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From breast cancer surgery to survivorship: Insecure attachment tendencies predict negative psychological outcomes

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Abstract

Little is known about the variables explaining individual variability in the long-term adaptation of breast cancer survivors. Attachment tendencies have, however, been shown to explain negative psychological outcomes in the postsurgical period. The present study aimed to assess the continuing influence of attachment tendencies in the survivorship period. A sample of 28 women were surveyed 2 weeks, 3 months, 12 months, and 5 to 7 years after surgery. Attachment tendencies and psychological outcomes (distress, body image, sexuality) were assessed through questionnaires, and medical and sociodemographic data collected. Results show that insecure attachment tendencies predict negative body image and elevated distress.

Keywords

attachment tendencies, body image, breast cancer, distress, sexuality, survivorship

Introduction

Breast cancer is the most prevalent cancer among women (Ferlay et al., 2015). It constitutes a major stressful event, as women have to cope not only with the somatic symptoms related to the disease and its treatment (such as extreme fatigue or body modification), but also with their emotional consequences (Fortner et al., 2002; Manne et al., 2004; Schmid-Büchi et al., 2008). Evidence is strong that elevated stress and unsuccessful coping in this situation predict negative psychological outcomes such as a negative body image (Cairo Notari et al., 2017; Fobair et al., 2006; Helms et al., 2008; White, 2000), impairment of sexual functioning (Cairo Notari et al., 2018; Gilbert et al., 2010; Ussher et al., 2012), elevated psychological distress, and even psychopathology such as depression, anxiety, and posttraumatic stress disorders (Bloom et al., 2004; Burgess et al., 2005; Shimoizuma et al., 1999).

Most studies on psychological outcomes have focused on the active treatment period. Less is known about long-term adaptation of so-called cancer survivors (5 years after diagnosis, according to the American Cancer Society, 2020), and existing studies are inconclusive in this regard. On the one

hand, studies have shown that survivorship induces immediate relief and a significant improvement in quality of life over 5 years with the passing of time, having overcome the disease, and the end of treatment, allowing patients to gradually return to a regular life (Bloom et al., 2004; Dorval et al., 1998). On the other hand, other studies have emphasized the forgotten needs of survivors: women have to face several challenges, including the aftermath of the stress perceived at the time of diagnosis and during treatment, the integration of a new body image, resumption as a couple and of sexual life, and possibly enduring pain (e.g. in the breast area where the surgery was performed and the arm/shoulder region, or phantom breast pain). As a consequence, some of the outcomes met during the treatment phase may

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still be present (e.g. psychological distress), and further psychological disturbances may appear, such as depression, fear of recurrence, posttraumatic stress, and diminished capacity to be engaged in work (Engel et al., 2004; Helgeson and Tomich, 2005; Holzner et al., 2001; Neyt and Albrecht, 2006; Weitzner et al., 1997).

The divergent results of these studies are not necessarily contradictory: they may reflect important individual variability that depends on personal trajectories and the extent to which some variables have played a buffering or an aggravating role. Some of these differing results are related to individual and interpersonal factors (some studies report a link between being in a committed relationship and a higher quality of life in survivors, for example, Cimprich et al., 2002, whereas other studies find no association, for example, Ganz et al., 2002), but others depend on the disease itself, such as its severity in terms of cancer stage or the intensity of the oncological treatment (Mols et al., 2005; Rolland, 2018; Shimozuma et al., 1999). Individual variability in the degree of negative outcomes was previously described in the immediate postsurgical period (Bloom et al., 2004; Härtl et al., 2003; Petronis et al., 2003). Identifying variables that may explain this variability in the survivorship period is thus of paramount importance in order to reliably screen for women at risk of presenting psychological disturbances.

Among these variables, attachment tendencies have lately generated increasing interest, as they are related to emotion regulation; they have thus been shown to influence adjustment to various medical conditions (Ciechanowski and Katon, 2006; Ciechanowski et al., 2002; Hunter and Maunder, 2016; Jimenez, 2016; Landa et al., 2012; McWilliams and Bailey, 2010). Two attachment tendencies have been described, derived from individuals' interpersonal developmental history (see Mikulincer and Shaver, 2016): avoidance and anxiety. These tendencies organize the emotional response to negative stimuli. Avoidance refers to the tendency to repress emotional needs as a consequence of a history of rejection by the caregivers. Anxiety refers to the tendency to feel helplessness as a consequence of a history of unpredictability in the responses of the caregivers (Bartholomew et al., 2001; Hazan and Shaver, 1994). Individuals with high avoidant tendencies tend to repress their emotional needs, so that they do not have to solicit support from others. The expression of needs is seen as a manifestation of weakness. Individuals with high anxious tendencies, in contrast, tend to overemphasize their inability to cope with a threatening situation in order to "force" the social environment to provide support and protection. Both avoidance and anxiety tendencies are related to poor emotional regulation; they have been shown to be associated with more negative outcomes when someone is facing an aversive or a negative event in several domains of life, including those that are health related: for example,

chronic pain, elevated side effects of treatments, or elevated distress (Maunder et al., 2006; Mikulincer and Shaver, 2008).

