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Sexual abuse in childhood and postoperative depression in women with breast cancer who opt for immediate reconstruction after mastectomy

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ABSTRACT

INTRODUCTION Breast reconstruction is routinely offered to women who undergo mastectomy for breast cancer. However, patient-reported outcomes are mixed. Child abuse has enduring effects on adults' well-being and body image. As part of a study into damaging effects of abuse on adjustment to breast cancer, we examined: (i) whether women with history of abuse would be more likely than other women to opt for reconstruction; and (ii) whether mood problems in women opting for reconstruction can be explained by greater prevalence of abuse.

PATIENTS AND METHODS We recruited 355 women within 2–4 days after surgery for primary breast cancer; 104 had mastectomy alone and 29 opted for reconstruction. Using standardised questionnaires, women self-reported emotional distress and recollections of childhood sexual abuse. Self-report of distress was repeated 12 months later.

RESULTS Women who had reconstruction were younger than those who did not. Controlling for this, they reported greater prevalence of abuse and more distress than those having mastectomy alone. They were also more depressed postoperatively, and this effect remained significant after controlling for abuse.

CONCLUSIONS One interpretation of these findings is that history of abuse influences women's decisions about responding to the threat of mastectomy, but it is premature to draw inferences for practice until the findings are replicated. If they are replicated, it will be important to recognise increased vulnerability of some patients who choose reconstruction. Studying the characteristics and needs of women who opt for immediate reconstruction and examining the implications for women's adjustment should be a priority for research.

KEYWORDS
Breast cancer – Reconstruction – Childhood sexual abuse

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Diagnosis of breast cancer is emotionally traumatic. Clinical levels of anxiety or depression are present in about 40% of patients around the time of surgery; half are affected at some time during the first year, and distress persists for many patients subsequently.[1–5] Nationally, 41–44% of patients receive mastectomy,[4] although rates vary widely from unit to unit.[5,6] In accordance with National Institute for Health and Clinical Excellence (NICE) guidance,[7] where breast reconstruction is clinically appropriate it is now routinely offered to patients in the same operation as mastectomy to improve quality of life and facilitate adjustment. Where immediate reconstruction is not appropriate or the patient does not want it, reconstruction can be delayed until after recovery from mastectomy. In 2000, a survey of breast surgeons suggested that 18% of suitable patients have immediate reconstruction.[8]

Patient-reported outcomes of reconstruction are mixed. In a recent systematic review, the highest quality studies showed equivalent or poorer quality of life, body image or sexual function in women who had mastectomy with reconstruction by comparison with those having mastectomy alone.[9] The authors observed that this evidence is hard to interpret because there is little information about the pre-operative characteristics of the women who seek immediate reconstruction. The evidence

that does exist suggests that women most likely to choose reconstruction are younger,[10] place more value on their body image[11] and are motivated by a wish to restore feelings of femininity, self-esteem and self-confidence.[12–14] There is some evidence, also, of more psychological problems in women seeking reconstruction, although this is inconsistent about whether those seeking immediate or delayed reconstruction are most at risk[14–17] and some studies find no difference.[18,19]

Opting for reconstruction is a complex decision and there are likely to be many influences on it. In the present study, we focus on one potential source of influence – women's history of life experiences and personal relationships. This is in light of recent evidence that this has a substantial, but previously neglected, influence on their responses to breast cancer. Specifically, women who recalled suffering abuse as children are 2–4 times more likely to have postoperative problems including low mood, shame, self-blame or difficulties in relationships with clinical staff.[20,21] Unfortunately, childhood abuse is not rare. In a large sample of breast cancer patients, childhood sexual abuse was recalled by 10% of patients.[20] Although its possible importance has been neglected until recently in research into women's reactions to cancer, its damaging effects generally on adults' self-image, mental health[22–24] and social relationships[25–27] are well-established, as are its effects on symptom-report in hospital clinics.[28,29]

As part of a larger study of the consequences of abuse for women's adjustment to breast cancer, we tested whether abuse might be implicated in women's decisions to choose reconstruction. Because of its extensive effects on well-being and body image, we tentatively hypothesised that women with history of abuse would be more likely to opt for reconstruction than would women who did not disclose abuse. Our first aim was to test this hypothesis. As indicators of mood, we examined depression and anxiety shortly after surgery and 12 months later to test whether mood differed between women who had reconstruction and those who did not. Our second aim was then to test the prediction that any mood problems in reconstruction patients by comparison with those having mastectomy alone can be explained by a greater prevalence of abuse.

