

Breast cancer – the level of knowledge about epidemiology and prophylaxis among polish medical universities students

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Abstract

Introduction: Breast cancer is one of the most common and usually with poor prognosis cancer to occur among women. In many countries, morbidity of breast cancer is increasing. Progress in diagnostic techniques and prevalence of prophylaxis programmes contributes to the increase in detection of breast cancer in Poland. The most important field of medical care aiming to narrow down the mortality of this cancer is primary and secondary prophylaxis and social education.

Methods: In this study, we present the analysis of the level of knowledge of polish medical universities students about epidemiology and prophylaxis of breast cancer. In our study, the internet questionnaire was aimed at students of many fields and specialties in all of the polish medical universities. Collected data were analyzed with Statistica 13® programme (DellSoftware™).

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Results: Our study showed a moderate level of knowledge among polish medical universities students about epidemiology and prophylaxis of breast cancer. Women and faculty of medicine students that have taken part in the study demonstrated a higher level of knowledge than the rest of the group.

Conclusions: Among students of polish medical universities the level of knowledge about breast cancer is still unsatisfactory. It shows that educational actions need to be taken among academical teachers and medical care workers.

Introduction

Breast cancer is one of the greatest oncological issues of modern medicine. The early detection and adequate therapy are the great challenges for the public health worldwide. Constantly, since 1970s, breast cancer is the most likely to occur and second likely cause of death due to cancer in Poland.

According to Polish National Cancer Registry [1,2], in 2015 breast cancer incidence rate exceeded 13 000 and the number of deaths was almost 6000. Unfortunately, in the near future, both morbidity and mortality rates are predicted to continuously rise.

The risk factors for development of breast cancer are sex, age, genetic factors, hormonal factors and lifestyle. The most important risk factor is old age, nevertheless, a number of breast cancer detected among younger women, not only elderly, is rising.

Due to the often asymptomatic onset and appearance among women of all age, early diagnosis is still tough to accomplish. In case of breast cancer, awareness of risk factors and prophylactic actions are crucial. It allows an early detection of neoplastic lesions and significantly increases chances of complete remission. In Poland, within health-promoting policy, Early Detection of Breast Cancer Population Screening Program is being carried, financed by National Health Fund. Its operative goals are included in National Health Programme for 2016-2020 [4].

Aim

The aim of the study was to evaluate the level of knowledge among polish medical universities students about the widely considered matter of breast cancer and evaluation of the health-promoting

behavior of respondents. Considering the importance of preventive breast examination, we decided to research the knowledge of polish medical universities students about Early Detection of Breast Cancer Population Screening Programme.

Research methods and study group

Research method

The study was designed as an anonymous internet survey. Authors prepared the original questionnaire to verify the knowledge of the breast cancer problem. The questionnaire was aimed at students of all faculties, years and degrees of every medical university in Poland. Our survey consisted of two groups of questions. Some were aimed at women and men, the rest only to female respondents. All collected data were statistically analyzed with Statistica 13[®] programme (DellSoftware™) with a statistical significance level $p < 0.005$.

Study group

The study group consisted of 317 students, 268 of the respondents were female, 49 male. The average age of respondents was approximately 22.8 (20.7÷25.0). The most numerous group was respondents that originated from cities up to 50 000 inhabitants (N=110, 34.70%) and that came from Lublin Voivodeship (N=78, 24.61%). Data were collected from several fields of study students on 13 faculties of medicine in Poland. The most numerous group was students of Medical University of Lublin (N=125, 39.43%) and faculty of medicine (N=181, 57.10%).

Results

Epidemiology

Not more than half of the females that have taken part in the study correctly evaluated the figure of annual morbidity (17142) and mortality (5816) of breast cancer in Poland in 2015 – 47.01% (N=126) and 39.18 (N=105), respectively. Among male respondents, only 36.73% (N=18) and 40.82% (N=20) have answered correctly the foregoing questions.

Most of the respondents have evaluated correctly the increasing tendency of morbidity of breast cancer, 83.21% (N=223) of females and 83.67% (N=41) of males.

In the question about risk factors for developing breast cancer, 79.43% (N=143) faculty of medicine students correctly pointed out: age above 45 years old, family history of cancer, early menarche, childlessness, late first pregnancy, ionizing radiation. The other fields of study students have answered incorrectly or incompletely to the foregoing question in 52.13% (N=71). These differences turn out to be statistically significant ($\chi^2=8.133$; $p=0.009$) (table 1).

35.96% (N=114) of the group have named ductal carcinoma in situ (DCIS) as the most common histological type of breast cancer. The most accurate were faculty of medicine students with 45.30% (N=82) correct answers. The analyses of the answers proved

statistical significance between different fields of study ($\chi^2=23.609$; $p=0.006$) (table 2).

Health-promoting behaviors

62.15% (N=197) of participants admitted the occurrence of cancer in the family, in 18.93% (N=60) breast cancer. 39.75% (N=126) of the respondents were able to point out the factors that reduce the risk of breast cancer. Breastfeeding over 6 months, early ovariectomy, physical activity were included in this group.

Female participants were asked about the first visit to the gynecologist, 69.01% (N=219) of respondents confirmed. Statistical significance was shown between the place of origin and visiting the gynecologist ($\chi^2=21.130$; $p=0.002$) (table 3). The highest percentage of women, who have never been to the gynecologist applied to the women originated from cities with over 250 000 inhabitants. 76.21% (N=205) of the female respondents perform breast self-examination at least once a year.

