Perception of Ideal Breast: An Analysis of Symmetry, Size, and Shape Preferences in Turkish Population

Anıl Demiröz[1], Başak Dağhan[1], Tuğba Feryal Yıldız Değer[2], Arif Türkmen[1]

[1]Department of Plastic, Reconstructive and Aesthetic Surgery, İstanbul University-Cerrahpaşa, Cerrahpaşa Faculty of Medicine, İstanbul, Turkey
[2]Department of Plastic, Reconstructive and Aesthetic Surgery, Health Sciences University, Bakırköy Sadi Konuk Training and Research Hospital, İstanbul, Turkey

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Abstract

Objective: Breast is one of the secondary sex characters defining gender. It would be an appropriate approach for breast surgeons to evaluate the breast aesthetically when performing aesthetic and reconstructive breast procedures.

Methods: Four different women with different breast sizes and shapes were selected. A questionnaire form was prepared with the photos taken from the front and right obliques of these four different women. The participants were asked to evaluate the symmetry, shape, and size of the breasts by looking at the photos and to determine and interpret the attractiveness score.

Results: The participants were 430 men and 570 women. The B cup breast received the highest attractiveness score among the models in all the groups. Sagging has been the most commented and criticized parameter.

Conclusion: In this study, we aimed to evaluate the aesthetic perspective of breast in our society and believe that it is beneficial in terms of understanding the patient's expectations, guiding her correctly, and improving what we can do as surgeons.

Keywords: Aesthetic surgery, breast reconstruction, breast surgery, mammaplasty

İdeal Meme Algısı: Türk Toplumunun Simetri, Boyut ve Şekil Tercihleri Üzerine Bir Analiz

Öz

Amaç: Meme, cinsiyeti tanımlayan ikincil seks karakterlerinden biridir. Memenin estetik ve rekonstrüktif ameliyatlarını uygulayacak cerrahın memenin estetik görünümünü değerlendirmesi uygun bir yaklaşımdır.

Yöntem: Farklı meme boyutları ve şekilleri olan dört farklı kadın seçildi. Bu dört farklı kadının önden ve sağ oblik yönden çekilmiş fotoğrafları kullanılarak bir anket formu hazırlandı. Katılımcılardan memelerin simetrisini, şeklini ve boyutunu fotoğraflara bakarak değerlendirmeleri ve çekicilik puanını belirleyip yorumlamaları istendi.

Bulgular: 430 erkek, 570 kadın katılımcı çalışmaya katıldı. B kap büyüklüğündeki meme, tüm gruplarda modeller arasında en yüksek çekicilik puanını aldı. Sarkma en çok yorumlanan ve eleştirilen parametre oldu.

Sonuç: Toplumumuzda memenin estetik bakış açısını değerlendirmeyi amaçlayan bu çalışmanın, hastanın beklentilerini anlamak, onu doğru yönlendirmek ve cerrah olarak yapabileceklerimizi geliştirmek açısından faydalı olduğunu düşünüyoruz.

Anahtar Kelimeler: Estetik cerrahi, mammoplasti, meme cerrahisi, meme onarımı

Breast is one of secondary sex characters that defines gender. Apart from being an evolutionary symbol of fertility, breast is an important aesthetic element that contributes to sexual attraction.

Today, we know that most of the plastic surgery procedures are in the field of breast plastic surgery; however, breast cancer is the most common cancer in women [1]. Demand for reconstruction after an early stage breast cancer is increasing with developments in both oncology and reconstructive fields. For all these procedures to be successful, it is necessary to understand the concept of a beautiful breast and the true expectations of the patient. Although some objective parameters define the beautiful breast, ultimately it is a subjective concept [2-7]. It is difficult to find objective values when defining a beautiful breast because they change according to people and societies with different ethnic origins, sociocultural levels, and views. In addition, the concept of a beautiful breast remains under the influence of time. Current cultural trends, fashion, and personal perspec-

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Address for Correspondence/Yazışma Adresi: Anıl Demiröz, Department of Plastic, Reconstructive and Aesthetic Surgery, İstanbul University-Cerrahpaşa, Cerrahpaşa Faculty of Medicine, İstanbul, Turkey
E-mail/E-posta: anil.demiroz@iuc.edu.tr
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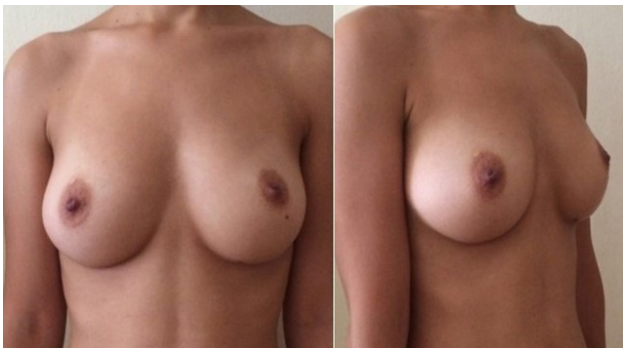

Figure 1. The first model with B cup breast size and no ptosis

Figure 2. The second model with D cup breast size and grade 3 ptosis

Figure 3. The third model with C cup size and grade 2 ptosis

Figure 4. The fourth model with A cup breast size and no ptosis

tives are responsible for the time-dependent change of the concept of attractiveness [8-12].

