Awareness, acceptance, and perspective of women for reconstruction post mastectomy

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Abstract

Objectives: To assess the level of awareness and acceptance among women for breast reconstruction surgery after mastectomy.

Methods: The observational cross-sectional study was conducted at King Khalid University Hospital, Riyadh, Saudi Arabia, from November 2014 to April 2015, and comprised women aged 19-65 years with breast masses and women with high risk for breast cancer who were offered therapeutic mastectomy. The subjects were interviewed using a structured and validated questionnaire. Data was analyzed using SPSS 21.

Results: Of the 224 individuals approached, 209(93.3%) participated. Of them, 106(50.7%) considered having reconstruction and 97(46.4%) had read or heard about it. The most influencing factor for reconstruction was improving their psychological status 84(40.2%) and the most common reason for refusal was old age 26(12.4%). Patients who were 40 years or younger were more willing to undergo reconstruction (p=0.001).

Conclusion: Patients with knowledge about breast reconstruction were more willing to accept the procedure. Increasing the awareness will increase acceptance of breast reconstruction.

Keywords: Breast cancer, Mastectomy, Breast reconstruction. (JPMA 69: 141; 2019)

Introduction

Breast reconstruction aims at surgically restoring the natural appearance of the breast following mastectomy. There are two main techniques available for breast reconstruction: implant reconstruction and autogenous flaps.[1] The type of reconstruction is chosen based on several factors, including the patient's condition and preference. Reconstruction plays a great role in improving patient's self-esteem and returning the feeling of femininity and sexuality that may have been affected after mastectomy.[2-4]

Despite the fact that breast reconstruction has a positive influence on patient's self-satisfaction, there are some women who refuse to undergo reconstruction after mastectomy and the reasons behind their refusal are not clearly understood in the developing countries.[5]

Many studies showed that the acceptance of breast reconstruction has increased in well-developed countries in contrast to the majority of women in the developing countries who tend to refuse this surgery.[5,6] There is scarce literature evaluating the acceptance and awareness for breast reconstruction for patients in the Middle East.

The current study was planned to assess the level of awareness about this option and to understand the level of its acceptance among women with breast masses.

Methods

The observational, cross-sectional study was conducted from November 20, 2014, to April 15, 2015, at King Khalid University Hospital (KKUH), Riyadh, Saudi Arabia, and comprised both in-patients and out-patients visiting the in breast/endocrine surgery clinic. KKUH is a government hospital that offers therapeutic management free for Saudi and non-Saudi patients who work in the university or the hospital. Permission was obtained from the institutional review board, and informed consent was taken from all the subjects. Patients included were females aged 19-65) years diagnosed with breast masses either benign or malignant, unilateral or bilateral, and patients with high-risk tumour factors such as positive family history of breast cancer and BRCA1 and BRCA2 genes, who were offered therapeutic mastectomy. Patients who had already had breast reconstruction were excluded. The calculated sample size was 224 by considering a prevalence of 69% of acceptance of breast reconstruction immediately after surgery at 0.05 level of

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significance and with 0.6 margin of error.[7] Those who were enrolled were interviewed face-to-face by asking them 17 questions. The questionnaire was set in Arabic and English forms. However, only the Arabic questionnaire was used because all the patients were Arabic speakers. The questionnaire was adapted from previously published questionnaire5. Some elements of this questionnaire were beyond the scope of this study and were omitted. Furthermore, few questions were modified or deleted to make it more culture-appropriate for the Saudi community.

The questionnaire consisted of five sections: 1- Demographic data: age, marital status, educational level, major surgeries and specific breast surgeries. 2- Information about the breast mass site, treatment plan, family history of breast cancer and/or breast reconstruction surgery. 3- Knowledge about breast reconstruction surgery: previous knowledge about reconstruction, source of knowledge and the methods/types of reconstruction that they know.4- Attitude towards breast reconstruction surgery whether or not they will consider breast reconstruction and the timing of undergoing breast reconstruction surgery "yes" or "no". 5- The reasons behind acceptance or refusal were listed. Other non-listed reasons were obtained from the patients and added as comments.

Questions related to knowledge and attitudes were assessed for internal consistency by calculating the Cronbach's alpha measure (α=0.715, 95% confidence interval [CI]: 0. 625 to 0.805), which indicated good reliability.

Data was analysed using SPSS 21. Descriptive statistics, frequencies and percentages were used to describe categorical variables. Pearson Chi-square test and odds ratio (OR) were used to test and measure the association between the responses of categorical outcome variable (willingness to breast reconstruction: Yes/No) in relation to the categorical study variables. P<0.05 was considered statistically significant.