46.37% (N=147) of respondents admit that the members of their families benefit from generally available screening for breast cancer. Breast cancer prophylaxis programme is the most popular among residents of cities with up to 50 000 inhabitants (51.82%) and the least eager to benefit are residents of cities with over 250 000 inhabitants (38.57%). Analysis of these numbers showed statistical significance ($\chi^2=9.626$; $p=0.009$) (table 4).

Table 1.

Risk factors of breast cancer – general knowledge

Course	Percentage of answers	
	Correct	Incorrect
Medical	79.01 %	20.99 %
Non – medical	47.87 %	52.13 %
p = 0.009		

Table 2.

Knowledge about the common histological type of breast cancer being diagnosed

Course	Percentage of answers	
	Correct	Incorrect
Medical	45.30 %	54.70 %
Non – medical	30.21 %	69.79 %
p = 0.006		

Table 3.

The relationship between the place of origin and the first visit to the gynecologist

Place of origin	First visit to the gynecologist		
	Done	Not yet	Not involved (male respondents)
Countryside	63.75 %	18.75 %	17.50 %
City up to 50 k inhabitants	70.00 %	11.82 %	18.18 %
City 50 – 250 k inhabitants	77.19 %	5.27 %	17.54 %
City over 250 k inhabitants	67.14 %	27.14 %	5.72 %
p= 0.002			

Table 4.

The relationship between the place of origin and family members attendance on breast cancer screening

Place of origin	Do Your family members attend on breast cancer screening?		
	Yes	No	I don't know
Countryside	46.25 %	33.75 %	20.00 %
City up to 50 k inhabitants	51.82 %	25.45 %	22.73 %
City 50-250 k inhabitants	45.61 %	28.07 %	26.32 %
City over 250 k inhabitants	38.57 %	40.00 %	21.43 %
p= 0.009			

Prophylaxis

80.97% (N=217) of women and 71.43% of men were able to correctly determine on what the breast cancer prophylaxis programme in Poland is based, which is the complimentary mammography for over 50s women in two-year intervals (table 5).

95.58% (N=303) of the respondents have evaluated polish breast cancer prophylaxis programme as useful in early oncological diagnostics. 74.72% (N=201) of women claim to need further education regarding breast cancer prevention (table 6).

Discussion

The results of our study showed that students of medical universities have a moderate level of knowledge of the epidemiology of breast cancer. Men tend to have less knowledge concerning the subject than women. Only the faculty of medicine students have correctly pointed out the risk factors for developing breast cancer. It is alarming that only half of the other faculties students were able to correctly determine the foregoing risk factors. Analysis of the general knowledge regarding breast cancer shows that women and/or faculty of

Table 5.

Relationship between gender and knowledge regarding the principle of breast cancer screening programme in Poland

Gender	Percentage of answers	
	Correct	Incorrect
Female	80.97 %	19.03 %
Male	71.43 %	28.57 %

Table 6.

The willingness to continue education regarding cancer prevention

Answers	Amount of answers	Percentage
Yes	201	63.41 %
No	68	21.45 %
Not involved (male respondents)	48	15.14 %

medicine students prove the thorough knowledge of risk factors, early local symptoms and current epidemiology of breast cancer in Poland.

The Grunfeld et al. [5] study carried out on a group of British women showed that the respondents tend to undervalue the risk for developing breast cancer and despite the high economic status of Great Britain and prevalent health-promoting education, basic knowledge regarding breast cancer is still a significant issue.

According to Sherman et al. [6] considerably higher level of knowledge regarding risk factors and early symptoms of most frequently diagnosed cancers (breast cancer, lung cancer, cervical cancer) was observed among women than men in the group of British universities students.

In our research, significantly higher level of knowledge regarding breast cancer was observed among the faculty of medicine students. This tendency is in accordance with the Noreen et al. study which showed that 41% of evaluated faculty of medicine students proved to have 'good' level of knowledge. The knowledge of only 14% of other faculties students was rated as 'sufficient'.

There is no objective indicator to evaluate the knowledge and health-promoting behaviors among women considering breast cancer. The questionnaire elaborated by McCance et al. [8], which is exploited

to evaluate cognizance of health-promoting behaviors appears to be an objective and standardized source of information on the subject. The results of the study showed that the better cognizance was connected with undertaking more health-promoting and preventive actions.

Educational programmes realized among many social groups worldwide are also of great value. Regular education is crucial also among academic setting, for instance in the form of workshops. According to Özerdoğan et al. [9], such activities significantly increase the awareness of breast cancer prophylaxis.

Based on National Health Fund data, in 2017 over 1 million polish women benefited from generally available screening programme (mammography) and over 40 000 of them were redirected for further diagnostics. This number is still unsatisfactory, in comparison to the target group of, approximately, 4.5 million women.

In our study, the most willing group to benefit from preventive healthcare were residents of small and medium cities (up to 250 000 inhabitants). We believe this may be the result of higher percentage of residents with superior to primary education. According to Gürdal et al. [11], a higher level of education has a positive effect on social awareness regarding breast cancer issue.

Conclusions

Awareness of risk factors increases with higher educational status. Role of social education regarding breast cancer risk factors and preventive behavior is invaluable. Present investigation showed that even among an academic setting of medical universities students, the level of knowledge is variable and unsatisfactory. According to the authors of the research, this is the crucial field for academic teachers and healthcare workers to take appropriate educational steps.

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