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Recall mammography and psychological distress

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Abstract ***Background:*** The aims of this study were (a) to identify psychological distress before and after being diagnosed with or without cancer in women recalled for further investigation because previous screening mammography indicated possible malignancy and (b) to document the willingness to attend and recommend mammography. Study participants included 526 recalled women (82% response) who completed a questionnaire before the recall mammogram and 4 weeks after receiving the result. Psychological distress was measured using the Hospital Anxiety and Depression Scale.

Results: Most subjects were diagnosed without cancer (87.6% false-positive rate). Recall after mammography among women with a false-positive mammogram was associated with transiently increased anxiety and a slight increase in depression. However, the level of anxiety was similar to and the level of depression was lower than in the general female Norwegian population. Women who received a cancer diagnosis had higher levels of anxiety and depression than the general female Norwegian population. Nearly all women (99%) were satisfied with their participation in the screening programme; 94% thought it was important, 98% would attend the next round of screening and 99% would recommend other women to attend.

Concluding statement: Recall after mammography was associated with transiently increased anxiety. Four weeks after screening, the level of anxiety was the same and depression was lower compared with the general female Norwegian population. The women were almost unanimously satisfied with their participation in the screening, would participate again and would recommend other women to participate.

1. Introduction

The psychological effects of a mammography screening programme have been questioned, and concerns

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have been raised about possible adverse psychological effects of recall mammography. These effects may include induced anxiety, worry about having breast cancer, anxiety experienced whilst undergoing unfamiliar medical procedures (e.g. fine-needle aspiration cytology, surgical biopsy) or severe anxiety symptomatic of psychiatric morbidity.[1–4]

It has been postulated that the adverse negative psychological impact of screening could deter women from re-attending for subsequent screening. One major concern focuses on the false-positive women; that is, women who, after initial suspicion, are subsequently shown to have a benign result following further investigation. After the first round of screening in Norway, 4.2% of women had recall mammogram because of positive findings, 0.7% because of poor technical quality and 0.8% because of self-reported symptoms.[5]

A Cochran systematic review[6] elicited international and national reactions and prompted many national organisations to look into the benefit of mammography screening. One result was the evaluation of the psychological impact of false-positive results. A Norwegian study conducted in 1996–97 concluded that recall mammography is associated with transiently increased levels of psychological distress in women without cancer and that the affected women almost unanimously would continue to attend screening.[7] A systematic review of 54 articles concluded that mammography screening does cause adverse psychological consequences in false-positive women, although the findings were inconsistent regarding the duration.[8]

The objective of this study was to identify psychological distress before and after being declared healthy in women recalled for further investigation. We identified the factors associated with psychological distress and examined the women's willingness to recommend other women to undergo screening.

We hypothesised that:

1. The psychological distress of recall, measured by the level of anxiety and depression, is transitory for those who are shown to have no cancer disease.
2. The adverse negative psychological impact of screening does not deter women from re-attending for subsequent screening.
3. Women have a positive attitude towards mammography screening and will recommend other women to attend.

2. Patients and methods

2.1. Procedure

In Norway organised mammography screening is offered for the age group 50–69 years. During the period March 2009 to May 2010, women recalled for further investigation at Ullevål University Hospital after attending the Oslo mammography screening programme were consecutively recruited to the study. They had all received a standard letter informing them that their screening mammogram was inconclusive, that further examination was required, and that about one in seven who are recalled have changes in the breast that require treatment. The inclusion criteria were being recalled after an initial mammogram because of a suspicious finding, the ability to read and write Norwegian, no cognitive impairment and gave their informed written consent. Permission was obtained from the Norwegian Regional Ethics Committee and Norwegian Data Inspectorate.

2.2. Sample

Seven hundred eligible women were asked to participate and to complete a questionnaire on the day of recall before the additional mammogram; 665 (95%) completed the questionnaire, and 25 were excluded because they completed it after having the recall mammogram. Thus, 640 women were included and received a postal questionnaire 4 weeks after they received their result. A total of 526 (82%) completed both questionnaires.

Patients were classified into the following groups according to the medical diagnosis.

1. Healthy after imaging work-up (mammography alone or supplemented with ultrasound).
2. Healthy after triple diagnosis (clinical examination, recall mammography/ultrasound and fine-needle aspiration and/or core biopsy).
3. Healthy after surgical excision.
4. Diagnosed with cancer after triple diagnosis.
5. Diagnosed with cancer after surgical excision.

2.3. Measurements

Demographic data were obtained by self-report. Medical data (invasive ductal carcinoma, ductal carcinoma in situ or no cancer) were obtained from each woman's medical record. It is plausible that prior psychological affliction may exist at the time of recall and, if so, would probably affect psychological distress if recalled. Therefore, the women were asked if they had consulted their general practitioner (GP) about anxiety and/or depression before the recall mammography. They were also asked if they had received treatment from a psychologist or psychiatrist for depression or anxiety before the recall. The degree of discomfort and pain experienced when receiving the mammogram was rated on a numeric scale from 0 (no pain, no discomfort) to 10 (severe pain, severe discomfort). They were asked