Original Article

University Students' Awareness of Breast and Cervical Cancers: A Comparison of Two Countries and Two Different Cultures

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ABSTRACT

Objective: This study aims to evaluate Turkish and Polish female university students' awareness of breast and cervical cancers. The study was conducted in Turkey and Poland with 350 female students.

Materials and Methods: This descriptive and cross-sectional study's data were collected using Self-Administered Form questioning students' sociodemographic characteristics and awareness of breast and cervical cancer. Data were analysed using SPSS version 16.0 for Windows with number, percentage, and chi square test.

Results: According to the findings, a significant difference was found between Turkish and Polish students on knowing and applying Breast Self-Exam (BSE) ($p<0.05$). No difference was found between the two student groups on considering mammography as required. 81.1% of Turkish and 68.1% of Polish students considered Clinical Breast Examination (CBE) as required; the difference was significant. A significantly higher number of Turkish students knew high-fat diet, overweight, first childbirth at advanced ages, and not having given birth as risk factors, while a higher number of Polish students knew using oral contraceptive as risk factor for breast cancer. A significantly higher number of Turkish students knew cancer history in family, Human Papilloma Virus, smoking, immunodeficiency, overweight, three or more full-term pregnancies, the first pregnancy at advanced ages, and poverty as risk factors for cervical cancer. A greater number of Polish students only knew using oral contraceptive as a risk factor; the difference was not statistically significant.

Conclusion: Results of this study showed that breast and cervix cancer awareness is similar among university students in both countries.

Keywords: Breast cancer, cervical cancer, awareness, university students

Introduction

According to Globacon 2012 data, Breast cancer is the second most common cancer in the world, and by far the most frequent cancer among women, with an estimated 1.67 million new cancer cases diagnosed in 2012 (25% of all cancers). Breast cancer ranks as the fifth cause of death from cancer overall, and while it is the most frequent cause of cancer death in women in less developed regions, it is now the second cause of cancer death in more developed regions. Cervical cancer has been determined to be the fourth most frequently observed cancer type with 528,000 new cases and 266,000 deaths expected in females in 2012. Cervical cancer is an important health problem in the world; its incidence and mortality rate are reported to be 7.9% and 7.5%, respectively (1, 2).

The prevalence of cancer in Turkey and Poland is similar to that in other developing countries and to each other. In Turkey, breast cancer is the in the first place with 45.1 incidence per one hundred thousand, and cervical cancer is in ninth place with 7.1 incidence per one hundred thousand (3). The incidences of breast cancer and cervical cancer in Poland have been reported to be 69.9 and 15.3 per one hundred thousand, respectively (4).

Early diagnosis of cancer is important in terms of effective treatment of the disease and an extended life span. Cancer screenings consist of examinations and reviews carried out on healthy individuals while there are no symptoms or indications, to facilitate early diagnosis. Breast and cervical cancer are the most frequently observed types of cancer in females, and early diagnoses can successfully be made (5-7).

Early diagnosis is critical for breast cancer and increases the opportunity of recovery from the cancer and an extended life span (8). BSE (Breast Self-Exam), CBE (Clinical Breast Examination) and mammography are recommended for the early diagnosis of breast cancer (7-10). Studies in Turkey show that breast cancer screenings have increased but are still not at the desired level (7, 8). The Papanicolaou test (Pap smear), which is systematically used in the fight against cervical cancer, is an effective, low-cost, and highly sensitive early diagnostic method which is easy to apply and reduces the burden of the treatment, morbidity and mortality (2, 11, 12). Cervical cancer shows the benefit of early diagnosis best; developed countries report that invasive cervical cancer rates have been reduced with the use of routine Pap smear screening tests over the last 40–50 years (7, 13-15).

Nurses are responsible for primarily counselling and informing the individual on health issues. Nurses play a key role in raising awareness on the risks of breast and cervical cancer. However, studies have shown that the level of knowledge and practice on the early diagnosis of breast and cervical cancer is low (2, 16). Female students in the health field should especially be sensitive about female cancers such as breast and cervical cancer. These students will live as healthy women in the future and play a professional role in protecting and promoting community health as healthcare personnel. This study was planned to indicate the differences between students from the two countries of their awareness about breast and cervical cancer, and to guide future educational studies on this subject.

