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The role of child abuse and age in vulnerability to emotional problems after surgery for breast cancer

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ABSTRACT

Emotional problems are common after breast cancer, but patients differ in their vulnerability. Childhood abuse is a risk factor for emotional problems in adult women, and we tested whether it explains some of the variability in emotional problems after breast cancer. Women with primary breast cancer (N = 355) 2–4 d after surgery (mastectomy or wide local excision) self-reported current emotional distress, post-traumatic stress, self-blame, bodily shame and recollections of childhood sexual, physical and emotional abuse. Multiple logistic regression analyses tested the relationship of each emotional problem to abuse, distinguishing three age-groups, divided at 50 and 65 years. Emotional distress, post-traumatic stress, self-blame and shame were present in 49%, 8%, 22% and 13% of women, respectively. Each problem was more common in women who recalled one or other form of abuse. Apart from emotional distress, emotional problems were less common in older women. Older women were also less likely to recall abuse, and recall of abuse contributed statistically to explaining the relationship of youth to emotional problems. Childhood abuse is a risk factor for emotional problems after surgical treatment for breast cancer, and the challenge of identifying and helping those patients in whom emotional problems reflect premorbid vulnerabilities needs careful consideration. Because both emotional problems and abuse are strongly age-linked, future research should avoid generalisations across the age spectrum.

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1. Introduction

Despite advances in surgical and medical treatment, breast cancer remains a life-threatening disease, and its diagnosis and treatment have profound emotional consequences. Clinical levels of anxiety or depression are found in a third of patients around the time of surgery and half are affected at some time during the first year.[1] Symptoms of post-traumatic stress disorder (PTSD) are also present in a minority of pa-

tients after diagnosis.[2] Clinically, it is important to understand why some women are more vulnerable to emotional problems than others. Although the severity of emotional problems after breast cancer is greater in more advanced disease,[3,4] the variability between individual patients' reactions to objectively similar disease indicates the need to examine patient factors that influence their vulnerability.[1] Previous traumatic stress has been associated with increased vulnerability to emotional distress after cancer,[5,6] and there is some

evidence that stressful life events predispose patients with breast cancer to develop psychiatric problems.[1,3,7]

Childhood abuse is reported by about a fifth of adult women in community samples[8,9] and physical and emotional abuse are even more common.[10] Women who recall child sexual abuse have increased risk of a range of emotional problems as adults[11–13] and increased vulnerability to depression following threatening life events.[14] It is not known whether this vulnerability is present after cancer. We therefore tested the theory that women who recall childhood abuse are at greater risk of emotional problems after treatment for breast cancer. To find no such relationship would suggest that the vulnerability normally associated with abuse is overwhelmed by the emotional trauma associated with diagnosis and treatment. A positive result would indicate the need for further work to show whether it reflects the persistence of the pre-morbid relationship or an effect of cancer to increase or weaken this. We examined four emotional problems that affect many patients with breast cancer, and that have been associated also with abuse[11–17]: emotional distress; post-traumatic stress; self-blame; and bodily shame. Self-blame is important, not just because of its intrinsic burden to patients but because patients who blame themselves for breast cancer are at greater risk of anxiety during the first year after diagnosis.[18] Clinically, many women describe feeling ashamed about breast cancer or its treatment, particularly mastectomy,[19] and shame can delay seeking help about cancer-related symptoms.[20]

There have been some reports that, after breast cancer, older women are less vulnerable to emotional distress than are younger women,[21–27] although opposite findings have also been reported,[28,29] as have complex interactions of age with geographical, demographic and clinical characteristics.[30,31] Therefore, to avoid generalising across the age-range of sufferers, we distinguished different age-groups. Many previous studies have distinguished 'older' women as over 50 or over 65. We therefore followed Baider and colleagues[30] in distinguishing three groups, divided at 50 and 65. The younger division reflects the average age of menopause and the age at which routine breast cancer screening begins in the UK; the older division reflects sociodemographic and other health changes and the age at which routine screening ends in the UK.

2. Methods

2.1. Participants and recruitment

Participants were female patients who had received a diagnosis of primary breast cancer followed by mastectomy or wide local excision. We excluded patients: with metastatic or recurrent cancer; receiving neo-adjuvant chemotherapy or primary endocrine treatment; with insufficient English to consent and complete questionnaires; and who were judged by a clinician or the researcher to be too distressed to take part. After ethical approval, 474 suitable women were asked for consent.

