Screening for breast and cervix cancers in a rural part of Turkey.

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Abstract

Background: Cancer is a common public health problem in whole world and various screening programs are used in the world for breast and cervix cancers. These screening programs are very important for promotion of public health.

Materials and methods: This cross-sectional study involved all villages in Adiyaman city center which are above a population of 400 in 2010 and 2011. Mammography films and Pap smear test used for screening.

Results: 817 women that approved screening were transported to screening center. 476 women participated in mammography screening for breast cancer and 733 women participated in cervical screening for cervical cancer. Among these women, 2.5% stated to have a previous mammography and 3 women (0.7%) have a previous pap smear due to some reason. In detailed evaluations, no woman was detected to have breast cancer and one CIN-1 cervix cancer was detected.

Conclusion: Although cancer detection rate was low, participation to cancer screening program should be increased. Especially use of mobile screening vehicles may be helpful.

Introduction

Cancer is a common public health problem in whole world. Breast cancer is the most frequent cancer and also the most common cause of cancer related mortality in women. It also causes a high number of life years lost because it usually affects young people. Most of the cancer related deaths occur in countries that have low or medium income level and it is estimated that cancer incidence will still be higher in these countries than developed ones in 2030 [1,2].

Age specific cancer incidence is 182/100.000 in the world and mortality rate is 102/100.000. Breast cancer accounts nearly 1 of every 4 cancers in women and its incidence are 43/100.000. Incidence of cervix cancer is 14/100.000 and it is the third most frequent cancer in women [3].

Various screening programs are used in the world for breast and cervix cancers [4-7]. In Turkey, a mammography is performed in every second year till age of 69 for screening of breast cancer and in Turkish National Cancer Control Program initiation age of this program was decreased from 50 to 40. In this program, changes were also made for cervix cancer. Every woman in Turkey between 30-65 y of age is screened with a HPV test at every 5th y and positive results are re-evaluated by smears [8].

Cancer incidence and mortality can be decreased by screening programs for breast and cervix cancers [9-12]. Thus, screening programs are very important for promotion of public health.

The aim of this study was to screen cancer in patients living in rural areas in Adiyaman who don't have access to cancer screening programs and to diagnose cancers at an early stage.

Materials and Methods

This study involved all villages in Adiyaman city center which are above a population of 400. Posters, brochures, and advertisement were used to publicize this study. Women over 30 y old living in the villages that were taken into employment were invited to the trainings. At the planned date of education, information was given about cancer, its early diagnosis, screening tests, breast and cervix cancer screening program, breast self-examination, and protection from cancer. After the education, 2 different days were chosen to transport volunteer women to screening center. At these days the advertisements were used again. Volunteers signed written informed consents to participate in this screening. 817 women that approved screening were transported to screening center.

In accordance with the national breast cancer screening program of that year, women between 50-64 y of age were involved in the study. Two mammography films (one

mediolateral oblique and the other craniocaudal) were obtained for breast cancer screening and the films were evaluated by 2 radiologists independently.

Screening for cervix cancer was performed by pap smear to women over 35 y of age according to national cervix cancer screening program. Samples were obtained both from endocervical canal and ectocervix by disposable vaginal speculums. Pathological evaluation of smears was performed by a pathologist using a BT surge path, liquid based, full automatic smear spreading and staining machine. Screening for cervical cancer involved women who abstained from sexual relation for at least 48 h; who didn't use any vaginal medications (cream or drug) for at least 48 h, who didn't have a vaginal bath for at least 24 h and who didn't have vaginal bleeding. The ethical committee of Adiyaman University Faculty of Medicine approved this study.

Statistical analysis was performed with SPSS 15.0. For data analysis percentage, mean, standard deviation, median, minimum, and maximum values were used as descriptive statistics. Chi-square test was used to compare groups. p<0.05 was accepted as statistically significant.

Results

Population of the 27 villages included in this study was 26098 and 50.2% of the population were females. 38.6% of the females were above 30 y of age. 2047 (40.3%) women over 30 y old living in 27 villages around the early cancer diagnosis participated in education meetings. Smear tests for cervix cancer were performed to 733 women and mammographies were performed for breast cancer to 476 women.

Mean age of women that came for screening was 48.6 ± 11.1 y, 70.8% of them were illiterates and 21.5% were primary school graduates. No women graduated from high school or college. 95.1% of the women had social security and 3.9% were smoking (Table 1).

90.7% of the women were married and age of first marriage was 17 (11-45). Age of first menarche was 13 (11-15), number of total pregnancies was 7 (0-23) and number of living children was 6 (0-15). Number of women who previously admitted to a healthcare facility was 27 (3.3%).

Mean age of 476 women (22%) involved in mammography screening for breast cancer was 55.4 ± 8.2, 84.2% were illiterate and 87% were married. Rate of attendance to screening for breast cancer was 21.8%. Twelve women (2.5%) involved in screening stated that they never had a pregnancy. 97.4% of women who had baby reported breastfeeding, 97 % said they used both of their breasts, and median time of breastfeeding was 8 months (1-25).

Only 3 women who attended to breast cancer screening said they knew how to perform breast self-examination and only 1 woman said she regularly performed breast self-examination. Among these women, 2.5% stated to have a previous mammography due to some reason. Rate of previous mammography in women who had a family member or a friend

with breast cancer was 26.7% (p=0.002). No difference was detected between women who graduated from any school and women who had never attended to a school.

