

Factors affecting women's response to an invitation to attend for a second breast cancer screening examination

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SUMMARY. A survey was conducted to study the impact of women's previous experiences of breast cancer screening on their subsequent readiness to reattend. Women aged 45–64 years from three general practices were invited to attend for a second breast cancer screening test at a mobile clinic. Of the 1582 women who were invited, 1408 (89.0%) reattended. A questionnaire about their experience of the previous screening test was completed by 641 women who attended and 124 who did not attend the second test. Twenty six per cent of the women had found the previous test painful, and a minority also reported embarrassment (7%) or distress (6%). Women who did not reattend were significantly more likely than those who did to report the previous screening test as embarrassing or distressing and were significantly less likely to have found the clinic staff helpful or attendance for screening worthwhile or reassuring. No significant difference was found in the reattendance rate of women who had experienced a false positive result at the previous screening test compared with the remaining women.

These results show that there may be substantial scope for reducing non-attendance by improving the way the service is provided, thereby enhancing the overall impact of breast cancer screening.

Introduction

HIGH levels of attendance are necessary for breast cancer screening to be effective. Initial attendance rates vary between programmes from 25% to 89%.¹ A number of factors have been shown to be related to non-attendance, including, fear about the result, low levels of belief in the value of screening, socioeconomic status and the method of invitation.²⁻⁴ Less evidence is available regarding reattendance for breast cancer screening, but generally, reattendance rates appear to fall for

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Submitted: 14 January 1991; accepted: 26 March 1991.

each subsequent rescreening.^{5,6} A possible explanation for this decrease is that screening may impose psychological costs on the patient,^{7,8} and may involve unacceptable discomfort or inconvenience.⁹ One particular source of distress may be the experience of false positive results from screening.¹⁰ We were therefore interested in examining women's experience of their initial screening attendance and the effect of this experience on subsequent behaviour.

Although it is generally recognized that patient acceptability of screening programmes needs to be carefully monitored, there is little evidence of the effects that negative experiences of screening may have on readiness to reattend. A mobile service for breast cancer screening has been in operation in Aylesbury Vale district since 1984 on an informal self referral basis, and since 1986 as a formal systematic screening service. A study of two practices at which women were invited to attend the mobile service found that, of women already screened, 86% reattended.¹¹ This study provided encouraging evidence of the overall acceptability of the Aylesbury Vale breast screening service, although the experience of individual women was not considered. This paper presents a study in three practices of women's experience of screening. The aim of the study was to examine whether patient acceptability of screening or the experience of false positive results influence subsequent attendance for breast screening.

Method

The survey was carried out in 1990. The study subjects were women aged 45–64 years who were registered at one of three general practices in Aylesbury and who were being invited for their second biennial mammography appointment. Breast screening is carried out in a mobile breast screening unit which visits each surgery in rotation. Women are invited for screening by a letter from their own doctor. All women invited for screening on Tuesdays and Thursdays (the two study days), together with women who had been invited on Mondays, Wednesdays and Fridays but had not attended were included in the study. Women attending on Mondays, Wednesdays and Fridays were excluded because they were already included in a separate research project. Lists of women invited, and women attending for both the first and second biennial screening, were supplied by Aylesbury Vale breast screening service.

In one practice women were asked to complete a questionnaire on arrival for their appointment. Those who failed to do so were sent up to two reminder forms. All non-attenders were sent the questionnaire, with two reminders if necessary. In the other two practices the questionnaire was sent out with the letter inviting women for screening. Those women who did not return a completed questionnaire were sent up to two further forms.

The questionnaire was in two sections. The first section concerned the woman's views on her personal risk of breast cancer and the effectiveness or otherwise of screening in the detection of breast cancer. The second section related to the woman's experience of screening two years previously.

A woman was defined as having had a false positive result at the first screening if she had been asked to reattend for further views, ultrasound, aspiration, biopsy or lumpectomy, but no malignancy had been found.

Data from the questionnaires were entered on a personal computer using *Dbase* and analysed using *SPSSPC*. Statistical significance was measured by means of the chi-squared test. Significance levels greater than 0.05 are reported as non-significant.

Results

In total, 1582 women were invited to attend for their second screening. The overall reattendance rate was 89.0% (1408 women). Fifty women who had received false positive results at their first screening were among those invited to reattend; 46 did so (92.0%).