Patients were informed about the study by a breast nurse at pre-operative assessment, and were then asked for consent by the female researcher 2–4 d post-operatively before discharging 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 d, the procedure was completed as soon as possible after discharge.

2.2. Measurements

The 12-item version of the General Health Questionnaire was used to detect emotional distress, as recommended for breast cancer populations.[33] The four-point response scale was scored using the GHQ method $(0, 0, 1, 1)$, a total of 3 and above indicating clinically significant distress.[34] The Post-Traumatic Stress Disorder Scale – Civilian (PCL) has 17 items, scored 1–5, and has been used previously in breast cancer populations.[35] Scores of 50 and above indicated post-traumatic stress.[36] Answers to two questions measuring behavioural and characterological self-blame[37] were summed to indicate self-blame. Scores were dichotomised to distinguish those describing no self-blame from those identifying any degree of self-blame on either or both questions. The Bodily Shame subscale of the Experience of Shame Scale contains 4 items.[38] Scores were dichotomised to distinguish those of 12 or more (corresponding to a mean response to each item of 'moderately' on the four-point Likert scale, scored 1–4: not at all, a little, moderately, very much) from the rest.

The retrospective detection of sexual abuse is complicated by a tendency for under-reporting.[39] Although reports from self-report questionnaires and interviews overlap extensively,[40–42] respondents in one study overwhelmingly preferred a questionnaire to interview[43] and questionnaires can elicit positive responses which face-to-face interviews do not.[44,45] Several self-report procedures have been developed to document recall of childhood abuse, although psychometric properties of many are not yet well characterised.[46] Procedures vary in their complexity for respondents and there is no evidence that more complex procedures are superior.[46] We therefore detected sexual abuse by three self-report questions that have been used in several population surveys,[13,43,45] which asked whether an older person: 'touched or fondled your private parts'; 'made you touch them in a sexual way'; or 'attempted or completed intercourse'. Abuse was indicated by a positive response ('once', 'several times' or 'often' *vs.* 'never') to any question. Recalled physical and emotional abuse were assessed by the questions described by Drossman and colleagues,[47] and subsequently widely used in clinical populations with physical health problems: when a child: 'did an older person hit, kick or beat you'; or 'insult or humiliate you or try to make you feel guilty'? Abuse was indicated by responses 'seldom', 'occasionally' or 'often' *vs.* 'never'. For each question, childhood was defined as less than 16 years old. Establishing the validity of measures of abuse is constrained by the absence of a gold standard and because many victims tell no one about the abuse. Self-report of sexual abuse using the questions employed in the present study among twins was associated highly significantly with the co-twin's reports of the index twin, while the modest level of absolute agreement reflected under-reporting by the co-twin.[43] Reliability information specific to these abuse items

is not available, but test–retest reliability for similar items on other scales has been acceptable or good.[46,48]

2.3. Data analysis

Associations of each emotional problem with each form of abuse were described by odds ratios. Because the different forms of abuse covaried, multiple logistic regression analyses, in which all abuse variables were included as predictors, identified which forms were uniquely associated with each emotional problem.

To examine the relationship of each emotional problem to age, multiple logistic regression analyses included two orthogonal predictor variables, one distinguishing younger patients from those of 50 or more, the second distinguishing younger patients from those of 65 or more. Similar analyses examined the relationship of age to each form of abuse. Because age trends were seen in both emotional problems and abuse, we tested whether the age-trends in abuse helped to explain those in emotional problems. Therefore, we repeated the multiple logistic regression analysis of each emotional problem including, as predictors, the two age-grouping variables and the abuse variables. Finally, we tested for heterogeneity between age-groups in the relationship of abuse to emotional problems, using multiple logistic regression in which the predictor variables included the interactions of each age-grouping variable with each form of abuse.

3. Results

3.1. Sample characteristics

Of 474 patients who were approached, 374 (79%) agreed to participate, although 14 (4%) of these subsequently withdrew, and 5 (1%) supplied too few data to be included in the sample. The final sample was therefore 355 patients. Where occasional questionnaires were not completed, degrees of freedom were reduced accordingly. Most patients were aged 50–64 (N = 203), but 66 were younger than this and 86 were older. Clinical levels of emotional distress and post-traumatic stress were seen in 49% and 8%, respectively; 22% blamed themselves for their cancer and 13% were at least moderately ashamed of their bodies (Table 1). Emotional problems were associated (min. χ^2: 5.48, $p = 0.02$), 200 (59%) patients experiencing at least one.