The few existing studies in the field of oncology have shown that avoidance and anxiety predict various outcomes in women facing breast cancer: anxiety predicts more negativity, and avoidance is linked to more passivity (Schmidt et al., 2002). Women who are more insecure are more likely to have a more negative body image and to experience high distress in the immediate postsurgical period; they are also more likely to have a more negative body image and to be sexually inactive 12 months after surgery (Favez et al., 2016a). Moreover, the couple relationship is also impacted, as higher attachment anxiety predicts more negative criticisms directed toward the spouse/partner (Favez et al., 2017). To date, however, the influence of attachment has been assessed in most studies in the period following the surgery and while the women were still under treatment. Long-term data on the role of attachment regarding the survivorship period are scarce and additional research is still needed.

Our aim in the present study was thus to consider the extent to which attachment tendencies predict individual variability in negative outcome across time, from the immediate postsurgical period to the survivorship period. We hypothesized that, in accordance with previous results, insecure attachment tendencies—that is, high avoidance or high anxiety—are linked with more negative psychological outcomes, even when taking into account time, demographic variables, past disease characteristics, and the type of surgery. Three outcomes were assessed across time: psychological distress, negative body image, and being sexually active.

Methods

Context and preliminary inquiry

We conducted a study (hereafter: Phase 1 study) that was aimed at identifying psychosocial protective and risk factors during the first 2 years after surgery in a sample of 127 women (see Charvoz et al., 2016, for a description of the study design). The 127 women who participated in this Phase I study were contacted 5 to 7 years after breast surgery in order for us to inquire about their interest in being part of a follow-up study. An information letter, an answer form, and a prepaid envelope were sent to the women (the letter and procedure for recontacting them were first submitted to and approved by the ethical committee of the State of Vaud, Switzerland). Forty-one women agreed in principle to participate in this study, 31 refused (no reason stated), 36 did not answer, and 20 envelopes were returned because of an outdated address (we were unable to find the current address of these women). Of the 41 women who agreed, seven finally decided not to participate and six did not complete the questionnaires relative to the

Table 1. Sample characteristics (N=28).

Variable	N (valid %)	N (valid %)		
		T1	T2	T3
Hollingshead ISP				
Upper	6 (21.4)			
Upper-middle	8 (28.6)			
Middle	7 (25.0)			
Lower-middle	2 (7.1)			
Lower	3 (10.7)			
Cancer stage				
0 (in situ)	5 (17.9)			
I	15 (53.6)			
II	8 (28.6)			
Surgery				
Mastectomy	10 (64.3)			
Breast-conserving	18 (35.7)			
Adjuvant treatment				
Chemotherapy		4 (14.3)	4 (14.3)	0
Hormonal therapy		7 (25.0)	13 (46.4)	18 (64.3)
Radiotherapy		2 (7.1)	1 (3.6)	1 (3.6)
Trastuzumab therapy		1 (3.6)	1 (3.6)	0

ISP: index of social position; T1: 2 weeks after breast surgery; T2: 3 months after breast surgery; T3: 12 months after breast surgery.

present study (they took part only in a semi-structured interview).

Sample

The final sample constituted 28 women. Inclusion criteria (for the Phase 1 study) were as follows: having received a diagnosis of breast cancer stage 0 to III (metastatic breast cancer—i.e. stage IV—was an exclusion criterion), breast surgery being required, being able to speak and read in French, and being at least 18 years old. A specific exclusion criterion was added for this follow-up study: known recurrence of the disease. The sample characteristics are described in Table 1.

The mean age of the women at the time of this follow-up study was 61 years (SD=13.2; range 40 to 84 years). Sixteen women were in a committed relationship.

Study design and methodology

The Phase 1 study was conducted at the Breast Centre of the University Hospital of Lausanne, Switzerland. It included several measurement points, of which three were included in this study: 2 weeks (T1), 3 months (T2), and 12 months (T3) after surgery. The first two points (T1 and T2) corresponded to standard postsurgical follow-up meetings with the referent nurse at the Breast Centre. The third point (T3) was at the beginning of the rehabilitation phase.

Data for the present follow-up study were collected during a home visit for each woman as early as 60 months (5 years) and as late as 84 months (7 years) after T1. In studies concerning the evolution of the quality of life in cancer survivors, 2–4 weeks after surgery is usually considered the zero point (T1 in our study) in order to estimate the time interval (Neyt and Albrecht, 2006). This study was a mixed-method design, with a semi-structured interview aimed at understanding the experience of the women (these interviews will be the subject of qualitative analyses specifically focused on the survivorship period) and assessment of several variables through self-reported questionnaires. These questionnaire data, which were also collected at the time points of the Phase 1 study, were used for the longitudinal analyses presented in this paper.

