | | $\chi^2$ | p | Cramer's V |
|---|---|---|---|---|---|---|
| | | Medical University | University of Economics | | | |
| Every day | N | 0 | 1 | 5.93 | 0.052 | 0.371 |
| | % | 0.0% | 4.8% | | | |
| Once a week | N | 0 | 4 | | | |
| | % | 0.0% | 19.0% | | | |
| Once a month | N | 22 | 16 | | | |
| | % | 100.0% | 76.2% | | | |
| **How often should breast self-examination be performed?** | | **University—extramural study** | | $\chi^2$ | p | Cramer's V |
| | | Medical University | University of Economics | | | |
| Every day | N | 1 | 0 | 1.53 | 0.465 | 0.196 |
| | **%** | 5.0% | 0.0% | | | |
| Once a week | N | 3 | 5 | | | |
| | % | 15.0% | 25.0% | | | |
| Once a month | N | 16 | 15 | | | |
| | % | 80.0% | 75.0% | | | |

**Table 9:** Relationship between the type of university and study mode and the knowledge on the appropriate time of breast self-examination

| When should breast self-examination be performed? | | University—full-time study | | $\chi^2$ | $p$ | Cramer's $V$ |
|---|---|---|---|---|---|---|
| | | Medical University | University of Economics | | | |
| Before menstruation | N | 2 | 2 | 2.25 | 0.522 | 0.229 |
| | % | 9.1% | 9.5% | | | |
| After menstruation | N | 18 | 15 | | | |
| | % | 81.8% | 71.4% | | | |
| During menstruation | N | 0 | 2 | | | |
| | % | 0.0% | 9.5% | | | |
| It does not matter | N | 2 | 2 | | | |
| | % | 9.1% | 9.5% | | | |
| When should breast self-examination be performed? | | University—extramural study | | $\chi^2$ | $p$ | Cramer's $V$ |
| | | Medical University | University of Economics | | | |
| Before menstruation | N | 2 | 3 | 9.49 | 0.023 | 0.487 |
| | % | 10.0% | 15.0% | | | |
| After menstruation | N | 18 | 10 | | | |
| | % | 90.0% | 50.0% | | | |
| During menstruation | N | 0 | 2 | | | |
| | % | 0.0% | 10.0% | | | |
| It does not matter | N | 0 | 5 | | | |
| | % | 0.0% | 25.0% | | | |

## Discussion

Breast cancer is one of the greatest oncological and social issues in Poland and around the world, and unfortunately, its incidence is increasing among young women. It is estimated that every woman, particularly above the age of 35, faces the risk of this disease [3]. Breast cancer is the most common cancer type among women from North America, Europe, South America, North Africa, Southeast Asia, Australia, and New Zealand [3,4]. Therefore, relevant knowledge of its risk factors and prevention can significantly contribute to the efficiency of therapy and increase the survival rates of patients, which might help in winning the fight against this disease. The available literature emphasizes that promoting early diagnosis and treatment of breast cancer may reduce the mortality rate by up to 20–30% [2].

This suggests that it is necessary to undertake studies aimed at assessing the knowledge of risk factors and health behaviors in the prevention of breast cancer, in order to introduce a large-scale social education program in case of deficiencies. The existing literature often underlines the special importance of secondary prophylaxis for breast cancer, which involves performing different types of examinations aiming at its earliest possible detection [5].

The fight against breast cancer is favored by the knowledge of the risk factors, owing to which it is sometimes possible to modify, reduce, or eliminate them. The risk factors most commonly selected by the surveyed students of both universities were the BRCA1 and BRCA2 gene mutation and a positive family history. The remaining factors were less familiar to them. The UM students provided more correct answers, and the discrepancies were particularly pronounced for age, which is one of the major risk factors. The results of the present study coincide with the studies carried out by other authors, in which genetic factors were most commonly selected by the respondents and discrepancies were observed for the other risk factors [6,7,8]. Shatha, *et al.* [9] assessed the knowledge of female university students about breast cancer and its preventive measures and identified their main misconceptions regarding breast cancer. The percentage of participants who attained low/below-average knowledge scores regarding risk factors, warning signs, and methods for early detection of breast cancer was 40.6%, 45.9%, and 86.5%, respectively. Significantly higher knowledge scores for risk factors were attained by those participants who had a positive family history of breast cancer (p=0.03). The misconception most frequently identified among participants was that "treatment for breast cancer affects a woman's femininity" (62.5%) [9].

Subsequently, the surveyed students were asked to indicate the symptoms of breast cancer, which did not pose any difficulty to them and they exhibited good knowledge. All the surveyed women were aware that a bump perceptible on palpation is a symptom. Piaszczyk, *et al.* [6] and Wołowski, *et al.* [8] also observed a relatively high level of knowledge regarding the symptoms of breast cancer among respondents in their studies [6,8].