Objectives: This study aims to evaluate the awareness of female university students about breast and cervical cancer.

Research question;

What is the level of awareness of female Turkish and Polish university students about breast and cervical cancer?

Materials and Methods

Design: A Descriptive Cross-sectional Study
Sample: This study was conducted with female students studying in the nursing departments of a university in Samsun, Turkey and a university in Warsaw, Poland, between February and June, 2014. The Schools of Health of these two universities are partners within the scope of the Erasmus Program, and personnel and student mobility takes place pursuant to the agreement. Poland is a country influenced by western culture, and the elements of Catholic belief have an important place in its cultural texture. On the other hand, Turkey is a Muslim country and also contains elements of eastern culture. Despite the religious and cultural differences between Poland and Turkey, these countries are economically and socially similar.   The sample for the study consisted of 350 nursing students from both countries: 190 from Turkey and 160 from Poland. The inclusion criteria were studying in the nursing departments of these two universities during the dates of this study, being a female student (as cervical cancer would also be covered), agreeing to participate, and completing the data collection tools.

Data Collection: The Self-Administered Questionnaire with 23 questions was used to collect data. This questionnaire form was prepared by the researchers by reviewing the literature. The first eight questions evaluated the sociodemographic characteristics of the students, and the remaining 15 questions evaluated their awareness about breast and cervical cancer. These questions were on the etiology, risk factors, and early diagnostic practices for breast and cervical cancers. The study was announced to the students and conducted with the students who applied to participate in it. The students filled out the forms in their classes and when they were available. It took approximately 15 to 20 minutes to fill out the forms. The questions were tested with a pilot group of ten subjects in each site as a control before using them with the students. Upon understanding that no corrections were necessary, the forms were applied to the whole group of students. The pilot group was excluded from the study. The study was conducted by Turkish researchers in Turkey and by Polish researchers in Poland. The questionnaire was prepared in Turkish and then translated in different languages; in English and Polish. Written consents were obtained from institutions for data collection. All procedures adhered to the ethical principles of the Helsinki Declaration. Students were invited to participate in the study and were informed on all aspects of the study. Verbal informed consent was obtained from students who participated in the research in compliance with the principle of voluntariness. Before beginning the research, the required permissions were obtained from the Samsun management both school.

Statistical Analysis
The data collected by the researchers was analysed using Statistical Package for the Social Sciences SPSS for Windows, version 16.0 (SPSS Inc.; Chicago, IL, USA). In the evaluation of data percentage, chi-square test analyses were used. The chi-square test was used to analyse the categorical data. $P < 0.05$ was considered to be statistically significant.

Results

The data showed that the average ages of the Turkish and Polish students were 21.36±2.08 and 19.9±1.6, respectively. Almost all the students in both groups were single. The rate of high-income students was greater among Polish students than among Turkish students. The rate of students exercising regularly was low in both student groups (14.7% in Turkey, 10.6% in Poland), while the rate of students exercising irregularly was high in both student groups (57.4% in Turkey, 63.1% in Poland). Approximately one-third of each group did not do any exercise at all. Of the Turkish and Polish students, 16.9% and 18.1% were overweight, respectively. This difference was found to be statistically significant. Of the Turkish and Polish students, 14.2% and 13.8% were smoking, respectively.

Early menarche was found in 10% of the Turkish students and 8.8% of the Polish students. A family history of breast cancer was reported by 12.6% of the Turkish students and 18.1% of the Polish students. Previous breast problem were reported by 2.6% of the Turkish and 1.3% of the Polish students. Almost all of the students- 99.5% of the Turkish and 98.1% of Polish students- considered BSE to be required. Of the Turkish students, 97.9% knew about, and 72.1% were applying BSE. Of the Polish students, 84.4% knew about, and 48.1% were applying BSE. The difference between the Turkish and Polish students in knowing about and applying BSE was found to be significant. No difference was found between the two student groups in terms of considering mammography to be required. Of Turkish students 81.1%, and of Polish students, 68.1% considered CBE to be required; the difference was significant (Table 1).