3.2. Abuse and emotional distress

Sexual, physical and emotional abuse were recalled by 10%, 28% and 25% of patients, respectively (Table 1). Patients who recalled one form of abuse were more likely to recall each of the others (Fig. 1; min. χ^2: 14.05, $p < 0.001$).

Recalled sexual and emotional abuse were risk factors for emotional distress; and recalled emotional and physical abuse were risk factors for post-traumatic stress (Table 1). Recall of each form of abuse increased the risk of self-blame and bodily shame. In multiple logistic regression analyses, distress was uniquely associated with sexual and emotional abuse, post-traumatic stress was uniquely associated with physical and emotional abuse, blame was uniquely linked to emotional abuse and shame was linked uniquely to sexual and physical abuse.

3.3. Effects of age

Patients over 65 years were less likely to recall each form of abuse than were younger patients (Table 2). In general, psychological problems also declined with age (Table 3). Patients over 65 years had less post-traumatic stress and bodily shame, and those older than 50 blamed themselves less. Differences in emotional distress were not significant. Age-related differences in psychological problems were attenuated when the relationship of age with abuse was controlled for, but the differences in blame and shame remained significant (Table 3). There was no evidence of heterogeneity between different age groups in the relationship of abuse to emotional problems.

Table 1 – Prevalence of emotional problems in patients who reported, or did not report, childhood abuse

		Sexual abuse				Physical abuse				Emotional abuse				Total
		Yes	No	OR[a]	OR[b]	Yes	No	OR[a]	OR[b]	Yes	No	OR[a]	OR[b]	
GHQ	Non-case	11	163	2.61 ($p = 0.01$)	2.45 ($p = 0.02$)	48	125	1.03	0.65	32	141	1.96 ($p = 0.009$)	2.09 ($p = 0.01$)	174
	Case	25	142	(1.24, 5.49)	(1.13, 5.30)	48	121	(0.65, 1.66)	(0.37, 1.12)	52	117	(1.18, 3.24)	(1.18, 3.70)	170
PCL	Non-case	31	285	2.09	1.19	79	236	4.62 ($p < .001$)	2.66 ($p = 0.04$)	70	245	4.04 ($p < .001$)	2.61 ($p = 0.041$)	323
	Case	5	22	(0.74, 5.91)	(0.39, 3.65)	17	11	(2.07, 10.28)	(1.06, 6.69)	15	13	(1.84, 8.89)	(1.04, 6.54)	29
Blame	No	22	242	2.48 ($p = 0.01$)	1.76	63	201	2.20 ($p = 0.004$)	1.53	53	211	2.74 ($p < .001$)	2.15 ($p = 0.01$)	273
	Yes	14	62	(1.20, 5.13)	(0.82, 3.81)	31	45	(1.28, 3.76)	(0.83, 2.82)	31	45	(1.59, 4.74)	(1.16, 3.96)	76
Shame	No	24	269	4.08 ($p < .001$)	2.64 ($p = 0.02$)	70	223	3.64 ($p < .001$)	2.45 ($p = 0.02$)	62	231	3.26 ($p < .001$)	1.91	298
	Yes	12	33	(1.87, 8.91)	(1.14, 6.11)	24	21	(1.91, 6.93)	(1.18, 5.12)	21	24	(1.70, 6.24)	(0.91, 4.04)	46
Total[c]		36	308			96	248			85	259			

a Significance levels and odds ratios (and 95% confidence intervals) are from logistic regression analyses including the relevant abuse variable only.
b Significance levels and odds ratios (and 95% confidence intervals) are from logistic regression analyses including adjustment for other forms of abuse.
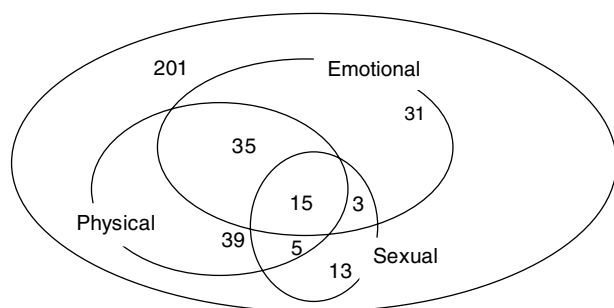c Cells do not sum to totals where data are missing.

Fig. 1 – Numbers of patients reporting abuse of each kind.