Six hundred and fifty seven women who reattended for screening on the two study days received a questionnaire, which was returned by 641 (97.6%). One hundred and seventy five non-attenders were sent a questionnaire, of whom 124 (70.9%) replied. Among the women with false positive results, 26 were sent a questionnaire and 21 replied (80.8%). Some women did not answer all of the questions. Although women aged 45–54 years were slightly more likely than women aged 55–64 years to reattend (325/376, 86.4% vs. 316/389, 81.2%), the differences between the two age groups were not significant and the results are presented for the age groups combined. The results were examined to see whether the different methods of delivering the questionnaire had any effects on answers. No such effects were found.

A minority of the women expressed negative views about their experiences the first time that they had attended for breast screening (Table 1). Only 48 women (6.6%) had found the screening embarrassing, and 46 (6.4%) agreed with the statement that the experience had been distressing. A larger minority, 188 (26.1%) agreed with the statement that the test had been painful. Views about the clinic staff were particularly positive. Only 29 women (4.0%) agreed with the statement that the staff had not been particularly helpful and 21 (3.3%) with the statement that staff had not been supportive with problems arising from the test. In terms of overall reactions to the experience, 681 women (94.8%) had found the test reassuring and 694 (96.0%) felt that the previous attendance at the screening clinic had been worthwhile.

Women who did not accept the current invitation to attend expressed more negative views about their last experience of the breast screening clinic than attenders (Table 1). They were more likely to have found the experience embarrassing, distressing and painful. They were also more likely to say that the staff had been unhelpful or unsupportive with problems arising from the test. The overall reactions of non-attenders to the previous screening test were also more negative; they were less likely to have found the test reassuring or attendance at the clinic worthwhile.

Other views that might be related to whether or not women attended the clinic are shown on Table 2. Attenders were more likely than non-attenders to agree that breast cancer screening is worthwhile because it can detect problems at an early and curable stage and more likely to disagree with the statement that, having once been screened, it is not as important to be screened again. A higher proportion of attenders than non-attenders said that a family history made it particularly important for them to be screened for possible breast problems.

Among women completing the questionnaire, those who had experienced false positive results arising from their previous attendance at the breast clinic did not differ significantly from the remaining women in terms of whether or not they reattended (20/21, 95.2% versus 621/744, 83.5%). Nor were there differences between the two groups of women in views expressed in the questionnaire, except that the women with experience of false positive results were more likely to disagree with the

Table 1. Experiences of attenders and non-attenders when first attending for breast screening.

| Statement | % of women agreeing with statement (total number of women) | | | Significance ^a |
|----------------------------|---|------------|---------------|---------------------------|
| | All women | Attenders | Non-attenders | |
| <i>Last screening was:</i> | | | | |
| Embarrassing | 6.6 (722) | 5.3 (602) | 13.3 (120) | <i>P</i> <0.01 |
| Distressing | 6.4 (722) | 4.8 (602) | 14.2 (120) | <i>P</i> <0.001 |
| Painful | 26.1 (720) | 24.5 (599) | 33.9 (121) | NS |
| Reassuring | 94.8 (718) | 96.3 (600) | 87.3 (118) | <i>P</i> <0.001 |
| Worthwhile | 96.0 (723) | 97.7 (603) | 87.5 (120) | <i>P</i> <0.001 |
| <i>Staff were:</i> | | | | |
| Unhelpful | 4.0 (720) | 3.3 (601) | 7.6 (119) | <i>P</i> <0.05 |
| Unsupportive | 3.3 (641) | 3.2 (534) | 3.7 (107) | NS |

NS = not significant. ^aAttenders versus non-attenders.

Table 2. Beliefs of attenders and non-attenders about breast cancer and breast cancer screening.

| Statement | % of women agreeing with statement (total number of women) | | Significance ^a |
|---|--|---------------|---------------------------|
| | Attenders | Non-attenders | |
| Vulnerable to breast cancer | 25.5 (620) | 18.3 (120) | NS |
| Family history makes vulnerable | 25.2 (624) | 14.0 (121) | <i>P</i> <0.05 |
| Screening is not always accurate | 21.2 (618) | 22.5 (120) | NS |
| Screening can detect problems at an early stage | 97.8 (635) | 87.8 (123) | <i>P</i> <0.001 |
| Screening can miss cancer | 28.4 (620) | 25.0 (120) | NS |
| Not important to be rescreened | 9.8 (630) | 11.6 (121) | <i>P</i> <0.001 |
| Screening can be harmful to health | 3.8 (627) | 5.8 (121) | NS |

NS = not significant. ^aAttenders versus non-attenders.

statement that staff had been unsupportive with problems arising from the test (20/21, 95.2% versus 395/620, 63.7%; *P*<0.05).