Table 1. Descriptive statistics of women admitted to breast and cervix cancer screening.

	Breast cancer n=476	Cervix cancer n=733
Age	55.4 ± 8.2	46.8 ± 10.1
Number of pregnancies	8 (1-23)	6 (1-23)
Number of children alive	7 (1-15)	6 (1-15)
Marital status		
Married	414 (87%)	674 (92.0%)
Divorced/Widowed	58 (11.2%)	59 (8.0%)
Single	4 (0.8%)	-
Education		
Illiterate	401 (84.2%)	509 (69.4%)
Literate	29 (6.1%)	54 (7.4%)
Primary School	45 (9.5%)	166 (22.6%)
Secondary School	1 (0.2%)	4 (0.6%)
High School or above	-	-
Social security		
Present	456 (95.8%)	699 (95.4%)
Absent	20 (4.2%)	34 (4.6%)
Smoking		
Yes	8 (1.7%)	28 (3.8%)
No	468 (98.3%)	705 (96.2%)

Table 2. Results of mammography's performed for screening of breast cancer.

	Number (%)
BİRADS 0	246 (51.7%)
BİRADS 1	94 (19.7%)
BİRADS 2	130 (27.3%)
BİRADS 3	5 (1.1%)
BİRADS 4	1 (0.2%)

Classification of mammography results of 476 women revealed that 5 (1.1%) were BIRADS 3, and 1 was BIRADS 4 (Table 2). Ultrasonography evaluations after mammography findings revealed that 7 women had axillary lymph nodes, 5 women had ductal ectasias, 5 women had cysts and 11 women had opacities or masses. These 28 women and 6 women who had mammography results as BIRADS 3-4 (a total of 34 women, 7.1% of total) were consulted to general surgery for further

evaluation. In detailed evaluations, no woman was detected to have breast cancer.

Cervix cancer screening involved 733 women with a mean age of 46.8; participation rate was 33.6%. 92% of screened women were married, age of first marriage was 18 (11-45) and age of first menarche was 13 (11-15). Total number of pregnancies was 6 (1-23), total number of living children was 6 (1-15) and 2.8% have never been pregnant. Oral contraceptives were used by 4.8% and hormone replacement therapy was used by 2.5% of the participants. Three women (0.7%) reported previous pap smears.

Results of pap smear for cervix cancer screening revealed abnormal pap smear results in 24 (3.2%) women. Among these women 11 (1.5%) had ASCUS, 5 (0.7%) had LSIL, and 8 (1.1%) had ASC-H (Table 3). CIN-1 cervix cancer was detected in a woman who had biopsy.

Table 3. Pap-Smear results during cervical cancer screening.

	Sayı (%)
Normal	223 (30.4%)
Inflammation	412 (56.2%)
ASCUS	11 (1.5%)
LSİL	5 (0.7%)
ASC-H	8 (1.1%)
Atrophy	64 (8.7%)
Other	10 (1.4%)

Discussion

Participation rates for screening programs were 22% for breast cancer and 34% for cervix cancer [13]. Several studies reported that use of mobile screening services would be more appropriate for public health in breast cancer and cervix cancer screenings because access is easier and participation is higher especially at rural areas [14-16]. We didn't use mobile screening services, instead we transferred volunteers to the screening center and performed screenings. We predict that participation rate would be higher if we could use mobile screening services at these villages. Media, radio, press and letters have been reported as methods that can be used to increase involvement in screening programs [15]. We used posters, brochures and advertisements. Although education level was low, participation rate could be higher if we had used media, press, or letters.

Only 2.5% of women participated in this screening previously had a mammography for any reason. This rate was much lower in women who participated in screening for cervix cancer. Previous studies in Turkey or different places in the World yielded higher rates of previous mammography or pap smear [17-22]. Low income and education level in our study population and remoteness from the city center might have affected the results in our study. Avci et al. found higher rate of

previous pap-smears and this was significant in subjects who had pap smears in the absence of mammography's and this finding was different from our study. This difference may be explained by higher education level in women involved in the screening program in Samsun [23]. In a Canadian study rate of mammography was higher in subjects who had a relative with breast cancer [4]. In our study no relation was detected between previous mammography rate and education level but mammography rate was higher in subjects who had a relative with breast cancer. Although not assessed in our study, embarrassment due to cultural factors may prevent participation in cancer screening as reported by Austin et al. [24,25].

Rate of knowledge around and application of breast self-examination were also lower than previous studies [19,23]. We suggest that healthcare workers at primary care level should focus more on education attempts for early diagnosis of cancer.

After cytological evaluations 3.2% of women were recalled for further evaluations. This rate was 1.5% in Ankara, 2.5% in Mersin, and 1.3% in Hatay. Thus the rate in our study was higher than previous studies in our country [26-28]. Rate of previous pap smears was low in our country which could have resulted in high recall rate.

No breast cancer was detected in our study but a woman was detected to have CIN-1 during screening for cervix cancer. Fakir et al. detected cancer in 1.3% of 2350 women who were screened by mammography [13]. We believe that detected cancer cases would be higher if participation in screening were higher.

Conclusion

Women living in rural areas have a lower rate of screening for breast and cervical cancer. Although cancer detection rate was low, participation to cancer screening program should be increased. Especially use of mobile screening vehicles may be helpful. Increased education for cancer screening in primary care and guidance of women may increase access to target population.

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