Table 1. Characteristics of Turkish and Polish students about early diagnosis of breast cancer

Characteristics	Turkish n	Turkish %	Polish n	Polish %	x²; p
Menarche age					
≥11-	19	10.0	14	8.8	3.301; p=0.192
12-14	158	83.2	126	78.8	
≥ 15	13	6.8	20	12.5	
BMI					
Slim	37	19.5	55	34.4	12.292; p=0.006
Medium weight	121	63.7	76	47.5	
Fat	29	15.3	24	15.0	
Overweight	3	1.6	5	3.1	
Breast cancer history in family					
Yes	24	12.6	29	18.1	2.040; p=0.101
No	166	87.4	131	81.9	
Breast problems in the past					
Yes	5	2.6	2	1.3	0.846; p=0.301
No	185	97.4	158	98.8	
BSE requirement					
Required	189	99.5	157	98.1	1.398; p=0.250
Not required	1	0.5	3	1.9	
BSE					
Knows	186	97.9	135	84.4	20.892; p=0.000
Does not know	4	2.1	25	15.6	
BSE					
Does	137	72.1	77	48.1	21.023; p=0.000
Does not do	53	27.9	83	51.9	
Considering mammography to be required					
Required	131	68.9	114	71.3	2.469; p=0.924
Not required	13	6.8	5	3.1	
Required only for women older than 40	46	24.2	41	25.6	
Considering clinical breast examination to be required					
Required	154	81.1	109	68.1	7.771 ; p=0.004
Not required	36	18.9	51	31.9	

BMI: body mass index; BSE: breast self-exam

p<0.05 was considered to be statistically significant.

Table 2. Awareness of Turkish and Polish students on the risk factors of breast cancer

Risk factors of breast cancer	Turkish n	Turkish %	Polish n	Polish %	x²; p
Being older than 50					
Knows	126	66.3	120	75.0	3.136; p=0.080
Does not know	64	33.7	40	25.0	
Not doing exercise					
Knows	76	40	3	1.9	72.238; p=0.000
Does not know	114	60	157	98.1	
A diet rich in fat					
Knows	118	62.1	36	22.5	55.293; p=0.000
Does not know	72	37.9	124	77.5	
Overweight					
Knows	99	52.1	53	33.1	12.736; p=0.000
Does not know	91	47.9	107	66.9	
Using oral contraceptive					
Knows	105	55.3	114	71.2	9.479; p=0.003
Does not know	85	44.7	46	28.8	
First pregnancy at an advanced age					
Knows	143	75.3	46	28.8	75.649 ; p=0.000
Does not know	47	24.7	114	71.2	
No pregnancy					
Knows	162	85.3	26	16.3	166.392; p=0.000
Does not know	28	14.2	134	83.8	

BMI: body mass index; BSE: breast self-exam

p<0.05 was considered to be statistically significant.

Of the Turkish students, 78.9% knew about early diagnosis of cervical cancer, 66.3% knew about the recommendation of the Pap smear test, 14.2% knew about the HPV vaccine, and 25.3% knew about safe sexual practice. Of the Polish students, 68.8% knew about early diagnosis of cervical cancer, 41.9% knew about the Pap smear test, 20% knew about the HPV vaccine, and 15.6% knew about safe sexual practice.

Table 2 shows the awareness of the students of the risk factors of breast cancer. Of the Turkish students, 66.3%, and of Polish students, 75% knew age to be among the risk factors for breast cancer, and this difference was not significant. Of the other risk factors, a significantly higher number of Turkish students knew a high-fat diet, being overweight, first childbirth at an advanced age and not having given birth, while a higher number of Polish students knew using oral conceptive was a risk factor.

Of the risk factors for cervical cancer, a higher number of Turkish students knew a history of cancer in the family, HPV, smoking, immunodeficiency, being overweight, insufficient consumption of fruit and vegetables, three or more full-term pregnancies, first pregnancy at an advanced age, and poverty as risk factors, and the difference was significant. A greater number of Polish students only knew using oral contraceptive was a risk factor; however, the difference was not statistically significant (Table 3).

