

AWARENESS OF BREAST CANCER AND METHODS OF EARLY DIAGNOSIS IN WOMEN AGED 50-69 YEARS IN REGIONS WHERE COMMUNITY BASED BREAST CANCER SCREENING HAS BEEN CONDUCTED OR NOT CONDUCTED IN GİRESUN CITY

GİRESUN İLİNDE TOPLUM BAZLI MEME KANSERİ TARAMASI YAPILAN VE YAPILMAYAN BÖLGEDEKİ 50-69 YAŞ ARASI KADINLARIN MEME KANSERİ VE ERKEN TANİ YÖNTEMLERİ İLE İLGİLİ FARKINDALIKLARI

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ABSTRACT

Objective: This study aims to investigate awareness of breast cancer and methods of early diagnosis in women in a region where a community based breast cancer screening has been conducted by Giresun KETEM, compared to the awareness of women in a region where no screening has been conducted.

Materials and Methods: This is a cross-sectional study conducted on a total of 270 samples, composed of 139 women who registered at Teyyareduzu Health Clinic on whom screening was performed, and 131 women registered at Bulancak Health Clinic, on whom no screening was done.

Results: In the region where the screening was done, 54.7% of women reported that breast cancer is preventable, 55.9% stated that they performed a BSE, 62.5% recorded that consanguinity increased the risk of breast cancer and 52.8% reported that breastfeeding reduced the risk of breast cancer $p<0.05$) Although, on average, 5.43% of those screened were aware of the symptoms of breast cancer, an average of only 2.84% of the women who had not been screened knew the symptoms. Among the methods of early diagnosis, the rate of knowing about the following three, namely, BSE, PE and mammography, was 33% in the screened region and 24% in the non-screened region.

Conclusion: It was determined that both the knowledge and awareness level of these women was higher than in the region where screening was not done. Community-based organized screenings are effective in developing the knowledge and skills of women about the symptoms of breast cancer, risk factors and early diagnostic methods such as BSE, PE and mammography.

Key words: Breast cancer, community based, screening, awareness

ÖZET

Amaç: Bu çalışmada Giresun Kanser Erken Teşhis Tarama ve Eğitim Merkezi (KETEM) tarafından toplum bazlı meme kanseri taraması yapılan kadınlar ile tarama yapılmayan bölgedeki kadınların meme kanseri ve erken tanı yöntemleri ile ilgili farkındalıklarını araştırmak amaçlanmıştır.

Yöntem ve Gereçler: Taraması yapılmış Teyyaredüzü sağlık ocağına kayıtlı 139 kadın ve taraması yapılmamış Bulancak sağlık ocağına kayıtlı 131 kadın olmak üzere toplam 270 örneklem ile yürütülen topluma dayalı kesitsel bir çalışmadır.

Bulgular: Tarama yapılan sağlık ocağı bölgesinde; kadınların %54,7'si, meme kanserinin önlenilebilir olduğunu,%55,9'u KKMM (Kendi kendine meme muayenesi) yaptığını,%62,5'u akrabalığın meme kanseri riskini artırdığını,%52,8'i emzirmenin meme kanseri riskini azalttığını belirtmişlerdir ($p<0,05$). Taranan bölge kadınları meme kanseri belirtilerinden ortalama %5,43'ünü bilmelerine karşın taranmayan bölge kadınları belirtilerinden ortalama %2,84'ünü bilmemişlerdir ($p<0,05$). Erken tanı yöntemleri arasında KKMM (Kendi Kendine Meme Muayenesi, FM (Fizik muayene) ve mamografinin her üçünü de bilme oranları taranan bölgede %33, taranmayan bölgede %24 tür ($p<0,05$).

Sonuç: Kadınlarımızın hem bilgi hem de farkındalık düzeylerinin tarama yapılmayan sağlık ocağı bölgesine göre daha yüksek olduğu saptanmıştır. Toplum bazlı organize taramalar kadınların meme kanseri semptomları, risk faktörleri, KKMM, FM ve mamografi gibi erken tanı yöntemleri ile ilgili bilgi ve becerilerini geliştirmekte etkilidir.