Procedure

All participants who sent back the preliminary inquiry letter with a positive answer were contacted by phone and a home visit was proposed to conduct the interview. At the end of the interview, an instruction sheet was given to the women to complete the questionnaires, including the secured link to access the questionnaires online (using a secure access to Qualtrics). Upon request, a paper version of the questionnaires was left to be filled in, with a self-addressed stamped envelope. Compensation of CHF 100. - was offered to the participants.

Instruments

Attachment tendencies were assessed with the Revised Experiences in Close Relationships questionnaire (Fraley et al., 2000; French version: Favez et al., 2016b). This instrument consists of 36 items that assess two dimensions of adult attachment: (1) anxiety (fear of rejection and abandonment; e.g., “I’m afraid that I will lose my partner’s love”) and (2) avoidance (discomfort with closeness and dependence on others; e.g., “I find it difficult to allow myself to depend on romantic partners”). Participants were asked to rate each item by using 7-point rating scales from one (*disagree strongly*) to seven (*agree strongly*). A total score is computed for each of the two dimensions by summing the 18 related items; the higher the score, the higher the individual on the dimension. Fourteen items have to be reverse-scored, as they are formulated in the secure direction. Internal consistency of the questionnaire was high for both dimensions: $\alpha=0.89$ for avoidance and $\alpha=0.87$ for anxiety at T1; $\alpha=0.86$ and 0.91 , respectively, at T2; $\alpha=0.91$ and 0.88 , respectively, at T3; and $\alpha=0.83$ and $\alpha=0.81$, respectively, at follow-up.

Psychological distress was assessed with the Brief Symptom Inventory (Derogatis, 2001). Eighteen items assess symptoms along three dimensions: somatization, depression, and anxiety (six items per dimension). Each item is rated on a 5-point scale from 0 (*not at all*) to 4 (*very much*). The item scores for each dimension are then summed to arrive at a score between 0 and 24. A total score of psychological distress, the Global Severity Index (GSI), is computed as the sum of the 18 items, for a score between 0 and 72 ($\alpha=0.82$ at T1, 0.88 at T2, 0.91 at T3, and 0.87 at follow-up). As the total scores for each dimension were strongly intercorrelated (all $ps < 0.001$), we used the GSI in the analyses. According to the validation study of the Brief Symptom Inventory, a cut-off score of 23 has been set for the GSI for oncology populations. Higher scores are considered in the clinical range; we have used the distinction nonclinical versus clinical in the descriptive analyses.

Negative body image was assessed with the Body Image Scale (Hopwood et al., 2001). Women rate questions concerning their body image on ten 4-point Likert scales: 0 (*not at all*), 1 (*a little*), 2 (*quite a bit*), and 3 (*very much*). Example questions are, “Have you felt less physically attractive as a result of your disease or treatment?” and “Have you been feeling self-conscious about your appearance?” A total score was computed by calculating the sum of the 10 questions. The higher the score, the more negative the body image ($\alpha=0.96$ at T1, 0.90 at T2, 0.92 at T3, and 0.93 at follow-up).

The present sexual functioning of women was assessed with the Sexual Activity Questionnaire (Thirlaway et al., 1996). For this study, we used a French version of the Sexual Activity Questionnaire that was made available from the Institut Curie (Paris, France). A preliminary

question—“Do you engage in sexual activity with anyone at the moment?”—filtered the answers to the questionnaire. Women who answered “yes” to this question were asked to answer 10 questions about their present sexual functioning. However, a high rate of missing data for these 10 questions led us to focus only on the answers to this filter question about “being sexually active” with a binary yes/no answer.

Disease-related variables were already available from the Phase 1 study: cancer stage (0, 1, 2, or 3), type of surgery (mastectomy vs. breast-conserving therapy), and type of adjuvant treatment (chemotherapy, hormonal therapy, radiotherapy, trastuzumab therapy). Selected questions were asked in order to update the sociodemographic data collected in the Phase 1 study (in particular, relational status, assessed in terms of being in a committed relationship).

Statistical analyses

A full set of descriptive statistics (including mean and standard deviation) was computed for all variables of the study. As we have several types of scales, we performed generalized linear mixed model (GLMM) analyses to study the links between attachment across time, time (the four measurement points), demographic variables (age, relational status at the time of follow-up), cancer stage at T1, type of surgery at T1, and the dependent variables across time (psychological distress, negative body image, and being sexually active). The link with the model was set to identity in the GLMM procedures for the two continuous outcomes (psychological distress and negative body image) and to logit for the binary outcome (being sexually active or not). In order to ensure the robustness of the analyses despite the small sample, we used a nonparametric bootstrap on 5000 samples to compute the estimates of the fixed effects. Adjuvant treatment data (i.e. chemotherapy, radiotherapy, hormonal therapy, and trastuzumab therapy) were described but they were not used in the GLMM analyses, as there was too much variability in the type of treatment relative to the small sample size.

