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EVALUATION OF THE PSYCHOPATHOLOGICAL PROFILE OF WOMEN UNDERGOING REDUCTION MAMMAPLASTY USING THE SYMPTOM CHECKLIST-90-R
ABSTRACT

INTRODUCTION: Patients presenting for reduction mammaplasty (RM) want relief of their physical, as well as their social and emotional, problems, including low self-confidence and impaired body image. RM is known to improve the physical and psychological wellbeing of the patients. It can therefore be speculated that such patients are motivated by psychological problems and may have psychopathologies.

OBJECTIVES: To assess the psychopathological profile of patients presenting for RM using a validated instrument.

METHOD: The Symptom Checklist-90-R (SCL-90), a validated instrument for evaluating a broad range of psychopathological problems and symptoms, was used to assess patients before RM. The SCL-90 reports a general psychoneurotism score, as well as scores for 8 other separate subscales, namely anxiety, agoraphobia, depression, somatization, sensitivity (interpersonal), inadequacy, hostility and sleep disturbances.

RESULTS: A total of 67 patients were tested. The average age was 36, standard deviation 11.2 years. The mean score for psychoneurotism was 130, standard deviation 38.7 (norm 123). This was not found to be significantly higher. Only the subscores for somatization and sleep disturbance were significantly higher.

CONCLUSION: Patients undergoing RM score normally for psychoneurotism using the SCL-90 test. RM should not be denied on the basis that the motivation is the result of psychopathology. Psychological testing is not recommended for most patients presenting for breast reduction surgery. Clinical judgment based on common sense should be used and not a test.

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INTRODUCTION

Reduction mammaplasty (RM) is a frequently performed surgery. It is estimated that in 2012 more than 112,000 procedures were performed in the US [1]. Patients presenting for this surgery want relief from their physical, as well social and emotional, problems such as low self-confidence and impaired body image [2, 3]. RM is known to improve the physical and psychological wellbeing of the patients, although the latter has received less attention in the medical literature [4-12]. Collins et al. report that patients seeking RM had significantly lower scores for the mental component of the Short Form 36 and that following surgery it improved significantly [13].

As not all women with large breasts seek RM [14], it can be speculated that the motivation of the women who do is mainly psychological and cosmetic, and that some of those patients may have psychopathology. If that is the case, some of those patients undergo surgical procedures in order to treat a psychological problem. This can indeed be an indication for an operation, and may possibly improve the patients’ wellbeing. However, such claims may be deleteriously used by health care insurers who are reluctant to cover the expense of the surgery.

Knowledge about the severity of the psychopathological profile of women seeking RM may help to refute or to accept those claims.

We performed a study to evaluate the psychopathological profile of patients undergoing RM.

PATIENTS AND METHODS

Setting: University teaching hospital. Ethics: The study was approved by the medical and ethical committee and the tenets of the 1975 Declaration of Helsinki were adhered to.

The Symptom Checklist-90-R (SCL-90) is a validated instrument for evaluating a broad range of psychopathological problems and symptoms [15]. It is a psychiatric self-report inventory containing 90 questions which provide a multidimensional state measure of psychopathology. The questions are scored on a five-point scale (1-5) from ‘not at all’ to ‘extremely’, indicating the rate of occurrence of the symptom during the time reference. It is intended to measure symptom intensity on 8 different subscales, namely anxiety, agoraphobia, depression, somatization, sensitivity (interpersonal), inadequacy, hostility, and sleep disturbances. There are also items that remain uncategorized but are included in the total score. The total SCL-90 score reflects general psychoneurotism or psychological distress. The SCL-90 has norm values for the six following groups: adult non-patients, patients visiting their general practitioner, patients with chronic pain, psychiatric outpatients, psychiatric inpatients and addicted inpatients. There are different norms for men and for women. It is thus possible to compare the psychopathological profile of subjects being tested against standard norms, and to use the SCL-90 as an index of the severity of
psychopathology [15]. The SCL-90 has been shown to have good reliability and it high internal consistency [16].

During the period from 1 October 2003 to 30 June 2004, all adult female patients undergoing bilateral RM at our medical centre were offered the opportunity to participate in the study. The Dutch version of the SCL-90 questionnaire was administered to the patients within one week before surgery. Patients who could not understand the Dutch version of the SCL-90 questionnaire were excluded. A two-tailed t-test for a single mean was used to test the significance against the Dutch female norm [17]. A value of \( p < 0.05 \) was considered significant.

**RESULTS**

We included 67 patients. The mean age of our patients was 36 years (SD 11.2, range 18–66). The average total reduction weight was 1,098 g (SD 525, range 276–2510). The mean score for psychoneurotism was 130 (SD 38.7), while the mean for the normal Dutch female population is 123 [17]. This difference was not significant (\( p = 0.1494 \)). When comparing the total score for the 8 specific domains of the SCL-90 of patients about to undergo RM against the standards for adult female non-patients, a normal population without physical and psychological complaints, only the scores for somatization \( (p < 0.01) \) and sleep disturbances \( (p = 0.01) \) were significantly higher. See Table 1.

When compared with women with chronic pain, it was found that the patients’ score for psychoneurotism was significantly lower \( p < 0.05 \) than the population norm of 149.6.