Anahtar sözcükler: Meme kanseri, toplum bazlı tarama, farkındalık

Breast cancer is the most prevalent type of cancer in women worldwide and is also among the top causes of mortality among women (1, 2). According to data from the Turkish Association for Cancer Research and Control of the Department of Cancer Control, breast cancer is a major public health issue due to the fact that it ranks in first position among cancers in women and has a moderately high incidence rate (3, 4). According to IARC Globocan 2008 data, the incidence of breast cancer in Turkey is 25.6/100,000, while its mortality rate is 17.6/100,000, the age standardized rate (ASR) incidence is 28.3/100,000 and its ASR mortality is 12.4/100,000 (2). In our country, where there are nearly 15,000 new breast cancer cases diagnosed each year, the rate of locally advanced phase breast cancer is unfortunately higher compared to other countries, even though it varies between the eastern (50%) and western (20%) regions (5, 6).

It is not possible for early diagnosis and screening programs to be successful unless the importance of early diagnosis is known by the society. Thus, healthcare personnel play an important role in the prevention and early diagnosis of cancer, and increased awareness will be achieved only by community-based screenings and effective training methods. KETEMs (Cancer Early Diagnosis, Screening and Training Centres) established for this purpose, aimed at organizing trainings to provide information and raise the awareness of healthcare personnel and the public with regard to cancer since 1995, and implement community-based programs in line with the screening standards established for defined risk groups (7). The "National Standards in Breast Cancer Screening", issued upon being revised on December 2, 2012, was published for the first time by the Directorate of the Department for Cancer Control in the Ministry of Health on July 20, 2004 (8).

WHO recommended early diagnosis and screening programs for achieving protection against breast cancer in its report (1998). Giresun KETEM, established in 1999, organized trainings in all city centres and provinces with regard to cancer awareness with its enthusiastic and devoted personnel and has been one of the few centres (İzmir, Balıkesir, İstanbul, Giresun) to initiate community-based screening in our country (9).

This study was conducted within the scope of the community-based screening initiated by Giresun KETEM on women aged 50–69 living in two quarters, either registered at Teyyaredüzü Family Health Centre (FHC), where a screening was made upon sending an invitation letter, and Şehit (Şh.) Tekin Er Çınar Family Health Centre, where no screening was offered during that period. The regularity of the Household Evaluation Forms (ETF), the proximity of the total population and the similar level of development were taken into account in the selection of these two health centres.

Materials and Methods

This is a community-based cross-sectional study conducted on women aged 50–69 years, living in the district of Teyyaredüzü in which Teyyaredüzü Family Health Centre where breast cancer screening was conducted within the province of Giresun is located, and women of the same age group living in the adjacent quarter of Bulançak where Şh. Er Tekin Çınar Family Health Centre is located and where screening was not conducted on those dates.

According to the records of the Provincial Public Health Directorate, the target population (aged 50–69 years) of the Family Health Centre in Teyyaredüzü numbered 1,058, while the target population (aged 50–69 years) of the Family Health Centre of Şh. Er Tekin Çınar numbered 937. Seventy percent of the target population of Teyyaredüzü Family Health Centre could be screened in total, pursuant to an invitation letter and two repeated calls. The universe of the study was composed of 151 women registered in Teyyaredüzü FHC and 144 women registered in Şh. Er Tekin Çınar FHC, all aged between 50 and 69 years.

The women living in this quarter were reached upon informing the Provincial Public Health Directorate and a total of 270 women, 139 from the district of Teyyaredüzü FHC and 131 from the district of Şh. Er Tekin Çınar FHC, were invited to KETEM and Şh. Er Tekin Çınar FHC as the sample population of this research. The fieldwork relating to the survey composed of 20 questions was conducted by the chief doctor, training nurse of KETEM and students in the department of midwifery/nursery of the Health Academy of Giresun University between March–April 2010.