Table 3. Awareness of Turkish and Polish Students on the Risk Factors of Cervical Cancer

Risk factors of cervical cancer	Turkish n	%	Polish n	%	x²; p
Cervical cancer in family					
Knows	170	89.5	129	80.6	5.463; p=0.023
Does not know	20	10.5	31	19.4	
HPV					
Knows	161	84.7	111	69.4	11.835; p=0.001
Does not know	29	15.3	49	30.6	
Smoking					
Knows	126	66.3	42	26.3	55.861; p=0.000
Does not know	64	33.7	118	73.8	
Immunodeficiency					
Knows	85	44.7	54	33.8	4.379; p=0.038
Does not know	105	55.3	106	66.3	
Fungal infection					
Knows	79	41.6	51	31.9	3.503; p=0 .075
Does not know	111	58.4	109	68.1	
Overweight					
Knows	71	37.4	30	18.8	14.666; p=0.000
Does not know	119	62.6	130	81.3	
Insufficient consumption of fruits and vegetables					
Knows	60	31.6	1260	31.67.5	30.820; p=0.000
Does not know	130	68.414860		31.692.5	
Oral contraceptives					
Knows	72	37.9	79	49.4	4.667; p=0.390
Does not know	118	62.1	81	50.6	
Intrauterine tool					
Knows	78	41.1	51	31.9	3.144; p=0.950
Does not know	112	58.9	109	68.1	
3+ full-term pregnancy					
Knows	67	35.3	13	8.1	36.278; p=0.000
Does not know	123	64.7	147	91.9	
First pregnancy at an early age					
Knows	108	56.8	10	6.3	99.480; p=0.000
Does not know	82	43.2	150	93.8	
Poverty					
Knows	69	36.3	12	7.5	40.548; p=0.000
Does not know	121	63.7	148	92.5	

HPV: human papilloma virus

Discussion and Conclusion

Cancer is mostly observed in females at advanced ages; however, students are also at risk, and evidence has been found showing that the rate of mortality due to late diagnosis of breast cancer is very high (17). Therefore awareness should be raised in young females and they should be encouraged to acquire the health habits to facilitate early diagnosis of breast cancer (18, 19).

Another type of cancer that can be prevented by early diagnosis is cervical cancer. Because cervical cancer has a long pre-invasive process, the Pap smear screening test can detect cervical cancer with up to 90% or 95% accuracy before it is clinically diagnosed (11).

While some of the risk factors of breast cancer cannot be changed, obesity and physical inactivity can easily be changed. Obesity is considered as a risk factor in breast cancer, and exercising acts as a protective practice. This study showed that 16.9% of the Turkish and 18.1% of the Polish students were overweight, and this difference was significant; and that approximately one-third of the students in both groups were not doing any exercise at all. Another study conducted in Poland with university students showed that only 4.7% of the students were doing exercise (16). However, the emphasis on the effects of obesity and physical activity on health raises the expectation that awareness will become high on this subject. In the present study, 14.2% of the Turkish and 13.8% of the Polish students were smoking. Książek et al. (16) found in their study conducted in Poland with 168 university students that 66.4% of the students had quit smoking for their health and 44.5% did not drink alcohol (16).

Early menarche was found in 10% of Turkish students and 8.8% of Polish students. Of the Turkish students, 12.6%, and of the Polish students, 18.1% had a history of breast cancer in their family; and 2.6% of the Turkish and 1.3% of the Polish students had had breast problems in the past. A study conducted in Poland with university students reported that 4.4% of the students had a history of breast cancer in their family (16), and a study conducted in Malaysia with 237 female students found that 20.7% of them had a history of breast cancer in their family (20).

Breast Self-Exam is an important protective application for early diagnosis of breast cancer, and may be especially helpful for early diagnosis of malignancies in young females who are not appropriate for mammographic screening (16). The American Cancer Society recommends informing young women about the benefits and limitations of BSE by the age of 20, explaining the importance of consulting healthcare personnel when an abnormal change is observed, and instructing the examination technique to the women who want to apply BSE (9, 16, 21). In this study, almost all of Turkish and Polish students considered BSE to be necessary and knew how to apply it. However, the rates of the students applying BSE were low in both Turkish (72.1%) and Polish (48.1%) students, and lower in the Polish students than Turkish students (p<0.05). Various studies have emphasised that university students were not applying BSE sufficiently. A research on the awareness of 355 college and 132 high school students in Midwestern America on breast cancer reported that their awareness was insufficient; 66% of the college students and 40% of the high school students had been educated on how to apply BSE, but only half of them were doing it frequently enough (19). Akhtari-Zavare et al. (20) found that the rate of applying BSE was

low in female students (36.7%). The findings are similar in the studies of Sönmez et al. (22) conducted with 334 females (33.2%), and the study of Karayurt et al. (23) (27%). Książek et al. (16) reported that 26.9% of the students knew that regular BSE is required; 25% were applying BSE regularly; and those who did not know the necessity of BSE were not applying it.