Results

Descriptive statistics

Descriptive statistics (see Table 2) showed that attachment anxiety was slightly higher than attachment avoidance at all time points. Scores were in the average range for both dimensions. The score for negative body image at follow-up was on average low, as the mean was around 10 at all measurement points (a mean of 10 is related to an answer of around one on average in response to the 10 items of the questionnaire, that is, to be “a little” negatively impacted). Regarding psychological distress, GSI scores were on average below the cutoff score, and tended to decrease with

Table 2. Descriptive data for attachment tendencies and study outcomes ($N=28$).

Variable	Theoretical range	Mean (SD) T1	Mean (SD) T2	Mean (SD) T3	Mean (SD) follow-up
Attachment (ECR-R)					
Avoidance	1–7	2.67 (0.90)	2.70 (1.12)	2.56 (1.19)	2.77 (1.10)
Anxiety	1–7	2.78 (1.03)	2.85 (1.12)	2.73 (1.17)	2.95 (1.37)
Negative body image (BIS)					
Total	0–30	12.65 (9.97)	12.79 (7.04)	9.89 (7.21)	10.32 (8.04)
Distress (BSI-18)					
GSI	0–72	20.25 (10.39)	16.17 (11.09)	15.39 (11.12)	15.17 (9.74)

ECR-R: Experiences in Close Relationships-Revised; BIS: Body Image Scale; BSI-18: Brief Symptom Inventory; GSI: Global Severity Index; T1: 2 weeks after breast surgery; T2: 3 months after breast surgery; T3: 12 months after breast surgery; follow-up: 5–7 years after breast surgery.

time. At T1, nine (32.1%) women had a score above the cutoff of 23, five had such a score at T2 (17.9%), six at T3 (21.4%), and five at follow-up (17.9%).

Regarding sexuality, at T1, 11 (39.3%) women reported being sexually active, 13 did so at T2 (46.4%), 17 at T3 (60.7%), and 12 (42.9%) at follow-up.

These data tend to show that on average, negative outcomes were relatively low in our sample.

Attachment as a predictor of outcomes

Results of GLMM analysis (see Table 3) showed first, that negative body image was predicted only by attachment avoidance: the more avoidant the women, the more they had a negative body image.

Second, higher psychological distress was predicted by attachment anxiety only: the more anxious the women, the higher their distress.

Finally, being sexually active was the most multifactorial outcome, as it was predicted by the relational status of the women (women were more likely to be active if they were in a committed relationship), cancer stage (women were more active if they had a 0 cancer stage), and by both attachment dimensions: women were more likely to be active if they had high anxious tendencies and less likely to be active if they had high avoidant tendencies.

Models were tested with interaction effects: the results highlighted the same variables with no significant effects of the interaction terms; moreover, the models that included interaction terms were less parsimonious (Akaike information criterion) and so they were not considered further.

Discussion

The aim of this study was to assess the extent to which attachment tendencies explain individual variability in psychological outcomes in breast cancer survivors. In accordance with our expectations, insecure attachment tendencies predicted more negative outcomes, even after age, time, relational status, cancer stage, and type of surgery were accounted for. Three of the links that we found are theoretically

coherent: avoidance is related to sexual inactivity, that is, to a relational withdrawal, whereas anxiety is linked with higher reported distress, that is, with a heightened expression of negative affect, and with a higher probability of being sexually active, that is, with a close proximity to others. In the general population, attachment anxiety has been shown to be linked with a higher frequency of sexual activities in women (Birnbbaum et al., 2014). On the other hand, higher avoidance is linked with a higher probability of reporting a negative image; this may seem at first to be a counterintuitive result, as more avoidant individuals are expected to downplay their negative affect. Avoidant defenses may, however, collapse when an individual is faced with severe stressors and there may be a breakthrough of negative emotions (Mikulincer and Shaver, 2016).

These results are in line with previous results obtained in our longitudinal study at different times within 1 year after surgery (Favez et al., 2016a, 2017). We have thus consistently found that attachment tendencies are related to negative outcomes. On the one hand, this means that possible negative outcomes are predicted by psychological factors such as attachment tendencies and that it is not possible to linearly predict difficulties during survivorship as a direct consequence of the severity of the disease or of the intensity of the treatment. On the other hand, this means that for some women, time is not sufficient to completely “heal” the emotional wounds of the treatment period. Indeed, we found that, similar to what has been reported in the literature about cancer survivors, the majority of women fare quite well 5 to 7 years after surgery, but that this was not the case for all participants—one of five women had a result in the clinical range for distress at follow-up, for example—and attachment tendencies seem to be a valid predictor of possible enduring difficulties.