Results

Of the 224 individuals approached, 209(93.3%) participated. Overall, 142(67.9%) subjects were above 40 years of age and 153(73.2%) were married. Most of them had college degrees 93(44.5%), while 28(13.4%) were illiterate. Besides, 100(47.8%) participants had previous breast surgeries, 192(91.9%) were diagnosed with breast mass, 107(51.2%) had a malignant mass, and the left breast was affected in 95(45.5%), the right breast in 76(36.4%) and bilateral in 38(18.2%) (Table-1). Breast reconstruction willingness was observed in 106 (50.6%) subjects. The odds of subjects' willingness to have breast reconstruction in the younger age group <=40 years was 5.65 times more compared to those who were >40 years (p<0.001). Also, the odds of subjects with college level education to have breast reconstruction was 4.75 times more and also with school level educational status to have breast reconstruction was 2.74 times more compared to illiterate subjects (p=0.003). Other variables were not statistically significantly associated with the willingness for breast reconstruction (p>0.05) (Table-2).

Table-1: Socio-demographic and clinical characteristics (n=209).

Characteristics	No.(%)
Age groups (in years)	
<=40	67(32.1)
>40	142(67.9)
Marital status	
Married	153(73.2)
Others (Single, Divorced & Widowed)	56(26.8)
Educational status	
Illiterate	28(13.4)
School level	88(42.1)
College level	93(44.5)
Past Breast Surgeries	
Yes	100(47.8)
No	109(52.2)
Diagnosed with Breast Mass	
Yes	192(91.9)
No	17(8.1)
Kind of Mass	
Malignant	107(51.2)
Benign	84(40.2)
I don't know	18(8.6)
Affected Breast	
Left side	95(45.5)
Right side	76(36.4)
Both sides	38(18.2)

Of the total, 97(46.4%) patients had previous information and knowledge about breast reconstruction, whereas 112 (53.6%) did not have it. The major source of their knowledge was online sources 40(19.1%). The most known method was tissue expanders 40(19.1%), followed by flaps 8(3.8%). However, 60(28.7%) subjects did not know any method but they knew the general concept of breast reconstruction. Women who had some idea about breast reconstruction were more willing to undergo the procedure 57(58.8%). Nevertheless, 49(43.8%) who did not have prior information also thought about having the procedure.

The most important factor contributing to the decision of having breast reconstruction was 'improving the psychological status' declared by 84(40.2%) participants

Table-2: Association between Willingness for breast reconstruction and (i)Socio-demographic & (ii) clinical Characteristics of Study Subjects(n=209).

Characteristics	Willingness for breast reconstruction Yes(n=106)	Willingness for breast reconstruction No(n=103)	χ^2-value	p-value	Odds ratio (95% C.I for odds ratio)
Age groups (in years)					
<=40	52(77.6)	15(22.4)	28.54	<0.001	5.65(2.90,11.0)
>40	54(38.0)	88(62.0)			1.0(ref.)
Marital status					
Married	74(48.4)	79(51.6)	1.26	0.261	1.0(ref.)
Others (Single, Divorced & Widowed)	32(57.1)	24(42.9)			1.42(0.77,2.64)
Educational status					
Illiterate	7(25.0)	21(75.0)			1.0(ref.)
School level	42(47.7)	46(52.3)	11.88	0.003	2.74(1.06,7.10)
College level	57(61.3)	36(38.7)			4.75(1.83,12.30)
Past Breast Surgeries					
Yes	45(45.0)	55(55.0)	2.51	0.113	1.0(ref.)
No	61(56.0)	48(44.0)			1.55(0.90,2.68)
Diagnosed with Breast Mass					
Yes	94(49.0)	98(51.0)	0.01	0.753	1.17(0.43,3.17)
No	9(52.9)	8(47.1)			1.0(ref.)
Kind of Mass					
Malignant	50(46.7)	57(53.3)	2.35	0.309	1.10(0.40,2.99)
Benign	48(57.1)	36(42.9)			1.67(0.60,4.65)
I don't know	8(44.4)	10(55.6)			1.0(ref.)
Affected Breast					
Left side	42(55.3)	34(44.7)	3.02	0.221	1.0(ref.)
Right side	42(44.2)	53(55.8)			1.56(0.85,2.86)
Both sides	22(57.9)	16(42.1)			1.73(0.81,3.71)

Table-3: Distribution of reasons of acceptance and refusal for breast construction (n=209).

Reasons of Acceptance	No. (%)
Wear clothes	66 (31.6%)
Psychological status	84 (40.2%)
Sexual relationship	37 (17.7%)
Whole again	42 (20.1%)
Femininity	50 (23.9%)
Community's judgment	19 (9.1%)
Doctor's recommendation	33 (15.8%)
Reasons of Refusal	
Community's judgment	1 (0.5%)
Religiously prohibited	9(4.3%)
Shape of the new breast	8 (3.8%)
Procedure failure	21 (10%)
Cancer recurrence	23 (11%)
Too old	26 (12.4%)
More surgeries	22 (10.5%)
Husband refusal	5 (2.4%)
High cost	6 (2.9%)
The doctor did not mention/recommend it	14 (6.7%)
Too old	26 (12.4%)

followed by the reasons 'to wear clothes' 66(31.6%), femininity 50(23.9%) and sexual relationship 37(17.7%), and 33(15.8%) patients decided to undergo breast reconstruction because their doctor had recommended the procedure. The major reason of refusal was 'old age' by 26(12.4%) (Table-3).

