treatment, the majority of breast cancer survivors will live many years after diagnosis. Breast cancer survivors may experience many symptoms that impact their quality of life, and these symptoms may vary by age. The purpose of this study is to compare breast cancer survivors who were diagnosed at 45 and under (n = 469) with survivors diagnosed at 55 to 70 (n = 584) years of age.

Materials and Methods: Participants were identified through a large cooperative group (Eastern Cancer Cooperative Group). Eligibility criteria included use of chemotherapy at initial diagnosis, being 3 to 8 years from diagnosis, and not having a recurrence of breast cancer. The mean current age of younger survivors was 45.2 and for older survivors was 66.7. Women who agreed to participate were sent a survey and informed consent which was completed and returned via mail. Overall, 80% of eligible women contacted by researchers agreed to participate. Measures included physical, psychological, social, spiritual, and overall quality of life constructs. All measurements had good reported validity and reliability. A total of 469 younger and 584 older breast cancer survivors are included. Linear regression was used to compare the two groups on continuous outcomes while adjusting for the following potentially confounding covariates: marital status (married versus not), years of education, and total household income, and years since diagnosis.

Results: Younger survivors scored significantly worse than older survivors on gynecological problems, sexual enjoyment, attention function, and overall reported symptoms. Psychologically, younger survivors demonstrated greater symptom distress, greater depression, and greater state and trait anxiety than older survivors. Younger survivors had lower marital satisfaction scores. Younger survivors reported greater fear of recurrence and less favorable body image. Younger survivors reported lower perceived social support from their partners and greater social constraint. Older survivors held higher spiritual beliefs and behaviors as compared to younger survivors. Perceived self efficacy for dealing with problems related to cancer survivorship was lower in younger survivors as compared to older survivors. For overall quality of life measures, younger survivors reported lower index of well being scores than older survivors and reported that breast cancer had a greater impact on their life. Health care service use was greater for younger as opposed to older survivors both during and after treatment.

Conclusions: Younger survivors reported significantly more problems on several, physical, psychological, social and generic quality of life issues as compared to older survivors. Results indicate a need to proactively assess quality of life issues in younger women at time of diagnosis.

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Development of a structured yoga DVD for women following breast and axillary surgery

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Background: Post operative shoulder and arm complications following breast cancer surgery still occur despite advances in surgical techniques. One disadvantage of early discharge from hospital following breast surgery is that patients are less likely to be taught specific post operative arm exercises. Many are merely given a leaflet of exercises to follow at home. Yoga classes are offered in some cancer centres and studies suggest that it improves quality of life, and mood, and reduces fatigue in cancer patients. We conducted a pilot study of a yoga programme specifically designed to improve arm and shoulder mobility following axillary surgery for breast cancer. We then produced a structured DVD for use in a subsequent randomised clinical trial. This abstract describes the production of the DVD.

Material and Methods: A breast cancer surgeon, experienced yoga teacher, physiotherapist and volunteers from the local breast cancer support group all contributed to development of a structured yoga programme of poses suitable for women following breast cancer surgery. First we conducted a ten week pilot course with women from the local support group who were receiving different breast cancer treatments. The pilot study was conducted to assess the acceptability of the postures and give feedback on the structure of the course. Following those changes we invited volunteers to work with us on producing a user friendly DVD that was accessible and acceptable for women with different levels of ability.

Results: The DVD took 3 days of filming and two months of editing. The final version with accompanying booklet will only be available following its evaluation in a randomised clinical trial. The DVD has two discs. Disc 1 includes a description of some of the arm problems experienced after breast cancer surgery, an introduction to yoga and the equipment including which props (e.g. cushions, folded blankets) patients can use at home in order to help them with their practice. There is also a step by step guide to each posture at different levels, 1, 2 and 3. Level 1 is aimed at practise during the 12 week post operative period and makes use of props such as sitting in a chair to perform an arm stretch, or standing or using a wall for support. Disc 2 features an hour long class of yoga for women with breast cancer led by an experienced yoga teacher. The class comprises of women of different ages and abilities who belong to the Brighton Breast Cancer Support Group. The programme is now being tested in an RCT.

Conclusions: As more patients survive breast cancer with improved surgical techniques, radiotherapy and systemic therapies it is also important to ameliorate symptoms and side effects of treatment. These supportive interventions demand patient input during development then rigorous evaluation through RCTs before implementation.

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Communication to children about mother breast cancer: how can physicians help?

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Background: A quarter of French breast cancer cases are diagnosed in women less than 50 years old. A majority of them have got children living at home. Communication about illness is known to be associated with more favourable outcomes in children of parents with cancer. The objectives of this study are to determine timing of first communication to children about the mother's breast cancer, frequency of further discussions about mother illness, and factors that may influence communication to the children.