Moreover, as attachment is a processual model, it provides a framework not only to screen for individuals at risk, but also to prevent possible difficulties. Highly anxious or avoidant individuals treat emotionally loaded information as especially threatening, and so tailoring the way that information is given to them to accommodate their attachment tendencies may lower their emotional activation. Along this

Table 3. Estimates of the fixed effects of study variables on body image, general distress, and sexual activity (N = 28).

Parameter	Negative body image (BIS)				General distress (BSI-18)				Sexual activity (SAQ)			
	B	SE	95% CI	p	B	SE	95% CI	p	B	SE	95% CI	p
Intercept	6.37	4.69	[-2.73, 15.78]	0.177	-5.98	6.85	[-20.04, 7.21]	0.392	2.52	0.29	[1.93, 3.09]	<0.001
Age	-0.08	0.05	[-0.19, 0.03]	0.129	0.08	0.08	[-0.06, 0.24]	0.274	-0.01	0.00	[-0.02, 0.01]	0.070
In a committed relationship												
Yes(No)	0.43	1.92	[-3.57, 3.98]	0.980	-3.90	2.22	[-8.30, 0.53]	0.084	0.44	0.82	[0.23, 0.62]	<0.001
Cancer stage												
0 ⁽²⁾	2.77	3.09	[-3.40, 8.72]	0.367	1.69	4.20	[-6.17, 10.24]	0.681	-0.34	0.17	[-0.66, 0.01]	0.041
1 ⁽²⁾	-0.75	1.68	[-4.03, 2.45]	0.653	0.93	2.49	[-3.76, 6.03]	0.717	-0.03	0.11	[-0.25, 0.20]	0.784
Surgery												
Breast-conserving ^(Mastectomy)	-2.62	2.13	[-6.66, 1.80]	0.218	1.67	2.76	[-3.66, 7.24]	0.549	-0.17	0.12	[-0.41, 0.06]	0.160
Time												
2 weeks ^(5-7 years)	1.71	2.08	[-2.37, 5.81]	0.410	3.29	2.59	[-1.59, 8.59]	0.205	-0.20	0.12	[-0.43, 0.04]	0.106
3 months ^(5-7 years)	2.84	2.04	[-1.14, 6.90]	0.170	-0.32	2.84	[-5.74, 5.39]	0.909	-0.21	0.11	[-0.43, 0.02]	0.064
12 months ^(5-7 years)	0.43	1.96	[-3.51, 4.30]	0.828	-0.38	2.91	[-5.95, 5.49]	0.900	-0.10	0.12	[-0.32, 0.14]	0.399
Attachment avoidance	3.70	0.87	[1.89, 5.25]	<0.001	2.75	1.44	[-0.11, 5.46]	0.061	-0.18	0.05	[-0.27, -0.09]	<0.001
Attachment anxiety	0.16	0.75	[-1.20, 1.79]	0.828	2.92	1.22	[0.52, 5.31]	0.020	0.12	0.05	[0.02, 0.21]	<0.001

BIS: Body Image Scale; BSI-18: Brief Symptom Inventory; SAQ: Sexual Activity Questionnaire; CI: confidence interval. These parameters are bootstrap estimates (n = 5000 samples).

line, attachment interventions have been designed for primary care specialists, with the main aim being to strengthen the working alliance and to improve treatment adherence (Miller, 2008; Mimura and Norman, 2018; Pfeifer et al., 2016). Regarding the two main dimensions of anxiety and avoidance, the main strategies consist of being congruent with the way each individual treats emotional information (Hooper et al., 2012). The tendency of more avoidant individuals to be self-reliant should be respected and their need for independence should be acknowledged and not challenged, as pressure to be more compliant will have the reverse effect. Regarding more anxious individuals, clear limits have to be set about the support that will be provided, anxiety should be acknowledged and anticipated, and psychotherapeutic and pharmacological support should be offered (Hunter and Maunder, 2001). Stated differently, the excessive need for internal regulation in avoidant individuals and the excessive need for external regulation in anxious individuals should be accommodated and not confronted, at least in a first stage, and communication adapted to these tendencies. Failure to do so may result in increased distress in insecure patients, as their way of regulating emotional events would be challenged (Hinnen, 2016). Our results are a preliminary indication that it would be worthwhile to test these types of strategies with survivors of breast cancer: more anxious individuals should be continuously supported with the provision of information, or, in any case, they should have the opportunity to reach out to someone at any time to share their concerns or to ask any questions they may have. Conversely, the need for more avoidant survivors to move on and to act “as if” they are in control should not be challenged with requests to debrief them and to talk about what happened to them. Support may in their case be more oriented toward pragmatic goals regarding the return to everyday life, so that more avoidant individuals can be supported without emphasizing any emotional needs.

