Articles

Effect of Mammography Outreach in Women Veterans

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We undertook this study to test whether progressive intervention would increase the use of mammography. In 1995, we randomly assigned into 2 groups 717 underserved women veterans in the Veterans Affairs Palo Alto (California) Health Care System (VAPAHCS) who earned less than $22,000 a year. The women were sent an informational letter and brochure explaining why mammography is needed and how often. The letter further requested that if the woman was due for a screening mammogram or if a lump or other recent change in her breast had occurred, that she call for scheduling of a free mammogram and a visit to the breast clinic. Women in group I (n = 351) received no further intervention. Women in group II (n = 366) received a follow-up phone call by a breast care nurse if they had not responded within 45 days of the informational mailing. The nurse talked to each woman about her particular needs, explained to her that the screening mammogram would be provided free of charge, and discussed transportation arrangements to the mammography facility. A total of 17 women in group I had mammograms versus 100 in group II during the same time period. We conclude that the additional intervention of a phone call by a breast care nurse increased use by more than 5-fold, which reached significance ($P < .01$).

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The purpose of this study was to evaluate whether progressive intervention by the mailing of an informational brochure and letter, followed by a phone call by a breast care nurse, would increase the use of mammography in underserved women veterans. Underserved women veterans are defined as those who earn less than $22,000 a year, making them eligible for free mammograms. Women veterans in 1995 made up 4.6% of the total veteran population, and this percentage is increasing as more women enlist in the active-duty military force.[1] Although traditionally most of the veterans services have catered to men, the Department of Veterans Affairs (VA) has become more sensitive to the needs of women and has arranged for mammography services in or near veterans health care facilities. For this service to be used, an outreach program was designed and its effectiveness analyzed.

Subjects and Methods

A total of 717 women veterans in the VAPAHCS who were eligible for free mammograms were randomly assigned into two groups based on even and odd endings of their social security number. Women in group I (n = 351) were sent an informational brochure explaining the need for screening mammography and recommendations for how often it should be done. A letter was included with the brochure that instructed the women that if they were due for their screening mammogram or had felt a lump or other recent change in their breast, they should call for the scheduling of a free mammogram. No further intervention was provided to group I women. Women in group II (n = 366) received, in addition to the initial mailing, a phone call by the breast care nurse if they had not responded to the mailing within 45 days. The breast care nurse talked to each woman about her particular needs and explained that the screening mammogram would be provided free of charge. The nurse assisted with the scheduling of a mammogram and answered any questions regarding transportation to the mammography facility. Each phone call took about 15 minutes, which amounted to about 92 hours, or 0.04 full-time-equivalent, of a registered nurse's time. Patients who had moved or died were not included in the study.

Demographic information gathered included age, branch of service, marital status, race, and employment status. This study was performed over a six-month period. Approval was obtained from the institutional review

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TABLE 1.—*Demographic Characteristics for Women in Groups I and II*

Characteristics	Group I (n = 351), %	Group II (n = 366), %
Age, yr		
<40	28	29
40-49	22	19
50-59	9	14
60-69	12	11
70-79	23	24
≥80	7	7
Marital status		
Married	24	25
Unmarried or widowed	66	69
Employment status		
Employed	24	20
Unemployed	58	62
Not listed	18	22
Race		
White	48	57
Nonwhite	10	10
Not listed	42	37
Branch of service		
Army	48	54
Navy	25	25
Coast Guard	3	1
Air Force	14	12
Marine Corps	4	6
Not listed	6	6

board of the VA Health Care System. The χ^2 test was used for statistical analysis.

Results

A total of 17 patients in group I versus 100 patients in group II received mammograms during the same time period. This finding reached significance ($P < .01$). Demographic characteristics of the two groups were similar (Table 1).

Discussion

National health promotion and disease prevention objectives are major goals for "Healthy People 2000."[2] Mortality from breast cancer can be reduced by 34%[3,4] by the use of regular mammograms, yet there are barriers that decrease their use. Approximately 50% of American women do not receive regular mammograms, with variation depending largely on their age and insurance coverage.[5–9] Some of the barriers to regular mammography include cost,[6,10] a lack of referral by a health care professional,[11–15] and a lack of general education about breast cancer and mammography.[16–19] In this case, the cost factor was removed because the mammograms were provided free of charge. General education brochures outlining the current recommendations by the American Cancer Society were sent to all 717 women veterans. The primary difference between the two groups was the personal input from the breast care nurse, who called each woman in group II and facilitated the care of the patient by the scheduling of a mammogram and by answering any questions the woman might have regarding her mammogram. The result was a fivefold improvement in mammography use over a six-month period in 1995.

In a health maintenance organization membership, it was found that telephone counseling nearly doubled the odds of a woman getting a mammogram.[20] In our underserved women veterans, the results were even more remarkable. This appears to be a powerful intervention that could be applicable to other forms of preventive screening measures as well. Screening mammography causes a dramatic shift of the detection of breast cancer from a later to an earlier stage.[21–23] There is a 50% decrease in mortality and a substantial decrease in treatment costs,[22] with estimated savings of about $9,700 per case of cancer found in underserved persons.[23]

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