Knowing the perception of beautiful breast in society will help aesthetic and plastic surgeons in planning implementation of aesthetic and reconstructive surgical procedures. In this study, we aimed to reveal what was accepted as a "beautiful breast" in our society and thus help surgeons, which in turn helps increase patient satisfaction with both aesthetic and reconstructive procedures.

Material and Methods

This study was designed as a cross-sectional study. Approval was obtained from the İstanbul University-Cerrahpaşa Ethics Committee (83045809-604.01.02), and the study was conducted in accordance with the principles of the Declaration of Helsinki. Photographs of four different female volunteers who had different breast sizes and shapes were taken. These women were between the ages of 18 and 30 and had not yet given birth or undergone breast surgery. They also had no history of rapid weight gain and loss. The cup sizes of the breasts of these four different women were A, B, C, and D. All the women signed a voluntary consent form. Lateral and right oblique photographs were taken of the breasts by one of the plastic surgeons who conducted the study (Figures 1-4).

A questionnaire form was prepared with the photos. The questionnaire was designed as two parts. Demographic characteristics of the participants were included in the first part (sex, age, profession, marital status, and sexual orientation) and photographs of these different breasts in the second part. The photographs were not sorted by breast size and degree of ptosis so as to not affect the perception. The participants were asked to evaluate the symmetry, shape, and size of the breasts and determine an attraction score between 0 and 10. Finally, the participants were asked to give their own interpretation for each model. For symmetry, shape, and size, the participants were asked to mark one of the "like-dislike" buttons against each parameter. An additional space was provided next to this for adding personal comments.

One thousand people were included in this study. All the participants were randomly selected regardless of sex, age, and occupation group. The participants filled out the questionnaire in the presence of one of the plastic surgeons who conducted the study.

Statistical analysis

The results were analyzed using Tukey analysis, and statistical significance was compared with the chi-squared test. The t-test was used to compare the means

Table 1. Demographics properties

Sex	n (%)
Female	430 (43)
Male	570 (57)
Occupation	
Doctors	281(28.1)
Nurses	67 (6.7)
Engineers	91 (9.1)
Teachers	57 (5.7)
Students	186 (18.6)
Housewives	36 (3.6)
Others	282 (28.2)
Level of education	
Primary	13 (1.3)
Secondary	14 (1.4)
High school	93 (9.3)
Associate degree	33 (3.3)
Undergraduate	473 (47.3)
Graduate	330 (33)
Doctorate	44 (4.4)
Marital status	
Married	697 (69.7)
Single	303 (30.3)

of the two groups, and analysis of variance was used to compare the means of three or more independent groups. P<0.05 was considered statistically significant. IBM Statistical Package for Social Sciences for Windows, version 22.0 (IBM SPSS Corp., Armonk, NY, USA) was used for analysis.

Results

Demographics of responders

This questionnaire was answered by 430 men and 570 women. The detailed demographic properties of the responders are shown in Table 1.

Symmetry, size, and shape

The highest total score for symmetry, size, and shape belonged to the third model with B cup breasts. The details of the scores are shown in Table 2.

Table 2. Percentages of likes for symmetry, size, and shape

	Symmetry (%)	Size (%)	Shape (%)
Model 1	51	66.4	26.4
Model 2	39.1	22.3	18.5
Model 3	68.5*	86.9*	87.2*
Model 4	45.4	13.3	24.9

*The highest scores for the category

Table 3. Overall attractiveness scores out of 10

	Mean	SD
Model 1	4.05	2.07
Model 2	3.23	2.18
Model 3	7.22*	2.03
Model 4	3.24	2.19

*The highest score for the category. SD: standard deviation

Attractiveness

The highest mean attractiveness score (7.22) in all the groups belonged to the B cup breast in the third photo. Overall attractiveness scores for each model are shown in Table 3.

For the second, third, and fourth models, men scored higher than women. It was found to be statistically significant for the second, third, and fourth models between the male and female groups (p<0.05). The attractiveness scores by sexes are shown in Table 4.

The first model was scored higher by housewives than other occupational groups (p<0.05). Students and teachers scored the same model lower than others (p<0.05). The second model was scored highest by students but the least by nurses (p<0.05). There was no significant difference between different occupational groups in terms of attractiveness for the third and fourth models.

There was no significant difference between the groups with different educational status in terms of the attractiveness of the first, second, third, and fourth models (p>0.05).

The first model was scored higher by married people than singles, and the second model was scored higher by singles than married (p<0.05). There was no significant difference between married and single people in terms of the attractiveness of the third and fourth models (p>0.05).