This study has several limitations, the first being the very small sample, which was the consequence of a longitudinal study undertaken over 7 years. Indeed, of the initial sample, a majority of women did not want to participate in the last part of the study. Our results should thus be taken cautiously and cannot be generalized as is. Indeed, they need to be replicated, especially regarding the proportion of survivors who present vulnerabilities or psychological difficulties. Second, there is a selection bias in this small sample that may be explained by two contrasting reasons. From the feedback by some of the women who did not agree to take part in the follow-up, some of them, when asked for their reason for refusal, said that the period of the disease was now “behind them” and that they did not want to talk about it anymore. Others said, in contrast, that it was still too painful and for this very reason they did not wish to “rub salt on the wound.” We can therefore hypothesize that women at both ends of the continuum of emotional vulnerability did not take part in the follow-up. Moreover, none of

the women who faced stage 3 cancer agreed to participate in the follow-up, but they did take part in the previous stages of the study in which the same kinds of links between attachment and psychological difficulties were found.

Despite these limitations, the longitudinal design of the study allowed us to test the links between our variables over a long period, which demonstrates their solidity. Moreover, it allowed us to test the extent to which time itself was a variable that explained a possible lowering of negative outcomes. On the other hand, a research strategy also has to be designed to enroll women who do the best and women who are in the most difficult situation in order to avoid selection biases in follow-up studies similar to the bias that may have happened here.

Getting back to “normal” life may be challenging for some individuals who continue to experience psychosocial strains after the disease has been successfully treated. Our study shows that more avoidant and more anxious individuals should be supported all the more across the years following surgery. It is of note that most of the participants reported that the experience of taking part in this follow-up study was important because it allowed them to make meaning of the challenge they had to face, and it helped them to integrate these events into a coherent life narrative. This feedback was an ultimate confirmation of the importance of offering support to some of the long-term survivors.

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References

- American Cancer Society (2020) *Cancer Facts and Figures-2020*. Available at: <https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2020.html> (accessed 20 May 2020).
- Bartholomew K, Henderson A and Dutton D (2001) Insecure attachment and abusive intimate relationships. In: Clulow C (ed.) *Adult Attachment and Couple Psychotherapy*. Hove: Routledge, pp.43–61.