All women subjected to the survey received a brochure containing information about protection from and diagnostic methods for breast cancer pursuant to the survey so that they would be able to respond to the questions on the survey. Moreover, they received trainings in the meeting halls of the schools in their district about breast cancer diagnostic methods, early diagnosis and protection methods and breast self-exam. A breast self-exam film was shown pursuant to the training and a demo was made on a breast dummy.

The package program SPSS 16.0 was used in the analysis of the data, which were evaluated upon using percentage, averages and chi-square tests.

Results

(i) Descriptive features of the study groups

The rate of women in the district of Teyyaredüzü FHC who participated in the survey was 92%, while 91% of the women in the district of Şh. Er Tekin Çınar FHC participated in the survey; 91.5% of the targeted population was covered.

In the study group, the 50–59 year age group constituted 72.7% of the screened FHC and 70.2% of the unscreened FHC; while the age interval of 60–69 years constituted 27.3% of the screened FHC and 29.8% of the unscreened FHC. The average age of the group was 56±4.12 for the screened FHC and 54.8±5.26 for the unscreened FHC (Table 1).

With regard to their level of education, the rate of illiterate women was 21% and 19%, the rate of literate women was 5% and 5%, the rate of elementary school graduates was 40.2% and 41%, the rate of junior high school graduates was 30.2% and 26.7%; the rate of high school graduates was 8% and 7.6% while the rate of university graduates was 1.4% and 0.7% (respectively, in the screened and unscreened FHC), confirming both districts had similar characteristics (Table 1).

Table 1. Distribution of women 50–69 years old according to age and education level.

Descriptive features		Screened FHC		Unscreened FHC	
		number	n=139 %	number	n=131 %
Age profile	50-59 years	101	72.7	92	70.2
	60-69 years	38	27.3	39	29.8
Education level	Illiterate	21	15.1	25	19
	Literate	7	5	6	5
	Primary school	56	40.2	54	41
	Middle school	42	30.2	35	26.7
	High school	11	8	10	7.6
	University	2	1.4	1	0.7

Table 2. Answers to awareness of breast cancer in study groups, with χ^2 -p value.

Survey Questions (Say yes)	Screened FHC	Unscreened FHC	χ^2	p
Can breast cancer prevented via early diagnosis?	54.7	45.3	7.282	0.007
Have you received BSE training?	58.7	41.3	14.174	0.000
Do you perform BSE yourself? (only in training)	55.9	44.1	9.566	0.002
Does kinship increase the risk of breast cancer?	62.5	37.5	36.602	0.000
Have you ever take a mammogram?	68.6	31.4	72.769	0.000
Is mammogram dangerous?	56.2	43.8	1.92	0.166
Does stress a risk factor for breast cancer?	51.3	48.7	0.28	0.597
Does exercise reduce the risk of breast cancer?	53.4	46.6	1.179	0.278
Does breastfeeding to reduce the risk of breast cancer?	52.8	47.2	3.48	0.008
Are there any KETEM in your city?	57.0	43.0	17.735	0.000

KETEM: Kanser Erken Teşhis Tarama ve Eğitim Merkezi

(i) Responses of the study groups about the awareness on breast cancer
 Considering the responses of the study group on awareness, the question on whether breast cancer can be prevented, 54.7% of the screened district (Teyyaredüzü FHC) said, "yes, it may be prevented via early diagnosis", while the rate in the unscreened district was 45.3% ($\chi=7.282$; $p<0.05$).

With regard to answering the question on whether they had received BSE training, 58.7% of the screened district said yes while 41.3% of the unscreened district said yes ($\chi=14.174$; $p<0.05$).

With regard to the question on whether they have ever had a mammogram, 68.6% of the screened district and 31.4% of the unscreened district said yes ($\chi=72.769$; $p<0.05$). Information regarding the other survey questions is detailed in Table 2.