Methods: Since July 2005 all consecutive women included in the long duration disease registry of the French National Health Insurance Fund for a diagnosis of primary breast cancer, aged 18−40 years and living in South Eastern France have been asked to participate in a 5 years follow-up. Until March 2009, 291 women have been included (response rate: 70%), 235 of them had at least one child at the time of diagnosis. 10 months after diagnosis, women were asked about frequency of discussions with their children about their illness. This was studied in relation to socio-demographic factors, clinical variables and children's characteristics using logistic models.

Results: Children were usually told about their mother disease at the time of diagnosis (65%), but a minority of women waited until after treatment to inform their children (32%) or said nothing at all (3%). Concerning further discussions about their illness, 53% of women reported frequent discussions with their children, 38% few discussions and 9% no discussion at all. In multivariate analysis further communication with children was more often reported in women having a high level of education, living in couple, with a known family history of breast or ovarian cancer, who received chemotherapy and hormonal adjuvant therapy and who declared they have had the opportunity to ask questions about their disease at the time of diagnosis announcement. Age of women, maternal language, tumour size, cancer prognosis, depression, perceived quality of life, number of children, age and sex of children, and spouse contribution were unrelated to discussions about maternal cancer.

Conclusion: Our results suggest that maternal factors, but also physician's factors strongly influence communication to the children. Physicians on charge of cancer announcement should be aware of the importance of the information they provide to women to help them to better communicate with their children.

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Support group intervention after breast cancer treatment: first results of a prospective randomized study

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Background: Many women confronted with a breast cancer diagnosis react with anxiety and depression. Previous studies have demonstrated that 20−35% of women treated for breast cancer has measurable anxiety and depression, compared with 6% in a population of healthy women. Psychological distress has been proposed as a predictive factor for recurrence and survival but results have been inconclusive. The impact of psychological interventions in women treated for breast cancer has been evaluated in many trials; however, few randomized trials had been published when we designed our study.

This abstract report the first results of a randomized study aimed at investigating the effect of support intervention on anxiety and quality of life levels in breast cancer patients, with focus on anxiety and depression.

Materials and Method: Newly diagnosed breast cancer patients receiving adjuvant treatment were asked to participate in this study between April 2002 and November 2007. They were stratified according to adjuvant treatment into two groups; those who had undergone surgery, chemotherapy and radiotherapy and those who had undergone surgery and radiotherapy alone. Of 382 eligible patients, 191 were randomized to the intervention group and 191 to control group.

Control patients were subjected to standard follow-up routines.

The intervention group had support intervention at the Foundation Lustgården Mälardalen. Their treatment concept is based on "Learning to live with cancer". The rehabilitation lasted one week on a residential basis followed by four days of follow-up two months later. During the intervention, the patients received information about cancer etiology, risk factors, treatment, physical and psychological effects and coping strategies. They also participated in relaxation training, qigong, and non-verbal communication. Study patients and control patients completed questionnaires after randomization and after 2, 6 and 12 months. We used the Swedish version of the HAD scale.

Results: There were no significant differences in depression scores between the intervention group and the control group. However, patients who had received chemotherapy had significantly higher depression scores after one year ($p = 0.042$). There were significant differences in anxiety scores between intervention and control patients after one year ($p = 0.019$) and the differences were more pronounced in those who had received chemotherapy.

Conclusion: Support group intervention had a positive effect on anxiety, especially in patients treated with chemotherapy, and this effect lasted for at least one year.

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"Biographical disruption" in mastectomized women: reconstructive surgery to re-establish a psychological equilibrium

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Background: The perception of physical and psychological well-being is closely linked to one's health status and body image. In women, the breast symbolizes sexuality and fertility. Thus, women treated surgically for breast cancer tend to perceive their disease as a threat to their femininity more than to their physical health.

The aim of the present study was to examine body image and perception of psychological and physical well-being in women undergoing mastectomy, both with and without breast reconstruction, and to evaluate the impact of body alterations and self image on quality of life.

Materials and Methods: The study was carried out on a group of 100 women treated by mastectomy. Average age was 51 years (range 30−66). 55 of those studied underwent simple mastectomy and the remaining 55 mastectomy with immediate reconstruction. All the patients filled out two anonymous questionnaires, one to assess body image and the other, the Short Form Health Survey (SF 36), to evaluate the perception of physical and psychological well-being.