4. Discussion

4.1. Abuse and emotional problems

To our knowledge, this is the first study to examine whether emotional distress after breast cancer is related to childhood abuse. Emotional distress was common amongst patients who had recently undergone surgery for breast cancer. The GHQ indicated that around half were 'cases', consistent with earlier findings[49,50] although higher than identified by psychiatric interview recently.[1] However, inferences of caseness from screening questionnaires depend on the cut-off score used. Although we used the usual cut-off score for this scale, this should be tested against standardised interview in this population. More than one in five patients reported self-blame, consistent with previous evidence,[37] and smaller numbers described post-traumatic stress or bodily shame. Each problem was, however, more common in patients who recalled childhood abuse, the odds ratios ranging from around two to more than four.

These findings confirm our prediction that the emotional problems of patients with breast cancer arise partially from factors that long pre-date the cancer. That is, the trauma of breast cancer does not overwhelm premorbid risk factors for emotional problems. This finding might represent the continuation of the premorbid link between abuse and emotional problems. Alternatively, cancer might interact with that vulnerability, increasing or decreasing it. Further research could test these explanations by using information about premorbid

emotional distress or by comparing the relationship of distress and abuse in women with breast cancer to that in comparison groups without cancer. Whatever the findings of such future studies, there are already implications for currently influential approaches to psychological treatment in patients with cancer which emphasise the role of cancer in patients' distress.[51] Our findings concur with our clinical experience that many patients need help that addresses premorbid vulnerabilities that cancer has exposed or compounded.

The association of different forms of abuse with different outcomes might indicate specificity in the effects of abuse in this population. Previous research on the adult emotional effects of childhood abuse has focused largely on sexual abuse, and has not therefore fully explored such specificity. However, without further evidence, it would be premature to interpret the present findings as necessarily indicating specificity. Patients recalling one form of abuse tended to recall others also, and each might be an indicator of an unmeasured variable, such as family dysfunction, which might be primary in causing vulnerability to emotional distress.

Development of psychological approaches for these patients will require research into the factors that mediate or moderate the association of childhood history with their psychological problems. Shame and blame might be important, not just as outcomes, but in further increasing distress.[17] A child experiencing abuse has little means of controlling it and is liable to learn to cope with it in avoidant ways that minimise emotional distress and to use similar ways of coping with future stressors. This would be inadequate for intense and prolonged life events, such as diagnosis and treatment of cancer, for which effective coping requires engagement with specific features of the event and its implications.[52–54] Although it would be expected that social or professional support would moderate the influence of abuse, its role might be limited because women with greater breast cancer-related traumatic stress find it harder than others to obtain such support.[55]

4.2. The role of age

Our examination of the influence of age shows that generalisations about the prevalence of emotional problems after breast cancer surgery are of limited validity. Emotional prob-

Table 2 – Number of patients reporting abuse in each age group

		Age group				
		⩽50	51–64	>64	OR (<50 vs. ⩾50)	OR (<65 vs. ⩾65)
Sexual	No	53	172	83	1.55	5.49 (p = 0.02)
	Yes	11 (17.4%)	23 (11.8%)	2 (2.4%)	(0.71, 3.39)	(1.28, 24.10)
Physical	No	42	135	71	1.18	2.25 (p = 0.01)
	Yes	22 (34.4%)	60 (30.8%)	14 (16.5%)	(0.65, 2.15)	(1.18, 4.31)
Emotional	No	46	139	74	0.97	2.71 (p = 0.006)
	Yes	18 (28.1%)	56 (28.7%)	11 (12.9%)	(0.52, 1.82)	(1.34, 5.49)
Total[a]		66	203	86		

Odds ratios (and 95% confidence intervals) compare younger patients to the older group, dichotomising the group, in turn, at age 50 or 65.
a Cells do not sum to totals where data are missing.