Discussion

There are limited publications exploring the knowledge and acceptance of breast reconstruction in the Middle East area. The current study identified several factors that influenced women's decisions towards breast reconstruction. Age was a significant factor that influenced women's decisions. Women aged 40 years or younger were significantly more likely to consider breast reconstruction than older women. Nozawa et al. 2014[8] targeted only breast cancer patients aged 45 years or younger, thus higher rate 36.7% chose reconstruction whereas in our study some patients aged 56-66 years had a positive attitude. Other studies also showed that younger women tend to select this surgery more than the older women.[6,7,9-12] Education level also affected patients'

acceptance. Many studies have mentioned that highly educated women chose breast reconstruction as an option more than patients with a lower level of education.[5,11-13] In our study 44.5% women had higher levels of education and 61.3% of them chose to have breast reconstruction. It was found that 48.4% of married women wanted to undergo breast reconstruction because it improves patient's self-image and sexual satisfaction. Previous reports cited that marital status was a major factor contributing to the acceptance of breast reconstruction.[5,9,11,14]

The level of knowledge about having breast reconstruction as an option in our study was 46.4% which is lower than other studies[7] because their treating surgeons offered it and referred the patients to the plastic surgeon. However, this percentage was higher than the level of knowledge reported from other countries in the region such as Egypt. Saied et al. 2006.[5] mentioned that 8% had previous idea about the procedure. The information the patients had was not sufficient to make them choose the procedure, which is consistent with a study done by Ahmed et al. 2012[15] where 43% patients were not given adequate information from their treating physician. The internet is a significant source to raise the awareness about breast reconstruction.[15,16] Our results showed that online resources were the primary source of knowledge about breast reconstruction at 19.1%, followed by relatives or friends 12%. However, general surgeons and plastic surgeons who offered reconstruction options had a rate 10.5%. Saied et al.[5] reported that 8% of women who considered having breast reconstruction had heard about the operation from their neighbours. Females in Western and developed countries tend to consider breast reconstruction more than eastern and developing countries, especially Arabic countries where they have a different culture. Our study showed a 51.7% acceptance rate compared to published data of 4%.[5] This is attributed to the low socioeconomic level and the high percentage of poverty and illiteracy of the study population. Moreover, the study was done long time ago in 2003-04.

Mastectomy alters women's femininity and sexuality and leaves a psychological scar which they try to overcome by seeking the available methods to restore their normal body image once again. Hence, they choose to undergo breast reconstruction.[17] The most common reason was improving the psychological status (40.2%) in our study, while the ability to wear clothes comfortably constituted 31.6% as it made them more confidant to wear whatever outfits they wanted. Previous studies also suggest that psychological characteristics drive the reasons behind patient's acceptance.[14]

Older females are less likely to undergo such procedures. The results indicated that old age was a major reason for refusing breast reconstruction (62%). Older patients are more depressed by the idea of undergoing further surgeries which was indicated by Monica et al[12] in a study where women aged 50-64 received lower rate of breast reconstruction 36.6%, and the lowest rate was found in women aged 65 years or more (8.3%). Psychological characteristics have been found to play a significant role in refusing breast reconstruction, for example fear of surgery, cancer recurrence and procedure failure. Studies[11,12] have demonstrated that the major reason of their refusal was avoidance of more surgeries, whereas the fear or avoidance of more surgeries was the third most common reason in our study. The second major reason for refusal in the current study was the fear of cancer recurrence. On the other hand, in a study done by Saied et al[5] the first reason of refusal was considering breast reconstruction surgery a strange new option. While the ninth reason of rejection was the fear of cancer recurrence. Another common reason for refusing breast reconstruction found by French J et al[10] was the patient's own choice and the advice from the surgeon not to undergo this type of surgery because of "high risk" tumour factors in some patients, whereas in this study 6.7% participants were not well informed about breast reconstruction which led to their refusal.

Our study had some limitations. It was a single-centre study. A multi-centre study is needed to get a more representative sample of the population in the region. Moreover, our patients were a mix of benign and malignant cases which maybe one factor that contributed to the decrease in awareness level. Another factor was methicillin-resistant staphylococcus aureus (MRSA) in the region at the time of the study also hampered patients' visit to the hospital.

We recommend and encourage all oncologists and plastic surgeons to offer the option of breast reconstruction surgery and to educate mastectomy candidates about the procedure. In addition, surgeons should be encouraged to keep the educational websites up to date so that patients will get more knowledge and maximum benefits. We should try to increase the level of awareness of the option of breast reconstruction through clinics, campaigns, social media, brochures and proper counselling to encourage patients to undergo reconstruction, because all women who are candidates for breast reconstruction should be aware of the available options and must be offered treatment in a safe and timely manner.

Conclusion

Acceptance of having breast reconstruction was influenced by age and knowledge about the procedure. Older women were reluctant to have breast reconstruction than younger women. Majority of patients did not have adequate information about the option of breast reconstruction. However, those who had read or heard about it had a positive attitude towards the procedure and they acquired their knowledge through online sources. The most common drive for reconstruction was the psychological status of the patients after mastectomy and the most common reason for refusal was old age.

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