(i) Responses of the study groups on the symptoms of breast cancer and early diagnostic methods

With regard to the question on what are the symptoms of breast cancer, the women in the screened district knew on average 5.43% of 10 symptoms (asked in the survey) while the women in the unscreened district knew on average 2.84% of these symptoms

($p<0.05$). The responses given for each symptom are summarized in Table 3.

Likewise, with regard to the question on diagnosis methods, the rate of those who knew all three methods (BSE, PE, mammogram) was 33% in the screened district while this rate was 24% in the unscreened district ($p<0.05$).

With regard to the question on how frequently one should undergo a mammogram, 59% of the screened women registered in Teyyaredüzü FHC and 25.2% of the women in the unscreened FHC responded as once every two years. Detailed information relating to the methods is given in Table 4.

Discussion and Conclusion

The study included women aged 50-69 years invited to a community-based breast cancer screening as well as unscreened women aged 50-69 years located in a quarter close to this district, and aimed to see what screening provides to the local community, how their consciousness is raised and how awareness is created. This is the first study conducted in this respect and provides a different perspective compared to other researches.

Table 3. Rating of correct questions for symptoms of breast cancer in the 50–69 year age group.

Symptoms of breast cancer	Screened FHC number	n=139 rate*	Unscreened FHC number	n=131 rate*
Palpable mass	134	0.96	103	0.78
Wound in breast	127	0.91	79	0.60
Pain in breast	122	0.88	73	0.56
Nipple discharge	115	0.83	56	0.43
Mass in axilla	103	0.74	32	0.24
Feeling of heat in breast	92	0.66	19	0.14
Wrinkle	49	0.35	8	0.06
Nipple retraction	12	0.08	4	0.03
Distortion in single breast	4	0.02	1	0
No may sign	0	0	0	0
Moderate		5.43		2.84
* The rate of able to answer in groups				p<0.05

Table 4. Answers to methods of early detection in the 50–69 year age group.

Methods of Early Diagnosis	Screened FHC number	n=139 %	Unscreened FHC number	n=131 %
BSE	76	55	52	40
BSE+PE	62	45	44	33
BSE+PE+X-RAY	46	33	31	24
US	54	39	64	49
MRI	27	19	32	24
Cant be prevented by early Diagnosis	8	6	12	9
Don't know	5	4	15	11
How frequently one should undergo a mammogram?				
Once every three months	0		0	
Once every six mounts	3	2,1	12	9,1
Once every year	43	31	74	56,5
Once every two years	82	59	33	25,2
Once per 5 years	11	7.9	12	9.2

BSE: Breast self examination, MRI: Magnetic Resonance Imaging, PE: Physical examination, US: Ultrasonography, X-RAY: Mammography

Although the education level of the women participating in the research in both quarters was low, the fact that 91.50% participated is an indicator of their sensitivity towards this subject. When compared with large cities where the sociological regional development difference is high, these two quarters are very similar.

According to data from the Provincial National Directorate of Education, the rate of primary school graduates is 22.5%, 18.4% for primary school-junior high school graduates, 37% for high school graduates and 15% for college graduates (10). These rates certainly differ with age; even in the 50-69 year age group the education level drops as the age increases. It has been reported that 9.9% of the

women in our country are not literate (11). Besides for the rate of illiterates (15.1% in the screened FHC and 19% in the unscreened FHC), the fact that levels of primary school, junior high school and senior high school graduates are close to each other convinced us that both groups have similar intellectual capacity in responding to the survey questions raised.

The study by Özyayın et al. (12) was conducted in the district of Bahçeşehir, which has a rather high socio-cultural level in the Istanbul/European region, and had a considerably high consistency in terms of responses to the survey questions. Furthermore, the fact that the study was conducted by professional interviewers provides

an additional advantage. We conducted our study with the contribution of nurses, midwives/nurses who received trainers' training in this field and asked their questions carefully, one by one (7, 10) and the students of the Health Academy of Giresun University.