Clinical Breast Examination should be done as part of a periodical health examination once in every three years between the ages of 20 and 39, and once a year after the age of 40 (9, 21). The rate of Turkish students who knew the necessity of CBE was higher than the rate of Polish students in the present study. Turkish students knew the necessity of CBE better; however, Polish students were more successful in having CBE. The difference between the two groups in having CBE may be caused by the different cultural approaches in these two countries to the health examination of females. Sociocultural factors affect the behaviours for early diagnosis of breast cancer and maintaining them (10, 24). Knowing the effect of the females' culture on their behaviours around early diagnosis is important in teaching and adopting the practices of early diagnosis (10, 25).

Of the risk factors for breast cancer, a significantly higher number of Turkish students knew a high-fat diet, obesity, first childbirth at an advanced age, and never having given birth while a higher number of Polish students knew using oral conceptive was a risk factor. Książek et al. (16) emphasized that the students considered oral contraceptives to cause breast cancer.

Cervical cancer is the fourth most common type of cancer in the world. It is emphasized that HPV vaccination is required together with community-oriented early diagnosis practices organised at national level to prevent this type of cancer (13, 21). The Pap smear screening test detects cervical cancer with up to 90% or 95% accuracy before it is clinically diagnosed (11). The incidence of invasive cervical cancer has decreased since the Pap smear test became common (11, 21). A study in Turkey reported that 77.9% of girls older than 15 had never undergone a smear test (3). A study conducted in India on the awareness of 102 nursing students aged between 17 and 20 about cervical cancer found that 30% of the students knew about cervical cancer, 30.8% knew about the preventive inoculation, 30% knew about the existence of a screening method, and 17.5% knew about the Pap smear test (26). In the present study, of the Turkish students, 78.9% knew about early diagnosis of cervical cancer, 66.3% knew about the smear test, 14.2% knew about the HPV vaccine, and 25.3% knew about safe sexual practices. On the other hand, of the Polish students, 68.8% knew about early diagnosis of cervical cancer, 41.9% knew about the smear test, 20% knew about the HPV vaccine, and 15.6% knew about safe sexual practices. Of the risk factors of cervical cancer, a higher number of Turkish students knew a history of cancer in family, HPV, smoking, immunodeficiency, being overweight, insufficient consumption of fruit and vegetables, three or more full-term pregnancies, first pregnancy at an advanced age, and poverty. Of the Polish students only a higher number knew using oral contraceptive as a risk factor; however, the difference was not statistically significant. Tang et al.'s (27) study showed that cultural differences were evaluated for breast and cervical cancer screening. Lee and Lee (28) showed that immigrant young women had limited cervical cancer knowledge and culture-specific barriers. These results were similar to this study. Culture is very important issue for cancer screening. For this reason, this study results can be caused from these cultural differences.

Study limitations;

This study was limited by a small convenience sample, self-selection, and two countries; therefore, findings only can be generalized to only these students.

Conclusions and Recommendations

In conclusion, the awareness about breast cancer and cervical cancer of the students in this study is insufficient and should be raised. University students receiving health education will both manage their own health and be responsible for providing their community with healthcare. It is important for nursing students to inform their society, particularly the people at risk, about early diagnosis and to provide them with health counselling. These students should be informed about their responsibilities on this topic during their education, and be raised to be well-equipped and to acquire the expected behaviours. Students should also be made aware of taking the required steps while they are healthy, and encouraged to be active rather than passive in promoting health. This is required both for their profession and care of their own health. It should particularly be noted that it can have a positive effect on healthcare if the practices about early diagnosis of cancer for health professionals in different cultures have a universal content.

Clinical Effect;

This research includes intercultural aspects for breast and cervical cancer screening of university students in both countries. Oncology researchers can use these results for their studies. Breast and cervical cancer awareness education can add to nursing education programmes in both countries.

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