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

E. Palma[1], R. Massa[1], L. Fei[1], D. Casella[1], L. Cataliotti[1]. [1]*AOU Careggi, Breast Unit, Firenze, Italy*

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

M.J.J. Pullens[1], B.L. Den Oudsten[1], A.F.W. Van der Steeg[2], J.A. Roukema[3], J. De Vries[1]. [1]*Tilburg University, CoRPS – Center of Research on Psychology in Somatic Diseases Medical Psychology and Neuropsychology, Tilburg, The Netherlands;* [2]*Emma Children’s Hospital AMC and VU Medical Center, Department of Surgery, Amsterdam, The Netherlands;* [3]*St. Elisabeth Hospital, Department of Surgery, Tilburg, The Netherlands*

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

P. Pierce[1]. [1]*University of Michigan, School of Nursing, Ann Arbor MI, USA*

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 one would expect to lead to pessimism or despair. These findings advance decision science by incorporating current theories of positive emotion which highlights the importance of positive mood for broadening thought and building future resources when facing the long term sequelae of recurrent disease.

Conclusions: Clinically, it is important to understand the processes which lead women to select unnecessarily aggressive therapies or decline therapy altogether from a sense of despair rather than reasoned deliberation. The importance of understanding women's decision behavior at various points in the treatment continuum lies in targeting problematic areas where structured decision interventions may improve decision quality and subsequent psychological outcomes in this chronic and life-threatening disease.

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Choice of surgical treatment in breast cancer is not influenced by personality and quality of life

L. van der Steeg[1], J. De Vries[2], J.A. Roukema[3]. [1]*Emma Children's Hospital/AMC, Pediatric surgery, Amsterdam, The Netherlands;* [2]*Tilburg University, Medical Psychology, Tilburg, The Netherlands;* [3]*St Elisabeth Hospital, Surgery, Tilburg, The Netherlands*

Background: When confronted with the diagnosis early stage breast cancer women are usually allowed to choose their surgical treatment. The options are breast conserving therapy followed by radiotherapy (BCT) or mastectomy (MTC). Personal characteristics that may influence this decision were assessed in this study.

Methods: Women referred to the outdoor clinic with breast disease were asked to participate in a prospective study concerning quality of life. Before breast cancer was diagnosed the women completed questionnaires concerning quality of life (WHOQOL-100), personality (NEO-FI), depressive symptoms (CES-D), fatigue (FAS), and anxiety (STAI). Regression analyses were performed to see whether any of the clinical, psychological or personality factors or the clinical parameters were of significance in the decisional process.

Results: Between September 2002 and January 2007 609 women were included in the study of whom 225 were diagnosed with early stage breast cancer. Of these women 133 choose BCT and 90 women opted for MTC as surgical treatment. Two women requested to be treated with hormonal therapy only.

There were no differences between the two treatment groups concerning demographic, personality, and psychological characteristics. The women who opted for MTC had larger tumors on radiology ($p < 0.001$), and women who choose for BCT had tumors that were found more often with a breast cancer screening program.

Logistic regression analyses showed that only participation in a breast screening program and a high score on the domain social relationships of the WHOQOL-100 had a significant influence on the treatment choice and predisposed for BCT.

Conclusions: The choice between BCT and MTC is based on personal preference of the woman. So far this choice cannot be explained by personality or pre-existent overall QoL. This implies that differences in QoL found after breast cancer treatment are caused by the chosen type of surgery.

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Evaluation of a breast reconstruction service: multi-disciplinary care and satisfaction with information leads to improved outcomes

K. Redman[1], T. Proudman[2], D. Walsh[1], J. Field[3]. [1]*The Queen Elizabeth Hospital, Breast and Endocrine Surgical Oncology, Adelaide, Australia;* [2]*The Queen Elizabeth Hospital, Plastics and Reconstructive Surgery, Adelaide, Australia;* [3]*University of Adelaide, Faculty of Health Sciences Statistical Support Service, Adelaide, Australia*

Background: At the Queen Elizabeth Hospital (TQEH) in Adelaide, South Australia, a 350 bed publicly funded hospital situated in the culturally diverse western suburbs, a collaborative service is provided for women considering breast reconstruction.

Comprised of the Breast surgical team, in conjunction with the Plastics and Reconstructive surgical team, a multidisciplinary approach to care of these women and their families has developed. Until now this service had not been evaluated from a client perspective.