The available literature points out that the incidence of breast cancer is continuously growing, especially among younger women. However, statistics show that the greatest number of cases is recorded among those aged between 50 and 69 years—thus, it is clear that women of this age group face the highest risk of breast cancer [2]. A considerable majority of the surveyed students, particularly of UM, provided the correct answer to the question on the age group with the greatest risk of breast cancer. In addition, the UE students relatively frequently selected the age group 60–79. A study conducted by Kalinowski, *et al.* [7] on 148 students of the Medical University in Lublin showed different results, according to which almost half of the surveyed women indicated that age group 30–49 had the risk of breast cancer, whereas in the present study only a few people chose this answer. Thus, the knowledge level of respondents in terms of the age group at risk of breast cancer was higher [7].

Imaging tests constitute the basis in the diagnosis of breast cancer. The selection of the relevant test largely depends on the woman's age and structure of the mammary gland. The available literature underlines the significant role of MMR, which is the basic, and in women above the age of 40, the best method for detecting breast changes [1,10]. According to numerous authors, USG is the second most important breast exam supplementary to MMR or an individual diagnostic method, particularly recommended for younger women up to the age of 40 [1, 10]. In the present study, the subsequent questions asked the respondents to indicate the best diagnostic methods for breast changes in women up to the age of 50 and above this age. The students from both universities had difficulty selecting the best method for women up to the age of 50. They most frequently selected the correct method (USG), but also the incorrect method (BSE), while another correct answer—MMR—was chosen by a considerably lower number of students, with a higher percentage of this answer from UM women. In turn, the determination of the best diagnostic method for women above the age of 50 did not pose any problem, and almost all students answered this question correctly, indicating MMR. Rodríguez-Feria, *et al.* [11] reported a high knowledge level of the surveyed medical students in their study, in which clinical breast exam, BSE, and MMR were rec-

ommended by 95.3% (61/64), 96.9% (62/64), and 90.7% (58/64), respectively. According to 82.8% (53/64) of students, the most effective test to reduce mortality in women aged ≥50 years was MMR [11]. On the other hand, the study by Najdyhor, *et al.* [2] showed that the knowledge of women and men in terms of MMR as the method of breast cancer prophylaxis was unsatisfactory. Only half of the surveyed women had undergone an MMR test before. The most serious obstacles in prevention strategies stated by the participants included a lack of knowledge, lack of financial resources, and difficult access to MMR [2].

Subsequently, the knowledge of students on the frequency and the appropriate time for BSE were tested. The literature states that BSE should be performed regularly once per month after menstruation [1]. The majority of UM students were aware of this and answered correctly to the questions on BSE. Some UE students also stated that such an examination should be performed once a week and that the day of the cycle was irrelevant.

The next stage of the study analyzed, among others, the health behaviors of women in the prevention of breast cancer. The surveyed students were asked about the know-how and regularity of their BSEs. The majority of UM students declared that they could perform BSE, whereas UE students typically declared that, unfortunately, they were not sure if they could perform it correctly. This was also the most frequent answer reported in the study by Wołowski, *et al.* [6] on the students of Gdańsk universities. A considerable majority of women studying at the Department of Management and Economics of the University of Technology were unsure whether they could correctly perform BSE. Interestingly, most of the women studying at the Faculty of Medicine chose this answer. However, the percentage was slightly lower compared to the surveyed University of Technology students. Regular breast testing raises concerns, as the majority of respondents from both universities admitted that they did not examine their breasts regularly, which also overlaps with the responses given by students from Gdańsk [6].

Knowledge of the diseases of breasts and female organs and regular performance of prophylactic tests can reduce the risk of these diseases [12,13,14]. The above results indicate that there is a constant need to raise health awareness among women, and every action should be undertaken aiming at reducing the risk of breast cancer while advocating health-promoting behaviors in its prophylaxis.

## Conclusion

• The knowledge of the surveyed students on the risk factors and health behaviors in the prevention of breast cancer seemed to depend on their educational field. Students of UM more frequently provided correct answers than UE students.

• The mode of study had a certain impact on the students' knowledge of breast cancer risk factors and prevention. The full-time students exhibited a slightly higher level of knowledge than the extramural students.

• A markedly higher number of UM students were found to perform BSE than UE students. Women from UE were typically unsure whether they could correctly perform BSE. The differences observed in the distribution of the selected answers most probably depended on the field of education.

## Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

## Conflicts of Interest

The authors declare no conflicts of interest with respect to the authorship and/or publication of this article.

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