The most striking result we obtained was the fact that 56.2% of the screened group responded yes to the question on whether a mammogram is dangerous. The fact that this rate was lower at 43.8% in the unscreened region made the responders concerned as to whether the X-rays received during mammogram are carcinogenic or not. Because, if there is a suspicion or a negative belief that a mammogram is actually dangerous, this may set an obstacle for community-based screenings (13-15). Is the occasional news reflecting that mammogram is dangerous having an impact on the local people? Is it possible that the local people still link the impact of cancer with the Chernobyl disaster? In fact, the participation rate (coverage) of those participating in the region (Teyyaredüzü FHC) is 70% and 95/68.3% of the women in the quarter where the study was conducted had mammogram. Do the local people have different attitudes and behaviours about participation in screening and early diagnosis? (13, 15). Actually, considering that the rate of women undergoing mammogram in the Bahçeşehir study by Özyayın et al. (12) (within the last 2 years) was 65.5%, we believe we should not be so pessimistic when we take look at our centre, which is to be regarded as a relatively rural region. Moreover, we were hopeful that only one woman out of ten women knew the 2-year interval indicated in the European Union and the National Breast Cancer Screening Guide. We still believe that this rate will be increased by our efforts as healthcare professionals.

Another prominent point was that 54.6% of the screened region responded yes, it can be prevented by early diagnosis to the question on whether cancer can be prevented. However, there is also a group corresponding to 45.4% saying no, it cannot be prevented by early diagnosis. There are studies demonstrating that this rate is higher in our country (12, 16). We believe that this rate is linked with the low educational level of the group. Considering that prevention can be achieved via early diagnosis and screening, we believe that it would have been better if in the survey questions it was asked whether death from breast cancer can be prevented.

The presence of breast cancer in the family, especially in first-degree relatives, increases the risk of breast cancer by two fold (17, 18). The rate of those indicating that its presence in relatives increased their risk in our study was 62.5%. However, the participants were not asked whether there was breast cancer in the family. But, it was significant that they knew a risk factor compared to the unscreened district. Studies in the literature have inquired as to the presence of breast cancer in the family but the approach of these people towards risk factors was not considered (12, 16).

It is also a known fact that breastfeeding and exercise reduce the risk of breast cancer (17, 18). A rate of 52.5% indicating that breastfeeding reduced risk in our research is a result of the trainings provided and the "baby-friendly hospital" projects of the Ministry of Health (7, 10). Likewise, the exercise parks with equipment established by local governments in almost every quarter and the program of the Ministry of Health for "fighting obesity" will enhance

physical activities and provide protection mainly against breast and colon cancer (19).

The American Cancer Society established the methods required for early diagnosis for the first time in 1980. Nowadays, these methods are established as golden standards and are still valid. These are the "Breast Self-Exam" (BSE), "the clinical examination conducted by the healthcare personnel" and "mammogram". The fact that a woman knows her own breasts and realizes changes in tissue is certainly one of the most important methods for preventing the mortality of breast cancer (17, 18). The Directorate of the Department for Cancer Control provided trainers' training to many physicians and midwives/nurses in our province to serve this purpose and this wave has been extended within the province/district. The Provincial Directorate of National Education, Provincial Directorate of Public Health and KETEM cooperated in providing trainings to all women in the conference halls in their quarters, starting with those in the final year of high school, and informed them via brochures and breast dummies (7, 10). Furthermore, the trainings were enhanced with breast cancer awareness activities in October. However, the level of training on and application of BSE is still low. The rate of those who received BSE training in the screened FHC was 58.7% and 41.3% in the unscreened FHC. The BSE application rate in the screened FHC was 55.9% and 44.1% in the unscreened FHC despite the training. The rate of knowledge of BSE in women aged 15-49 years in the region of Kütahya was reported as 61.7% while its application rate was reported as 56.6% (16). In the rural areas of the Western Black Sea Region, the rate of knowledge of BSE in women above the age of 20 years is 28.7%, while its application rate is 28% (20). The application rate of BSE in women aged 40-69 years (n=893) in the European region of Istanbul where the educational and socio-cultural level is high is 84.1% (11). It was observed that the rate of application of BSE differs significantly in our country and that results varying between 41.2 and 83.5% have been reported in studies abroad (21).

