

## Original Article



# Comparison of Psychological Status after Breast Conservation Surgery with Radical Modified Mastectomy in Women with Breast Cancer Referred to Hospitals in Tabriz

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**ABSTRACT**

The purpose of this study is to both evaluate and compare the psychological status of the patients undergone the breast conservation surgery in comparison with those patients who have undergone mastectomy. This descriptive cross-sectional study was conducted with the participation of 220 patients after breast surgery (two groups of the modified radical mastectomy (i.e., the first group) including 140 people and the breast conservation surgery group (i.e., the second group)) in Tabriz University of Medical Sciences to compare their psychological status. They were assessed using SCL-90-R 1 and the Zong Depression Self-Assessment Scale or 2 (ZDS) and compared, as well. In the case of ZDS results, the results are similar to the SCL-90-R. Thus, immediately after surgery and at discharge time from the hospital, depression scores were not significantly different between both groups. However, in the evaluation after 6 months, the group with breast protection surgery was significantly different from the mastectomy group and its depression scores were lower, while the decrease in the scores of this group was significant compared with the mastectomy group during six months. To sum up, the results of the present study suggest that the psychological benefits of breast maintenance surgery in the early stages of treatment are due to the patient's stress and anxiety about choosing a treatment that is not at least currently the gold standard one for breast cancer.

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## Introduction

**B**reast cancer is a disease that has long been known to mankind and has been described in various forms in historical medical textbooks, and some of the descriptions are surprisingly in line with the current scientific facts. Throughout the medical history, therapists have used surgical and non-surgical methods to treat or at least control this deadly disease [1]. An important point in studying the evolution of facing this common cancer in women is the gradual change formed in the general views and beliefs of physicians and researchers, so that the profound aggressive thinking and a kind of fearlessness with the disease, over time committed itself to more conservative approaches, measuring the benefits and harms of the type of intervention, and eventually leading to the rational elimination of parts of the past stubborn treatments and extensive surgeries [2].

During the last decade, various breast preservation surgery techniques have been proposed and have been of high significance for both physicians and patients. Definitely one of the main reasons for the rapid birth and evolution of this surgical method is due to the aesthetic aspects and the patient's desire to preserve part of the body and less damage to the body image [3]. Numerous scientific reasons support breast conservation surgery as long as the results are equivalent to mastectomy [4]. Maintaining the patient's confidence and female identity, avoiding the local complications of wider surgery in a perfect mastectomy, reducing the length of hospital stay, and declining postoperative pain, discomfort, and treatment costs at this time are some of the definite benefits [5].

Of course, breast augmentation surgery, in addition to being challenged for some of the above-mentioned benefits, sometimes faces objections and criticisms that pave the way for further research. Among other things, by accepting the reduction in the costs of hospitalization and treatment at this stage, given the cost of follow-up and care for the remaining breast, will the balance of the cost-benefit ratio

to breast maintenance surgery remain heavier? In addition, it is not clear that patients' anxiety and worry about remaining part of the breast which once carried cancerous tissue will bother the patient less than the complete absence of the breast. Likewise, the long-term survival rate is the same in both surgical methods, and also determining the true boundary of separation of candidate patients of each method requires further research [6].

It is noteworthy that today in very high-risk patients in terms of the risk of breast cancer, even before its onset and if the patient is admitted, prophylactic mastectomy is acceptable and appropriate [7]. Regarding all these aspects, it will become clear why breast conserving surgery, despite its very pleasant initial image and some undeniable benefits, is frequently questioned and criticized to the point where some researchers make definitive comments about it, postpone the passage of time and obtaining more experience through study. The purpose of this scrutiny is to investigate one of the aforementioned dimensions, as to evaluate and compare the psychological status of the above patients in comparison with those patients who have undergone mastectomy.

## Material and Methods

A cross-sectional descriptive study was performed on all women with breast cancer who referred to the thoracic surgery ward of Imam Reza Hospital since 2017 to the end of 2020. Inclusion criteria were women of childbearing age and before menopause, no history of known psychiatric illness, no history of psychiatric medication use, no addiction to psychedelic drugs or narcotics, no history of radiotherapy or chemotherapy, no history of chronic and incurable diseases of the heart, lungs, kidneys, nervous system, etc. and require long-term care and treatment, at least a high school diploma and finally the patient's consent to participate in the study. A total of 220 patients were studied, which were divided into two groups according to the treatment selected by the treating surgeon: 140 people and the breast conservation surgery group (group 2), including

80 people, and the mental health status was assessed.

To review the mental health status of both groups, the revised Semiotics Checklist 90 or 1 (SCL-90-R) and the Zong Depression Self-Assessment Scale or 2 (ZDS) were used. SCL-90-R is a self-reported questionnaire including ten sets of clinical signs in 9 axes, which has been adjusted by the clinical evaluation department of Pearson Evaluation and Information Group to assess the psychiatric status of individuals. Each person assigns a score between zero and four to each item, depending on their perception of the symptom severity. The second tool, Zong Depression Self-Assessment System (ZDS), is a scoring tool which presents 20 questions to the audience and assigns a number from one to four to each answer, thus quantifying the severity of depression in individuals. This tool was designed by Zhong at Duke University.