Discussion

Because the success of breast cancer screening is dependent on a high attendance rate, it is essential to identify factors that may explain non-attendance. This study has provided evidence that some of the factors known to influence baseline attendance may also be implicated in readiness to reattend. Thus, as in a study of attendance for breast screening,¹² those who reattended were more likely to believe that screening can detect breast problems at an early and curable stage. Similarly, there is evidence that women who attend are more likely to have a family history of breast problems.^{13,14} The results of this study, and of another recent study,¹⁵ show that family history also influences whether women reattend.

Studies to explain uptake of screening facilities have tended to focus on psychological variables in patients rather than aspects of the service itself that may in principle be improved.⁹ This is surprising given the importance of assessing the social acceptability of screening facilities and the availability of methods

to measure acceptability.¹⁶ The substantial number of women who experienced pain associated with the x-ray is consistent with other evidence that discomfort may be a problem associated with mammography.^{9,17} Suggested solutions to this problem include modifications to the equipment involved, advising women who experience cyclical tenderness of the breasts to choose appropriate appointment times and providing information to women about the problem in advance.⁹ Compared with the problem of discomfort, few women appeared to find the test embarrassing. This is consistent with other evidence.¹⁸

Most importantly, women who expressed more dissatisfaction with a number of aspects of their experience of the mobile clinic were more likely not to reattend. Age is known to be a potentially confounding variable in patient satisfaction surveys,¹⁶ but differences in views between attenders and non-attenders were found to persist within different age groups in this study. In other areas of health care, patient satisfaction has been shown to be a predictor of subsequent use of health services.¹⁹ These results clearly underline the importance that should be attached to patient acceptability as a part of quality assurance in breast cancer screening.

Women who had experienced false positive results at their first screening did not express more dissatisfaction or distress. Indeed they were more likely to find clinic staff supportive in relation to problems arising from the test. Previous research has shown that women experiencing false positive results from breast cancer experience elevated psychiatric morbidity but this is not sustained over time.¹⁸ The results presented here provide some support for previous evidence from a study of colorectal cancer screening¹⁰ that individuals who experience false positive results are as likely to report screening as acceptable and to be prepared to make further use of screening facilities as individuals with negative results. Clearly the results of the study reported here arise from a well-established screening programme from which it is difficult to generalize. In any case the results do not undermine the overall importance of reducing distress for the group of women with false positive results.

This study underlines the importance of including patient acceptability alongside other criteria when monitoring the performance of breast cancer screening. There may be substantial scope for reducing non-attendance by improvements in the way the service is provided, thereby enhancing the overall impact of breast cancer screening.

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Acknowledgements

The authors would like to thank the staff of the breast screening unit for their generous help.

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RESEARCH FUNDING

Applications are now being received for grants for research in or relating to general medical practice, for consideration at the November 1991 meeting of the Scientific Foundation Board. In addition to its general fund the Board also administers specific funds including the Windebank

Fund for research into diabetes.

The Scientific Foundation Board's definition of research is catholic and includes educational research, observational as well as experimental studies, and accepts the methodologies of social science as valid. It is not in a position to fund educational activities.

If the study involves any intervention or raises issues of confidentiality it is wise to obtain advance approval from an appropriate research ethics committee otherwise a decision to award a grant may be conditional upon such approval.

Studies which do not, in the opinion of the Board, offer a reasonable chance of answering the question posed will be rejected. It may sometimes be useful to seek expert advice on protocol design before submitting an application.

Care should be taken to ensure that costs are accurately forecast and that matters such as inflation and salary increases are included.

The annual sum of money available is not large by absolute standards and grant applications for sums in excess of £15 000 are unlikely to be considered.

Application forms are obtainable from the Clerk of the Board at: The Scientific Foundation Board, 14 Princes Gate, London SW7 1PU. The closing date for receipt of completed applications is 27 September 1991; any forms received after that date will, unfortunately, be ineligible for consideration.