One of the pleasing results of our study was that in addition to the statistically meaningful rates in the screened and unscreened districts about the symptoms of breast cancer, they were generally known. In both quarters where the education level was low, the response for palpable lump was 96% and 78% respectively, in the screened and unscreened FHC. Honestly, we believe that the statement of a lump the size of a hazelnut that we used in the trainings has been effective for Black Sea people that are sensitive to cancer. However, how will a woman who does not perform regular monthly breast exams notice this difference?

Another pleasing point was that the knowledge level of all three early diagnosis methods, namely BSE, PE and Mammogram, together was 33% in the screened district. This rate was only 24% in the unscreened region and was regarded as statistically significant ($p<0.05$).

Only 57% of the women registered in the FHC where the screening was conducted were aware of the presence of KETEM. Yet, they were invited to KETEM via a headed invitation letter for the mammogram. Although health clinics were converted into family and public health centres with the transition to the family medicine system, the name of KETEM remained unchanged. Today, KETEMs

included in Public Hospital Alliances are defined as primary care centres affiliated with the Cancer Unit of Public Health Institutions in the provinces and the Department for Cancer Control (7). KETEMs were established for the purpose of increasing awareness of cancer and the importance of early diagnosis in cancer via trainings, conducting early diagnosis and public-based screening activities in early detectable cancers, playing an active role in the control of cancer in the province where they are located and reducing the morbidity and mortality of preventable and early detectable cancers as a result of all these activities. Certainly, the cooperation between family physicians working in FHCs and KETEMs is inevitable in assisting individuals registered to family physicians who provide a core service achieve this goal. Because the laws and regulations relating to the family medicine practice define the family doctor as; "those who provide personal preventive healthcare as well as primary care diagnostic, therapeutic and rehabilitative healthcare on an extensive and continuous basis" (22). We believe that the success and coverage of the screenings will be enhanced by making an invitation based on the household evaluation forms (ETF) registered by the family doctors in our currently ongoing screening program and community-based screenings.

This study has revealed that there is a significant difference in terms of knowledge as to the symptoms and early diagnostic methods of breast cancer of the locals on whom a breast cancer screening has been conducted/has not been conducted. Furthermore, it also demonstrated that community-based screenings increased awareness of breast cancer and showed hope that maybe mortality can be reduced upon increasing participation in screenings with this awareness level in the upcoming decades.

Recommendations

*As breast cancer is among the most prevalent cancers in our country and across the world, it would be beneficial to extend and support community-based organized screening programs and to make additions to currently conducted public spots on smoking cessation and obesity.

*The communication of information on early diagnosis and prevention methods in breast cancer by the appropriate sources (healthcare professionals) will increase awareness.

*As a public health issue, it is highly important that it is analysed within the framework of the socio-cultural characteristics, beliefs and habits of the society and that deficiencies are remedied.

References

1. Parkin DM, Bray F, Ferlay J, Pisani P. Global cancer statistics, 2002. *CA Cancer J Clin* 2005; 55: 74-108. (PMID: 15761078) [CrossRef]
2. IARC. Preamble to IARC Monographs 2008. <http://globocan.iarc.fr/factsheets/populations/factsheet.asp?uno=900>
3. Eser SY. Türkiye'de kanser insidansı. Türkiye'de kanser kontrolü. Edit Tuncer M. Ankara 2007. SB, KSDB.
4. Türk Kanser Araştırma ve Savaş Kurumu (Turkish Association for Cancer Research and Control). Türkiye'de ve Dünya'da Kanser İstatistikleri. Erişim: 04.10.2011

*While performance evaluations are made in Public Hospital Associations, it may be encouraging for our administrators to take into account activities for informing and screening the public.

The level of development and the implementation of these programs required for Turkish women necessitates that this topic is taken up as a national matter and not as a personal matter, that the efforts should be displayed to fight against the difficulties faced, that it is necessary to be patient and determined and all units related with this topic should provide devoted support.