Patients and Methods

Setting

The study was conducted in two breast units in north-west England. Both have established breast reconstructive services and offer immediate breast reconstruction at the time of mastectomy where possible.

Participants and procedure

Participants were female patients who had received a diagnosis of primary breast cancer followed by mastectomy or wide local excision. We excluded patients: (i) with metastatic or recurrent cancer; (ii) receiving neo-adjuvant chemotherapy or primary endocrine treatment; (iii) with insufficient English to consent and complete questionnaires; (iv) with history of psychosis or other serious psychiatric illness; and (v) who were judged by a clinician or the researcher to be too distressed to take part.

Patients were informed about the study by a breast care nurse at pre-operative assessment, and were then asked for consent by the female researcher 2–4 days postoperatively before discharge home. The researcher administered questionnaires (see below) to consenting patients privately, and collected clinical information from patient records. Where patients were unable to complete questionnaires in hospital, or were discharged before 2 days, the procedure was completed as soon as possible after discharge. After using clinical records to exclude participants who had died or developed metastases, the researcher contacted remaining participants 11 months after the initial contact and invited them to participate in the 1-year follow-up assessment which included self-report questionnaires and psychiatric interview. The present analysis includes only those who underwent mastectomy.

Measurements

Anxiety and depression 2 days and 12 months after surgery were measured by the Hospital Anxiety and Depression Scale (HADS).[30] The HADS is a 14-item scale with 7 items forming an anxiety subscale and 7 items forming a depression subscale. Mild or worse anxiety and depression is indicated by a subscale score of > 7, with scores of 7 and below falling into a normal range.

Recalled sexual abuse was assessed postoperatively by three questions asking whether an older person 'touched or fondled your private parts', 'made you touch them in a sexual way' or 'attempted or completed intercourse', which have been used in several population surveys.[31–33] Abuse was indicated by a positive response ('once', 'several times' or 'often' vs 'never') to any question. Other questionnaires are not reported here. Six patients did not provide full abuse data and were excluded from relevant analyses.

Statistical analysis

In univariate analyses, we first compared women who had reconstruction to those who did not on age and clinical characteristics and on depression, anxiety and abuse. Women having reconstruction were much younger than those who did not. This difference in age potentially confounds the relationships we want to study because younger patients are more likely to report abuse and poor adjustment to breast cancer.[20] Therefore, women having reconstruction might report more abuse or distress simply because they are younger. The size of the difference in age rendered purely statistical control for this confounding problematic. Therefore, for further analysis which would avoid confounding by age, we generated a com-

parison group which was case-matched for age from the 104 women who had a mastectomy without reconstruction. For each woman who had reconstruction, we identified all women without reconstruction within 2 years of her age and who provided abuse data and we included these in the comparison group. After repeating the univariate analyses using these groups to address our first aim (testing the hypothesis that abuse would be associated with having mastectomy), we then used analysis of co-variance to address our second aim (testing whether any greater depression in women having reconstruction remained significant after controlling for abuse).

Results

Sample characteristics

Of patients who were clinically suitable for the study, seven were excluded because of acute distress, mainly related to extraneous factors including bereavement. A further six were excluded because of history of severe psychiatric illness. Of 474 patients who were approached, 374 (79%) agreed to participate, although 14 (4%) of these subsequently withdrew, and five (1%) supplied too few data to be included in the sample. In the final sample of 355 patients, 133 patients underwent mastectomy, of whom 29 women opted for immediate reconstruction. When mastectomy patients were followed up, four had died or were excluded because of metastases and seven could not be contacted; 13 refused or did not complete questionnaires, so follow-up data were available on 109 patients. Occasionally, patients omitted responses on certain questionnaires, leading to missing abuse data for five patients with mastectomy only and one with reconstruction.