- Birnbaum GE, Mikulincer M, Szepeswol O, et al. (2014) When sex goes wrong: A behavioral systems perspective on individual differences in sexual attitudes, motives, feelings, and behaviors. *Journal of Personality and Social Psychology* 106: 822–842. DOI: 10.1037/a0036021.
- Bloom JR, Stewart SL, Chang S, et al. (2004) Then and now: Quality of life of young breast cancer survivors. *PsychoOncology* 13(3): 147–160. DOI: 10.1002/pon.794.
- Burgess C, Cornelius V, Love S, et al. (2005) Depression and anxiety in women with early breast cancer: Five-year observational cohort study. *BMJ* 330(7493): 702. DOI: 10.1136/bmj.38343.670868.D3.
- Cairo Notari S, Favez N, Notari L, et al. (2018) Women's experiences of sexual functioning in the early weeks of breast cancer treatment. *European Journal of Cancer Care* 27: e12607. DOI: 10.1111/ecc.12607.
- Cairo Notari S, Notari L, Favez N, et al. (2017) The protective effect of a satisfying romantic relationship on women's body image after breast cancer: A longitudinal study. *PsychoOncology* 26(6): 836–842. DOI: 10.1002/pon.4238.
- Charvoz L, Favez N, Cairo Notari S, et al. (2016) A survey of couples facing breast cancer in women. In Oris M, Roberts C, Joye D, et al. (eds) *Surveying Human Vulnerabilities across the Life Course*. Berlin: Springer, pp. 113–129. DOI: 10.1007/978-3-319-24157-9_5.
- Ciechanowski P and Katon W J (2006) The interpersonal experience of health care through the eyes of patients with diabetes. *Social Science & Medicine* 63(12): 3067–3079. DOI: 10.1016/j.socscimed.2006.08.002.
- Ciechanowski PS, Walker EA, Katon WJ, et al. (2002) Attachment theory: A model for health care utilization and somatization. *Psychosomatic Medicine* 64(4): 660–667.
- Cimprich B, Ronis DL and Martinez-Ramos G (2002) Age at diagnosis and quality of life in breast cancer survivors. *Cancer Practice* 10(2): 85–93. DOI: 10.1046/j.1523-5394.2002.102006.x.
- Derogatis L (2001) *BSI 18: Brief Symptom Inventory 18: Administration, Scoring, and Procedure Manual*. Minneapolis: NCS Pearson.
- Dorval M, Maunsell E, Deschenes L, et al. (1998) Long-term quality of life after breast cancer: Comparison of 8-year survivors with population controls. *Journal of Clinical Oncology* 16(2): 487–494. DOI: 10.1200/JCO.1998.16.2.487.
- Engel J, Kerr J, Schlesinger-Raab A, et al. (2004) Quality of life following breast-conserving therapy or mastectomy: Results of a 5-year prospective study. *The Breast Journal* 10(3): 223–231. DOI: 10.1111/j.1075-122X.2004.21323.x8.
- Favez N, Cairo Notari S, Antonini T, et al. (2017) Attachment and couple satisfaction as predictors of expressed emotion in women facing breast cancer and their partners in the immediate post-surgery period. *British Journal of Health Psychology* 22(1): 169–185. DOI: 10.1111/bjhp.12223.
- Favez N, Cairo Notari S, Charvoz L, et al. (2016a) Distress and body image disturbances in women with breast cancer in the immediate postsurgical period: The influence of attachment insecurity. *Journal of Health Psychology* 21(12): 2994–3003. DOI: 10.1177/1359105315589802.
- Favez N, Tissot H, Ghisletta P, et al. (2016b) The experiences in close relationships—Revised questionnaire for adult romantic attachment: A validation study of the French version. *Swiss Journal of Psychology* 75(3): 113–121. DOI: 10.1024/1421-0185/a000177.
- Ferlay J, Soerjomataram I, Dikshit R, et al. (2015). Cancer incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012. *International Journal of Cancer* 136(5): E359–E386. DOI:10.1002/ijc.29210.
- Fobair P, Stewart SL, Chang S, et al. (2006) Body image and sexual problems in young women with breast cancer. *Psycho-Oncology* 15(7): 579–594. DOI: 10.1002/pon.991.
- Fortner BV, Stepanski EJ, Wang SC, et al. (2002) Sleep and quality of life in breast cancer patients. *Journal of Pain and Symptom Management* 24(5): 471–480. DOI: 10.1016/S0885-3924(02)00500-6.
- Fraley R, Waller N and Brennan K (2000) An item response theory analysis of self-report measures of adult attachment. *Journal of Personal and Social Psychology* 78: 350–365. DOI: 10.1037/0022-3514.78.2.350.
- Ganz PA, Desmond KA, Leedham B, et al. (2002) Quality of life in long-term, disease-free survivors of breast cancer: A follow-up study. *Journal of the National Cancer Institute* 94(1): 39–49. DOI: 10.1093/jnci/94.1.39.
- Gilbert E, Ussher JM and Perz J (2010) Sexuality after breast cancer: A review. *Maturitas* 66(4): 397–407. DOI: 10.1016/j.maturitas.2010.03.027.
- Härtil K, Janni W, Kästner R, et al. (2003) Impact of medical and demographic factors on long-term quality of life and body image of breast cancer patients. *Annals of Oncology* 14(7): 1064–1071. DOI: 10.1093/annonc/mdg289.
- Hazan C and Shaver PR (1994) Attachment as an organizational framework for research on close relationships. *Psychological Inquiry* 5(1): 1–22. DOI: 10.1207/s15327965pli0501_1.
- Helgeson VS and Tomich PL (2005) Surviving cancer: A comparison of 5-year disease-free breast cancer survivors with healthy women. *Psycho-Oncology* 14(4): 307–317. DOI: 10.1002/pon.848.
- Helms RL, O'Hea EL and Corso M (2008) Body image issues in women with breast cancer. *Psychology, Health & Medicine* 13(3): 313–325. DOI: 10.1080/13548500701405509.
- Hinnen C (2016) Adaptation to cancer from the perspective of attachment theory. In: Hunter J and Maunder R (eds) *Improving Patient Treatment with Attachment Theory: A Guide for Primary Care Practitioners and Specialists*. New York, NY: Springer, pp. 75–91.
- Holzner B, Kemmler G, Kopp M, et al. (2001) Quality of life in breast cancer patients—not enough attention for long-term survivors? *Psychosomatics* 42(2): 117–123. DOI: 10.1176/appi.psy.42.2.117.
- Hooper LM, Tomek S and Newman CR (2012) Using attachment theory in medical settings: Implications for primary care physicians. *Journal of Mental Health* 21(1): 23–37. DOI: 10.3109/09638237.2011.613955.
- Hopwood P, Fletcher I, Lee A, et al. (2001) A body image scale for use with cancer patients. *European Journal of Cancer* 37(2): 189–197. DOI: 10.1016/S0959-8049(00)00353-1.
- Hunter JJ and Maunder RG (2001) Using attachment theory to understand illness behavior. *General Hospital Psychiatry* 23(4): 177–182. DOI: 10.1016/S0163-8343(01)00141-4.