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Conflict of Interest

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5. Karanlık H, Özmen V, Asoğlu O, İğci A, Keçer M, Tuzlalı S, et al. Long term results of surgical treatment for breast cancer. *J Breast Health* 2006; 2: 89-95.
6. Özmen V. Breast cancer in the world and Turkey. *J Breast Health* 2008; 4: 6-12.
7. <http://thsk.gov.tr/tr/index.php/kanser-onleme-erken-teshis/343-kanser-erken-teshis-tarama-kecem>
8. http://thsk.gov.tr/tr/dosya/kanser_db/kanser-tarama-programi-ulusal-standartlari.pdf

9. Ozmen V. Türkiye'de Kanser Kontrolü. Türkiye'de Meme Kanseri. Edit Tuncer M. Ankara; 2009: 385-91.
10. <http://ghsm.gov.tr>
11. http://tuik.gov.tr/IcerikGetir.do?istab_id=238
12. Özaydın AN, Güllüođlu BM, Ünalın PC, Gorpe S, Cabiođlu N, Öner BC, Özmen V. Bahçeşehir'de oturan kadınların meme kanseri bilgi düzeyleri, bilgi kaynakları ve meme sađlığı ile ilgili uygulamaları. Meme Sađlığı Dergisi 2009; 4: 214-24.
13. Nahcivan N, Secginli S. Meme kanserinde erken tanıya yönelik tutum ve davranışlar: bir rehber olarak sađlık inanc modelinin kullanımı. Cumhuriyet Üniversitesi Hemşirelik Yüksekokulu Dergisi, 2003;7: 1-6.
14. Dundar PE, Ozmen D, Ozturk B, Haspolat G, Akyıldız F, Coban S, et al. The knowledge and attitudes of breast self examination and mammography in a group of women in a rural area in western Turkey. BMC Cancer 2006; 24: 43. (PMID: 16504119) [\[CrossRef\]](#)
15. Secginli S, Nahcivan NO. Factors associated with breast cancer screening behaviors in a sample Turkish women: A questionnaire survey. Int J Nurs Stud 2006; 43: 161-71. (PMID: 16427965) [\[CrossRef\]](#)
16. Şen S, Başar F. Kütahya bölgesinde yaşayan kadınların kendi kendine meme muayenesi ve meme kanseri ile ilgili bilgi düzeyleri. Meme Sađlığı Dergisi 2012; 4: 185-90.
17. Vogel VG. Epidemiology, genetics and risk evaluation of postmenopausal women at risk of breast cancer. Menopause 2008, 15: 782-9. (PMID: 18596599) [\[CrossRef\]](#)
18. Shantakumar S, Terry MB, Teitelbaum SL, Britton JA, Millikan RC, Moorman PG, et al. Reproductive factors and breast cancer risk among older women. Breast cancer Res Treat 2007; 102: 365-74. (PMID: 17033925) [\[CrossRef\]](#)
19. <http://saglik.gov.tr/TR/belge/1-15978/obezite-ile-mucadele-ye-start-verildi.html> Erişim tarihi: 10.01.2013
20. Alpteker H, Avcı A. Kırsal alandaki kadınların meme kanseri bilgisi ve kendi kendine meme muayenesi uygulama durumlarının belirlenmesi. Meme Sađlığı Dergisi 2010; 2: 74-9.
21. Göçgeldi E, Açıkkel CH, Hasde M, Aygut G, Çelik S, Gündüz İ, et al. Ankara-Gölbaşı ilçesinde bir grup kadının kendi kendine meme muayenesi yapma konusundaki tutum ve davranışlarının belirlenmesi. Fırat Tıp Dergisi 2008; 13: 261-5.
22. Resmi Gazete. (2004). Aile Hekimliği Pilot Uygulama Hakkında Kanun. Kanun No: 5258, Sayı: 25665, Yayın Tarihi: 09.12.2004, Resmi Gazete, Ankara.

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