Personal comments

The first model was mostly criticized for "sagging breasts" (32.6%). The second model was accepted

Table 4. Attractiveness scores by sex

Sex		n	Mean	SD	t	p
Model 1	Male	430	3.97	2.02	-1.027	0.305
	Female	570	4.10	2.12		
Model 2	Male	430	3.98	2.31	9.684	0.000*
	Female	570	2.66	1.89		
Model 3	Male	430	7.44	1.74	3.146	0.002*
	Female	570	7.05	2.22		
Model 4	Male	430	3.72	2.27	6.070	0.000*
	Female	570	2.87	2.05		

*Statistically significant difference between scores of different sexes. SD: standard deviation

as "too large and sagging" by participants (34.0%). The third model was found to be "symmetric and large enough" (34.4%). Finally, the fourth model was thought to be "too small" (45.1%).

Discussion

Apart from being an evolutionary symbol of fertility, breasts are an important aesthetic element that contributes to sexual attraction. Achieving beautiful breasts is the primary goal of a plastic surgeon, both in terms of aesthetic breast surgery and breast reconstruction. At this point, the important thing is to determine what is good for the patient, and how the surgeon can achieve patient satisfaction.

To define the ideal breast, anthropomorphic values of the breast were determined in previous studies. Liu et al.[5] reported that the ideal suprasternal notch-nipple distance should be 21–21.5 cm, nipple-to-base distance should be 6 cm, and nipple-to-inframammarian fold distance should be 8 cm. However, the numerical values determined thus far may not always give the best aesthetic result and meet expectations of the patient. The aesthetic perception of the breast may vary depending on the person, sex, age, ethnic origin, socioeconomic level, society, fashion, and time [8]. Among all these variables, the main concern is to understand patient expectations and to ensure satisfaction.

Initially, the participants were asked to evaluate the symmetry, size, and shape of the breast. Among these parameters, the most important determining factor was size; regardless of sex, age, socioeconomic level, education level, and marital status of participants. The model who had B cup breasts was the most liked in terms of size. In addition to size, the model with C cup was evaluated as having the best symmetry and shape.

In the next step, the participants were asked to determine the attractiveness score for each breast. The most important parameter determining the attractiveness was the size of the breast. In accordance with the previous reports, in this study, men scored almost all sizes of breasts higher than women in terms of attractiveness [13]. Overall attraction scores of women were lower than men. When occupational groups and education levels were evaluated together, it was seen that sociocultural level was not an effective parameter in determining attractiveness. Singles scored larger breasts higher than married ones [13]. Broer et al. [8] have evaluated the aesthetic perception of surgeons and non-surgeons living in different societies. They showed that ideal breast sizes in different countries are quite different. However, there was a correlation in the choices of both surgeons and non-surgeons living in the same country. Although we did not classify doctors as surgeons or non-surgeons in scope of this study, we also observed that there was a similar correlation between doctors and other professions.

Individual and independent comments were mostly related to "sagging breast" and "breast size." Sagging had been the most criticized parameter. The third model who had grade 2 ptosis according to the Regnault classification, was not criticized in terms of sagging, and her breasts were the most liked. However, the first model who did not have ptosis, was disliked because of nipple areola complex asymmetry. Similarly, the fourth model who did not have ptosis, was disliked because of size insufficiency.

Mallucci and Branford [3, 4] divided the parameters of the ideal breast into four categories in their studies on 100 models. According to their study, the parameters of the ideal breast were (a) an upper pole/lower pole ratio of 45:55, (b) the nipples facing the sky at an angle of 20°, (c) a slightly concave upper pole slope, and (d) a convex lower pole. In another study by Atiye and Chahine [14], the C and D cup breasts were found

most attractive. In accordance with this study, in our study, the breast with C cup size, upper pole concavity, and lower pole convexity was one of the most liked.

There were two limitations of this study. One was the involvement of four different women as models. This may cause bias. Models differed not only in breast sizes but also in color, breast shapes, body shapes, and have different BMI. Therefore, a standardized comparison was not possible. However, considering that pc-based manipulated images may not be natural, it was preferred to use photographs of different models. All the models were chosen within the normal BMI range (18–25) to partially standardize. The second limitation was that the outcomes of this study represent the perception of a limited group who volunteered for the study. However, the sample size of 1,000 people was considered high enough to generalize a population.

Achieving a beautiful breast is the primary goal of a plastic surgeon, both in terms of aesthetic breast surgery and breast reconstruction. At this point, the important thing is to determine what is beautiful for the patient. According to our population, the most important determining factor was size. In accordance with literature, in our study the breast with C cup size, upper pole concavity, and lower pole convexity was the most preferred option. Interestingly, although sagging had been the most criticized parameter, the breast which had grade 2 ptosis was liked the most. Low-grade breast ptosis seems to be a favorable parameter and was not perceived as sagging breast by the Turkish population. This study, which sheds light on the aesthetic breast perception of our society, will help us understand patient expectations correctly before a surgical procedure, guide the patient accordingly, and ultimately provide increased patient satisfaction.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of İstanbul University-Cerrahpaşa (83045809-604.01.02).

Informed Consent: Written informed consent was obtained from all the models and all the responders who participated in this study.

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