Numbers of patients with tumour grades 1, 2 and 3 were 21 (16%), 65 (49%) and 47 (35%), respectively. Median tumour size was 28 mm. Median Nottingham Prognostic Index[34] was 3.8. Number of positive nodes was zero in 84 (63%), one in 14 (11%) and two or more in 35 (26%). Clinical details did not differ between women having reconstruction or mastectomy alone. The number of days postoperatively when questionnaires were completed was uncorrelated with postoperative anxiety or depression ($P > 0.10$). The 29 women choosing reconstruction were, however, much younger than the 104 who did not (Table 1).

Statistical analysis

TOTAL SAMPLE

Comparisons of the groups on psychological variables are detailed in Table 1. The reconstruction group were more depressed postoperatively than those who did not have reconstruction. There was no significant difference in depression at 12 months or in anxiety at any time. Abuse was reported by only 5 of 99 (5%) patients who had no reconstruction, but by 9 of 28 (32%) patients having reconstruction (chi squared = 16.33; $P < 0.001$; Odds ratio and

Table 1 Comparison of patients receiving immediate reconstruction to the entire sample of those receiving mastectomy without reconstruction

		No reconstruction (n = 104)	Reconstruction (n = 29)	t	P
Age		63.3	49.8	5.80	< 0.001
Postoperative	Anxiety	5.71	7.51	1.86	0.07
	Depression	2.99	5.21	3.59	< 0.001
12-months	Anxiety	4.90	4.83	0.07	0.94
	Depression	3.87	3.04	1.01	0.31

Table 2 Comparison of patients receiving immediate reconstruction to a subset of patients receiving mastectomy without reconstruction, matched for age with the reconstruction patients

		No reconstruction (n = 31)	Reconstruction (n = 29)	t	P
Age		55.0	49.8	1.73	0.09
Postoperative	Anxiety	5.59	7.51	1.51	0.14
	Depression	2.31	5.21	3.57	0.001
12-months	Anxiety	4.70	4.83	0.09	0.93
	Depression	3.62	3.04	0.58	0.57

95% CI = 8.91, 2.68–29.54). Therefore, abuse was strongly associated with having reconstruction.

CASE-MATCHED SAMPLES

Four women with reconstruction aged 25–39 years could not be case-matched because no patient under 41 years declined reconstruction. Nevertheless, matching yielded a comparison group of 28 women which did not differ significantly in age from the 29 women having reconstruction (Table 2). As in the comparison using the total group, women having reconstruction were more depressed postoperatively than those who did not (Table 2). Abuse was reported by 2 of 28 (7%) women who had no reconstruction, by comparison with 9 of 28 (32%) of those having reconstruction (chi squared = 5.54; $P = 0.02$; Odds ratio and 95% CI = 6.16, 1.19–31.82), confirming that abuse was strongly associated with having reconstruction. In analysis of co-variance, postoperative depression remained significantly worse in women having reconstruction than in those undergoing mastectomy only ($F_{1,53} = 7.89$, $P < 0.001$) after controlling for the effect of abuse ($F_{1,53} = 5.45$, $P = 0.02$). That is, the greater postoperative depression in women having reconstruction could not be explained by the greater prevalence of abuse.

Discussion

Women who had recalled childhood abuse were more than six times more likely to opt for immediate reconstruction than those who did not. However, in the absence of previous evidence directly linking childhood history to the decision to opt for reconstruction, our hypothesis was tentative, and the findings need to be interpreted cautiously.