Patients were assured that the questionnaires were unnamed or unmarked, and that all information would be kept confidential. All patients were asked to submit the SCL-90-R form in the hospital and before surgery, but the ZDS form after surgery and discharge from the hospital without the assistance of any friends or relatives and, if necessary, only complete with the expert guidance of the Cancer Surgery Research Center and provide to the research team. All patients were again asked to fill up and return both forms at the same time after 6 months. A total of 115 people from the first and 62 people from the second group cooperated in all stages and provided the forms to the research center, and also the rest of the patients were excluded from the study.

The obtained data were quantitatively retrieved and analyzed using t-test and SPSS software. Two-way  $p$  value was calculated and values less than 0.05 were considered as significant.

This study was carried out with the approval of the Ethics Committee of Tabriz University of Medical Sciences (No. [IR.TBZMED.REC.1398.283](#)) and obtained the informed consent from all participants.

## Results

The results revealed that at the time of hospitalization and primary surgery, all variables separately and the total score of SCL-90-R in the second group (i.e., the breast preservation group) were not statistically significant compared with the first one (i.e., the mastectomy group).

All of the aforementioned variables were re-analyzed after six months. Except for the two variables of obsessive-compulsive disorder and pessimism, the difference between other variables and the total score in both groups was significantly different, so that the scores were lower in the group with breast protection surgery. The breast preservation surgical group was significant in contrast to the mastectomy group.

In the case of ZDS results, the results are similar to the SCL-90-R. Thus, immediately after surgery and at discharge time from the hospital, the depression scores were not significantly different between both groups. However, in the evaluation after 6 months, the group with breast protection surgery was significantly different from the mastectomy group and the depression scores of this group were lower, while the decrease in the scores of this group was significant compared with the mastectomy group during the same period of time.

## Discussion

Given the statistics and the variety of surgeries performed for the treatment of breast cancer in different countries, it is quite obvious that the growing trend of breast protection surgery, which began about a decade ago and continues today, has led to its currently accounts for a significant percentage of breast cancer surgeries [8]. The study revealed that patients who were candidates for breast conservation surgery at diagnostic time and in the short term were not different in terms of psychological status compared with those patients who underwent mastectomy, but the significant effect of time was vivid on patients' mental health in reducing psychological symptoms [9], and the rate of depression is a group that undergoes breast

augmentation surgery, while in people who underwent mastectomy, mental health, psychological symptoms and depression did not decrease within six months compared to the time of surgery, and even in The average score of depression is seen in the increase in scores. Comparison of the two groups after six months indicates a more favorable psychological status in the group that underwent breast protection surgery [10].

It seems that at the beginning of the visit, the anxiety caused by the decision and patients' hesitation who are candidates for breast conservation surgery significantly prevents its psychological benefits. Many studies have reported the prevalence of psychological stress, anxiety, and depression in patients with breast cancer after diagnosis and before surgery. Michelle's meta-analytic study in 2011 illustrated that 20 to 25% of breast cancer patients had symptoms of depression and anxiety to the extent that the need for clinical intervention. In a study by Arnaboldi et al., patients revealed the symptoms of post-traumatic stress disorder (avoidance, disturbing thoughts about cancer, and anxiety) after receiving a diagnosis of breast cancer, as well as during surgery, although after two years of follow-up, symptoms were not explicit for the general population [8,3].

However, the passage of time, the elimination of the above-mentioned factors, and highlighting the benefits of breast maintenance surgery, causes the psychological condition of patients undergoing breast maintenance surgery to indicate a more improving trend compared with the patients undergoing mastectomy. In a similar study by Al-Taher *et al.* in 2013, the results were consistent, with those patients who underwent breast-conserving surgery having a higher quality of life and better psychological and sexual adaptation to the disease. One of the issues which can have a significant psychological burden for patients is the threat of body image 3 by the diagnosis of breast cancer. It seems that radical surgeries can lead to more distortions of body image than surgeries with breast preservation, followed by psychological problems such as anxiety, quasi-physical pain, fatigue, and depression [5,11,12].

## Conclusion

In summary, the results of the present study reveal that the psychological benefits of breast maintenance surgery in the early stages of treatment are due to the patient's stress and anxiety about choosing a treatment which is not at least currently the gold standard one for breast cancer. They do not appear perfectly or partially, but in the long run, due to maintaining the patient's appearance and more contact with the treatment team, it has more psychological benefits than radical mastectomy. Understanding the benefits of this choice for the patient, the cooperation of a psychiatrist and ultimately helping the patient to overcome the anxiety caused by more limited surgery and recurrence fear is essential for this choice and if forgotten, one of the most valuable strengths of this surgical approach is maintaining the health. The psyche will be sick, lost, or delayed.

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