Results: Correlations were established using Bravais-Pearson r-values and comparisons of independent samples. It was found that among patients who underwent reconstruction, there was a positive change in both self-image and the perception of physical health status following the procedure ($r = -0.234$; $p = 0.019$), whereas there was a decline in these patients' sense of emotional well-being ($r = 0.360$; $p = 0.000$). The level of vitality fell in women treated with simple mastectomy ($r = -0.265$; $p = 0.000$) and rose in those with reconstruction. There was a negative correlation between body image and social activity ($r = -0.476$; $p = 0.000$), giving rise to psychological distress. Body image affected patients' physical and mental well-being ($p < 0.001$), while chemotherapy showed no direct correlation with either self-image or physical health status.

A comparison of the two groups showed that physical alterations and the desire to hide one's body were statistically significant in all women undergoing mastectomy ($p < 0.001$; $z = 3.466$).

Conclusion: Advances in oncologic surgery have given rise to procedures that are increasingly less radical. The results of the foregoing study suggest that the use of silicon gel breast prostheses should be considered an integral part of therapeutic planning in the treatment of breast cancer. Re-establishing body symmetry by restoring body shape as closely as possible to its premorbid condition can allow affected women to remove the visible signs of disease and thus to feel definitively cured. It follows that esthetic outcomes which are less than satisfying (moderate asymmetry, puckered scarring) have a negative impact on physical well-being. In such cases, patients tend to forget their overall experience with the disease, focusing their attention exclusively on body image.

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No effect of treatment on self-esteem in breast cancer patients

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Background: The objectives of this prospective longitudinal study were to investigate if self-esteem in women with breast problems changes over time and to determine which variables predict patients' self-esteem. The influence of diagnosis, type of operation, chemotherapy, personality, demographic factors, depression, and fatigue on self-esteem in breast cancer patients was examined one year after surgery.

Material and Methods: Women suspected of having early stage breast cancer ($N = 426$) completed the World Health Organization Quality of Life assessment instrument (WHOQOL-100) as well as the Fatigue Assessment Scale (FAS) and the Center for Epidemiologic Studies Depression Scale (CES-D). These questionnaires were completed prior to diagnosis and one year after diagnosis (for patients with a benign breast problem) or surgery (for breast cancer patients). Before diagnosis was known, patients also completed the NEO-FFI personality assessment, measuring neuroticism, extraversion, agreeableness, openness to experience, and conscientiousness, and a demographic questionnaire.

Results: Breast cancer patients had a significant better self-esteem compared with women with a benign breast problem ($p = 0.021$). However, no interaction effect ($p = 0.534$) and no effect of time was found ($p = 0.856$). No differences were found in self-esteem scores between breast cancer patients who were treated with breast conserving therapy (BCT) and patients with modified radical mastectomy (MRM) ($p = 0.852$). Scores of these patient groups also did not change significantly over time ($p = 0.611$). No differences were found between breast cancer patients treated with or without chemotherapy ($p = 0.946$) and no effect of time was found ($p = 0.816$). Factors predicting higher scores on self-esteem one year after surgery were low scores on depressive symptoms ($p = 0.003$), low scores on fatigue ($p < 0.001$), lower scores on neuroticism ($p < 0.001$), higher scores on extraversion ($p = 0.004$), and openness to experience ($p = 0.027$).

Conclusions: Women with a benign breast problem had lower self-esteem compared with breast cancer patients, but scores did not change significantly across time and no interaction effect was found. No group differences and no changes over time were found in self-esteem scores for the different treatment types (BCT versus MRM; with or without chemotherapy). Clinical data, such as diagnosis, type of operation and receiving chemotherapy, did not predict self-esteem one year after surgery. Thus, treatment does not have a significant influence on self-esteem.

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Positive choices in the face of recurrent and metastatic breast cancer

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Background: Little research has been devoted to understanding the psychological demands and decisional challenges facing women when cancer returns to threaten their lives once again. It is not known if the decision making experience at the initial diagnosis supports or impairs the capacity to make decisions regarding recurrent disease. Further, it is not known if the occurrence of recurrent disease causes a detrimental post-decision appraisal such as guilt, remorse, or regret concerning the decisions made for early stage cancer. The purpose of this study is to close the gaps in our knowledge regarding the decision making experiences of women with recurrent disease.

Material and Method: Using a qualitative approach, the theoretically challenging task was to find an explanation that accounts for the relative ease with which some women make a serious medical decision, and the overwhelmingly difficult and stressful experience of others. Intensive face-to-face interviews with 48 women were conducted at the time of diagnosis using the constant comparative method of Grounded Theory. This systematic approach identified decision processes unique to the context of recurrent and metastatic treatment alternatives.

Results: Analysis of the narrative data reveal ways in which naturalistic (unaided) decision processes express optimistic bias (looking ahead) and hindsight bias (looking back) and how these processes influence decisional quality and psychological coping. A surprising result was the salience of positive thinking women expressed regarding their future, despite evidence