One possibility is that lasting effects of abuse somehow influence women's decisions to seek reconstruction. This is not implausible: childhood abuse does have extensive and enduring effects on adults' self-image and emotional adjustment[22–27] and also is well-known to lead, in many people, to symptom reporting and seeking of medical treatment in the absence of disease.[28,29] Moreover, recent findings from the larger study from which the present report arises show that women who recall childhood abuse have greater difficulties than non-abused women in several aspects of adjustment to breast cancer.[20,21] Therefore, women who have been abused might opt for reconstruction as a way to minimise the added 'assault' of mastectomy and to improve mood. Alternatively, abuse might be a marker for a 'third variable', such as some aspect of family functioning, which is itself causal. However, these possibilities remain speculative until the results are replicated.

A link between abuse and the greater depression in women having reconstruction is, however, clearly inconsistent with our findings. Although women choosing reconstruction were more depressed than others when assessed a few days after surgery, this was not explained by greater prevalence of abuse. A different explanation for their being more depressed is needed. Differences in clinical care and clinical outcome might contribute to increased depression in the reconstruction group. In particular, women having reconstruction are having more extensive surgery with longer hospital stay, and these factors might be implicated. Their greater depression could reflect initial disappointment with the reconstruction. Alternatively, there may be pre-operative psychological problems, unrelated to history of abuse, which persist postoperatively. A year later, no difference in depression remained, consistent with previous prospective evidence.[16] Therefore, if they were more depressed before surgery, it could be that reconstruction helped them.[9] Without prospective measurements of depression, beginning pre-operatively, together with information on their evaluations of surgery, we cannot distinguish between these explanations.

Study limitations

This study has several limitations. Because the precise questions that we addressed have not been examined before, our hypotheses were tentative and the findings need to be replicated before inferences are drawn. The sample size is modest, particularly for the group having reconstruction, and much larger samples will be needed for the kinds of multivariate statistical analysis which will be needed to examine the variables such as body-image that might help to understand any relationship of abuse to reconstruction. In this study, as in previous ones,[16] patients for whom reconstruction was considered clinically inappropriate were not excluded from the study. We had no pre-operative measure of mood. Therefore, further prospective study, such as by Harcourt *et al.*,[16] will be needed to replicate our finding on depression and to disentangle possible explanations for it. However, a major strength of the study is that we examined a variable, childhood abuse, which has long been known to have profound implications for women's demands on healthcare,[28,29] but which has been neglected until recently in attempts to understand women's difficulties in adjusting to breast cancer. Another important strength of the study is that, in examining psychological differences between women who opted for reconstruction and those who did not, we controlled strenuously for the younger age of women electing reconstruction. Although this difference in age has been reported previously, it has not previously been controlled for in examining psychological differences.[16]

Conclusions

It is premature to draw inferences for clinical practice from these findings. Certainly, it would be inappropriate for surgeons to ask patients considering reconstruction about childhood abuse. If the present findings are replicated, however, and given the evidence that breast cancer patients who have been abused have difficulty in accessing professional and social support,[20,21] it will be important to recognise the increased vulnerability of some patients who choose reconstruction, particularly with its greater physical demands and risk of complications. These

patients might need better and more communication as, even with normal standards of good quality care, they may still not feel fully supported, with potentially a greater risk of dissatisfaction or complaint. Replication of our findings could also have implications for improving surgeon–patient communication. Surgeons' role in decision making about immediate reconstruction is medically and surgically led, with an emphasis on technical aspects of care – which procedures are possible, what complications might occur, and what are the chances of technical success and a good cosmetic outcome. Together with previous evidence, this study suggests that patients might be making their decisions partly based on an emotional response influenced by their previous history. Patient and doctor may, therefore, be talking 'different languages' and without recognition of this there is the potential for mis-communication, dissatisfaction and poor care. Therefore, given the mixed evidence on patient-reported outcomes from breast reconstruction,[9] the importance of our findings is to show that studying the characteristics and needs of women who opt for immediate reconstruction and examining the implications for women's adjustment should be a priority for research.

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