Table 3 – Prevalence of psychological problems in each age group of patients							
		Age group					
		⩽50	50–64	>64	OR (<50 vs. ⩾50)	OR (<65 vs. ⩾65)	OR[a] (<50 vs. ⩾50)	OR[a] (<65 vs. ⩾65)
GHQ	Non-case	28	98	48	1.32	1.37	1.35	1.18
	Case	37 (56.9%)	98 (50%)	35 (42.2%)	(0.75, 2.33)	(0.82, 2.30)	(0.75, 2.43)	(0.69, 2.01)
PCL	Non-case	59	181	83	1.07	4.59 (p = 0.04)	1.00	3.05
	Case	7 (10.6%)	20 (10.0%)	2 (2.4%)	(0.43, 2.67)	(1.05, 0.20.08)	(0.37, 2.74)	(0.67, 13.87)
Blame	No	43	160	70	2.05 (p = 0.02)	1.25	2.11 (p = 0.02)	1.02
	Yes	22 (33.8%)	40 (20.0%)	14 (16.7%)	(1.10, 3.80)	(0.64, 2.44)	(1.102, 4.04)	(0.51, 2.05)
Shame	No	53	165	80	1.21	5.01 (p = 0.009)	1.17	3.58 (p = 0.04)
	Yes	12 (18.5%)	31 (15.8%)	3 (3.6%)	(0.58, 2.51)	(1.49, 16.88)	(0.54, 2.56)	(1.04, 12.38)
Total[b]		66	203	86				

Odds ratios (and 95% confidence intervals) compare younger patients to the older group, dichotomising the group, in turn, at age 50 or 65. Significance and odds ratios are from logistic regression analyses in which two predictors dichotomise the sample at age 50 and 65, respectively.
a Values after adjustment for abuse.
b Cells do not sum to totals where data are missing.

lems were much less common in older patients than in younger ones. Our findings extend previous reports of poorer mental health in younger breast cancer patients[21–27] by showing, in addition, greater post-traumatic stress, self-blame and bodily shame. There have been suggestions that younger patients are more vulnerable because cancer causes them more financial, personal and social problems,[26,27,56,57] or because increased fatalism or avoidant coping protects older women.[58,59] However, apparently age-related trends might arise through cohort effects also. One such effect, examined by the present study, is the experience of abuse.

Although the prevalence of abuse in community and medical samples has been extensively described, many of these findings, also, have been generalised across wide age ranges. In other studies, samples have been selected to minimise heterogeneity in age; in particular, older people have been excluded. Neither constraint was applied in the present study, which found that women of 65 and over were less likely to recall each form of abuse than were younger women. Therefore, while the overall prevalence of sexual abuse in the present sample was lower than many previous reports, the prevalence in younger women, from whom the samples of previous studies have mainly been drawn, was comparable.[8] There have been a few reports of similar age differences in prevalence of abuse in community, primary care or medical samples,[60–62] and some contradictory reports.[10,63]

A proportion of women with documented childhood sexual abuse do not recall the abuse as adults,[64] and it has been suggested that older women might recall less abuse than younger women because they have forgotten it, perhaps because of the greater time to do so.[63,65] Similarly, in retrospective studies, self-report or recall biases cannot be excluded, and Briere[65] has suggested that older victims might be deterred from reporting abuse by greater stigmatisation. However, we are not aware of evidence that confirms these assumptions. Moreover, in the present study, less recall of abuse in older patients coexisted with – and, indeed, contributed statistically to – their having fewer emotional problems. Therefore, if a recall or report bias is postulated, it would be

one which is associated with widespread emotional resilience. Furthermore, there was no evidence that abuse had different effects in the different age-groups, consistent with assuming that recall processes are not biasing age-groups to recall different intensities or natures of abuse. The simplest explanation for the age trends in abuse is that the incidence of abuse in this population increased around the 1940s. Despite one report of consistent levels of recalled abuse in two samples of women born after 1945, but on average 10 years apart,[66] we are unaware of data with which to test this hypothesis.

4.3. Limitations of the study and research implications

The present study was uncontrolled. A comparison group, unaffected by cancer, would show whether cancer changes the association of emotional problems with childhood abuse that would be expected premorbidly.[11–13] Measurement of intensity and frequency of abuse would show whether dose–response relationships exist. Future research should also include measurement of aspects of family functioning for which the different abuse variables might have been markers. Identifying whether the critical variables concern abuse or aspects of the family or social context will be important in building a causal theory to explain the risk associated with abuse. Clearly, future research into emotional problems after breast cancer and, indeed, into childhood abuse, should examine variation with age. The relationship of age to emotional problems in the present study was not fully explained by the association of age with abuse; therefore, further age or cohort effects should be examined.

5. Conclusion

Those who provide support and treatment for patients with breast cancer should be aware that some patients' emotional difficulties reflect long-standing vulnerabilities associated with childhood history. It would risk adding to patients' trauma if clinicians were routinely to enquire about abuse

in settings which are not equipped to address it. Therefore, by working with patient groups, we shall seek to identify the best way for clinicians to identify and help such patients.

Conflict of interest statement

No author is aware of any conflict of interest relating to this work.

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