The patients were further divided into three groups according to the total resection weight: small resections of less than 400 g, standard resections between 400 and

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**Table 1. SCL-90 Scores of the patients compared to the norm values**

<table>
<thead>
<tr>
<th></th>
<th>Mean (study)</th>
<th>Normal female population</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Norm</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>13.79 (4.56)</td>
<td>13.43</td>
<td>0.5216838</td>
</tr>
<tr>
<td>Somatization</td>
<td>19.56 (5.27)</td>
<td>17.55</td>
<td>0.003114</td>
</tr>
<tr>
<td>Hostility</td>
<td>7.72 (2.29)</td>
<td>7.33</td>
<td>0.1791982</td>
</tr>
<tr>
<td>Agoraphobia</td>
<td>8.07 (2.24)</td>
<td>8.12</td>
<td></td>
</tr>
<tr>
<td>Inadequacy</td>
<td>13.81 (4.85)</td>
<td>12.98</td>
<td>0.1746146</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td>5.90 (2.89)</td>
<td>4.7</td>
<td>0.001414</td>
</tr>
<tr>
<td>Depression</td>
<td>23.40 (9.22)</td>
<td>22.89</td>
<td>0.6585581</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>26.00 (10.61)</td>
<td>24.83</td>
<td>0.3749554</td>
</tr>
<tr>
<td>Total score (general</td>
<td>130.00 (38.7)</td>
<td>123</td>
<td>0.1494573</td>
</tr>
<tr>
<td>psychoneurotism)</td>
<td></td>
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999 g, and large resections of 1000 g or more. The patients with a small resection (n=5) had a score of 143.2. This was significantly higher than the norm for normal women (p<0.05). It was lower than the norm for chronic pain, but not significantly so. The patients with standard resections (n=25) had an average score of 121, which is lower than the norm for normal women, although this difference was not significant. This score was significantly lower than the norm for chronic pain (p<0.01). The patients with large resections (n=37) had a score of 134.3. This was significantly higher than the norm for normal women (p<0.05), but at the same time significantly lower (p<0.05) than the norm for chronic pain.

**DISCUSSION**

Both the subjective and the objective beneficial effects of RM are well documented [4, 6-9, 18-20]. Because psychological factors like body image and self-confidence also play a role in the decision of women to seek RM [10-12], it may be speculated that such patients have a different and more severe psychopathological profile than the normal population [14]. We therefore used the SCL-90, which is a validated tool with standard norm values, to assess whether that is the case. As mentioned in the introduction, the SCL-90 has norms which are adapted to different populations, since different population groups will have different levels of psychoneurosis. We therefore chose to compare the patients to the norms for female non–patients, as well as with those for females with chronic pain, since women undergoing RM do so most often because of chronic back and shoulder pain.

The psychoneurosis score of our patient group as a whole was higher than the norm for the female general population. However, this difference was not significant and the majority of our patients had scores that may be classified as normal.

It should be noted that the patients scored significantly higher than the norm for somatization. This can be explained by the fact that the questions in the somatization category relate, among others, to complaints such as back pain, headaches, and chest and muscle pain. These complaints are common in patients seeking RM and are in fact part of the criteria for reimbursement of the surgery by insurers. It could also be suggested that the patients are somatizing their psychological problems and projecting them on bodily complaints, but in view of the normal total score for psychoneurosis, we consider this to be less probable.

It is also possible that, despite the fact that the answers to the questionnaires had no influence on the decision to operate on the patients or on the coverage by the insurance, the patients nevertheless tended to overrate the symptoms “necessary” for coverage by health care insurance.

A drawback of our study is that we did not correlate between the pain complaints of the patients and their scores on the SCL-90. Had we done, so we could possibly have accounted for the higher answers on the somatization scale. However, one of the
criteria for reimbursement of the surgery was the presence of back pain, so one should expect to see pain complaints in patients undergoing RM.

Interestingly, the patients who had small reductions of less than 400 g had the highest scores. However, this group was small (n=5) which made it difficult to interpret those findings. The size of the breast reduction has been found not to correlate with symptom relief and it has been suggested that it should not be used as a determinant of medical necessity [21]. Excluding these patients from the analysis did not change the outcome of the study.

We did not check the patients postoperatively, although doing so could help us to assess the effect of surgery on the psychological profile of the patients. However, due to the normal findings we would expect to see little change. It may be interesting to use the SCL-90 in conjunction with the Breast-Q questionnaire [22].

The majority of our patients had a normal psychopathological profile using the SCL-90. It may be claimed that our findings are due to the screening process that takes place before the decision to perform surgery, and the final decision is made by the plastic surgeon who sees the patient at consultation. Our patients do not undergo standard psychopathological testing, and we do not refer them to a psychologist or psychiatrist before surgery. The findings of this study prove that standard psychopathological testing is not needed for RM.

CONCLUSION

Patients undergoing RM score normally for psychoneurotism using the SCL-90 test. RM should not be denied on the basis that the motivation is the result of psychopathology. Psychological testing is not recommended in most patients presenting for breast reduction surgery. Clinical judgment based on common sense should be used and not a test.

REFERENCES