- Hunter JJ and Maunder RG (eds) (2016) *Improving Patient Treatment with Attachment Theory*. New York, NY: Springer.
- Jimenez XF (2016) Attachment in medical care: A review of the interpersonal model in chronic disease management. *Chronic Illness* 13(1): 14–27. DOI: 10.1177/1742395316653454.
- Landa A, Bossis AP, Boylan LS, et al. (2012) Beyond the unexplainable pain: Relational world of patients with somatization syndromes. *The Journal of Nervous and Mental Disease* 200(5): 413–422. DOI: 10.1097/NMD.0b013e3182532326.
- Manne S, Sherman M, Ross S, et al. (2004) Couples' support-related communication, psychological distress, and relationship satisfaction among women with early stage breast cancer. *Journal of Consulting and Clinical Psychology* 72(4): 660–670. DOI: 10.1037/0022-006X.72.4.660.
- Maunder RG, Lancee WJ, Nolan RP, et al. (2006) The relationship of attachment insecurity to subjective stress and autonomic function during standardized acute stress in healthy adults. *Journal of Psychosomatic Research* 60(3): 283–290. DOI: 10.1016/j.jpsychores.2005.08.013.
- McWilliams LA and Bailey SJ (2010) Associations between adult attachment ratings and health conditions: Evidence from the National Comorbidity Survey Replication. *Health Psychology* 29(4): 446–453. DOI: 10.1037/a0020061.
- Mikulincer M and Shaver PR (2008) Adult attachment and affect regulation. In: Cassidy J and Shaver PR (eds) *Handbook of Attachment*, 2nd edn. New York, NY: Guilford Press, pp. 503–531.
- Mikulincer M and Shaver PR (2016) *Attachment in Adulthood: Structure, Dynamics and Change*, 2nd edn. New York, NY: Guilford Press.
- Miller RC (2008) The somatically preoccupied patient in primary care: Use of attachment theory to strengthen physician-patient relationships. *Osteopathic Medicine and Primary Care* 2(1): 6. DOI: 10.1186/1750-4732-2-6.
- Mimura C and Norman IJ (2018) The relationship between health-care workers' attachment styles and patient outcomes: A systematic review. *International Journal for Quality in Health Care* 30(5): 332–343. DOI: 10.1093/intqhc/mzy034.
- Mols F, Vingerhoets AJJM, Coebergh JW, et al. (2005) Quality of life among long-term breast cancer survivors: A systematic review. *European Journal of Cancer* 41(17): 2613–2619. DOI: 10.1016/j.ejca.2005.05.017.
- Neyt M and Albrecht J (2006) The long-term evolution of quality of life for disease-free breast cancer survivors: A comparative study in Belgium. *Journal of Psychosocial Oncology* 24(3): 89–123. DOI: 10.1300/J077v24n03_05.
- Petronis VM, Carver CS, Antoni MH, et al. (2003) Investment in body image and psychosocial well-being among women treated for early stage breast cancer: Partial replication and extension. *Psychology & Health* 18(1): 1–13. DOI: 10.1080/0887044021000020941.
- Pfeifer A-C, Amelung D, Gerigk C, et al. (2016) Study protocol—Efficacy of an attachment-based working alliance in the multimodal pain treatment. *BMC Psychology* 4(1): 10. DOI: 10.1186/s40359-016-0114-7.
- Rolland JS (2018) *Helping Couples and Families Navigate Illness and Disability*. New York, NY: Guilford Press.
- Schmid-Büchi S, Halfens RJG, Dassen T, et al. (2008) A review of psychosocial needs of breast-cancer patients and their relatives. *Journal of Clinical Nursing* 17(21): 2895–2909. DOI: 10.1111/j.1365-2702.2008.02490.x.
- Schmidt S, Nachtigall C, Wuethrich-Martone O, et al. (2002) Attachment and coping with chronic disease. *Journal of Psychosomatic Research* 53(3): 763–773. DOI: 10.1016/S0022-3999(02)00335-5.
- Shimozuma K, Ganz P, Petersen L, et al. (1999) Quality of life in the first year after breast cancer surgery: Rehabilitation needs and patterns of recovery. *Breast Cancer Research and Treatment* 56(1): 45–57. DOI: 10.1023/a:1006214830854.
- Thirlaway K, Fallowfield L and Cuzick J (1996) The Sexual Activity Questionnaire: A measure of women's sexual functioning. *Quality of Life Research* 5(1): 81–90. DOI: 10.1007/BF00435972.
- Ussher JM, Perz J and Gilbert E (2012) Changes to sexual well-being and intimacy after breast cancer. *Cancer Nursing* 35: 456–465. DOI: 10.1097/NCC.0b013e3182395401.
- Weitzner MA, Meyers CA, Stuebing KK, et al. (1997) Relationship between quality of life and mood in long-term survivors of breast cancer treated with mastectomy. *Supportive Care in Cancer* 5(3): 241–248. DOI: 10.1007/s005200050067.
- White CA (2000) Body image dimensions and cancer: A heuristic cognitive behavioural model. *Psycho-Oncology* 9(3): 183–192. DOI: 10.1002/1099-1611(200005/06)9:3<183::aid-pon446>3.0.co;2-l.