Methods: A self-report questionnaire was developed with specific questions asked about the woman's pre and post-operative experience. All women who had undergone a breast reconstruction in the past ten years were eligible.

Information was collected on:

- The surgical consultations they received pre operatively
- Their hospital experience after their surgery
- Their psychological outcomes once treatment was completed

Results: 112 surveys were sent. 50 surveys were completed and returned. Results were entered into a database (Predictive Analytics Software) and analysed with Fisher's exact test.

Key findings were:

- Main source of initial information about reconstruction was breast surgeon and breast care nurse
- Patients seen in TQEH outpatients clinic were more likely to see a breast care nurse than those seen privately ($p = 0.05$)
- All those who were happy with the result (72%, $n = 34$) felt they had received adequate information after the first plastic surgeon consultation, only 63% (5 out of 8) patients who were not happy felt they were satisfied with the information provided ($p = 0.012$)
- Those that were satisfied with the information received and consequently understood more about the procedure were glad they had reconstruction ($p = 0.018$; 0.015) and were more confident post operatively ($p = 0.008$, 0.006)
- Women were happy to recommend the surgery if they had received adequate information pre operatively ($p = 0.028$)
- 86% of those who saw a plastics nurse pre-operatively were more confident after the surgery, but only 54% of those who didn't see a plastics nurse were more confident after surgery ($p = 0.05$)

Conclusions:

- Satisfaction of information and improved understanding were linked to improved psychological outcomes post operatively in this group of women.
- Both medical and nursing involvement with these women was shown to be important.

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Collateral damage − the full impact of breast cancer on the family unit

H. Al-Momani[1], M. Tayson[1], A. Hattab[1], K. Gomez[1], S. Ghosh[1]. [1]*Nevill Hall Hospital, General Surgery, Abergavenny, United Kingdom*

Aim: To objectively assess the psycho-social impact surgery and other adjuvant treatment modalities for breast cancer has on patients' spouses/ partners.

Method: The Nottingham Health Profile index of Distress (NHPD) is a generic undimensional 24-item measure of illness-related distress. It consists of 24 dichotomous (Yes/No) items that yield a score ranging from 0 to 24. Higher scores indicate more distress. Participants were asked to fill in the NHPD while attending with their partners to follow up clinics.

Results: 61 participants took part in the study (Mean Age: 61.4). All were males. Most were retired ($n = 32$). Most of their partners have had their surgery within the last five years ($n = 42$). The median NHPD score for the sample was 8. Higher scores were noted in the elderly (p 0.03). Chemotherapy was described as the most disturbing experience by the majority ($n = 36$), yet receiving chemotherapy was not associated with higher scores (p 0.043) unlike Radiotherapy which was (p 0.049). Lower scores were noted in those whose partners have had their diagnosis within the last five years ($p < 0.001$).

Discussion: Duration since diagnosis has no impact on the NHPD score; however there seems to be a recent improvement in communication, leading to a better understanding of the disease from both patients and their partners. The elderly seem to be distressed the most and adjuvant therapy was described as the most disturbing experience. Breast cancer impacts on both the patients and their families alike and patients' partners should also be considered during consultations and offered support if needed.

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Personality and not type of surgery affects body image in women with breast problems

B.L. Den Oudsten[1], M.J.J. Pullens[1], A.F.W. Van der Steeg[2], J.A. Roukema[3], J. De Vries[1]. [1]*Tilburg University, Medical Psychology, Tilburg, The Netherlands;* [2]*Emma Children's Hospital AMC and VU University Medical Centre, Pediatric Surgery, Tilburg, The Netherlands;* [3]*St. Elisabeth Hospital, Surgery, Tilburg, The Netherlands*

Background: The objective of this prospective study was to examine the changes in body image over time in women with breast problems and to determine which factors (sociodemographic, clinical, personality) predict body image scores at different time points over a one-year period.

Materials and Methods: Women with breast problems ($n = 384$) completed prior to diagnosis (Time-1) and one (Time-2), three (Time-3), six (Time-4), and 12 months (Time-5) after primary surgery a measure of body image (WHOQOL-100-facet Body Image). Before diagnosis was known, personality was assessed (NEO-FFI). Clinical data were derived from medical files.