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Acceptability of Breast Reconstruction after Mastectomy in Upper Egypt

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ABSTRACT

Aim of Work: Our aim of this study was to provide a new option of breast reconstruction to women of Upper Egypt and evaluate their acceptance to this option, and understand the causes of acceptance or refusal.

Patients and Methods: The study was conducted at the South Valley University Hospital during the period from January 2003 to August 2004. It includes 50 patients admitted to the general surgery or oncology departments with breast tumors treated with mastectomy. Patients were categorized into two groups: Group (I); patients who did not have mastectomy at the time of interview and were planned to undergo mastectomy and Group (II); patients who had undergone mastectomy before the time interview. The option of postmastectomy breast reconstruction was explained and offered to all patients. The patients were subjected to a questionnaire in order to know their view regarding the acceptability to undergo breast reconstruction procedure.

Results: We found that a small percent of patients (8%) who knew before about breast reconstruction. Only 2 patients (4%) accepted to undergo breast reconstruction operation at the time of the interview. The remaining 48 patients (96%) refused to have their breast reconstructed at the time of interviewing; among them 16 patients were still considering it at a later time. The cause of that was“ to gain a complete cure from cancer” in Group (I), or “completion their adjuvant therapy course” in Group (I). The causes of refusal were: It is strange and new option (72%), fear of more surgeries (66%), the patient considers herself too old for reconstruction (64%), worry about the donor site morbidity (64%) it may danger her health (life) (40%), fear from community criticism”. (24%), think it is religiously prohibited (22%), “Husband refusal” (22%), fear of cancer recurrence (18%), fear of procedure failure (12%), fear from the shape of the new breast (8%). The reason “accept the fate and accustomed the situation” mentioned 72% in group (II). The differences between the two groups as regards the causes of refusal were significant only in the causes “considers herself too old for reconstruction” (44% versus 84%) and “worry about the donor site morbidity” (80% versus 48%). The causes of acceptance were: to dress freely (72.2%), to feel whole again (55.5%), to avoid of community criticism (50%), to improve her psychological condition (50%), and to forget the cancer experience (33.3%). The group of patients who accepted (n=2) or world consider the procedure in a later time (n=16) when compared with the patients who refused the procedure completely (n=32), we found that they have a younger mean age, had higher educational level, their husband had higher education level, and had higher monthly household income. They also tend to live in bigger cities, had more care of importance of mastectomy. This group of patients had also more realistic idea about the effect of mastectomy. They think that mastectomy makes their husband feeling changed or would change, affected or would affect the sexual relation and appearance.

INTRODUCTION

Breast reconstruction after mastectomy is an essential part of the interdisciplinary treatment for breast cancer **[6]**. The emotional impact of mastectomy for breast cancer may be profound, not only the patient have to deal with the stress of a potentially life threatening disease but she must also adjust to her altered body image and its consequences on here sexual, social, and occupational functioning **[10]**. Breast reconstruction may constitute a “reverse mastectomy” **[12]**, offering the most effective means for restoring psychological well-being after mastectomy **[1]**.

If mastectomy is a devastating blow to a women’s feminine self-concept, a threat to her sexual identity, an insult to her sense of health and well being, and a brutal reminder of her mortality, why would anyone offered a chance to erase this terrible deformity refuse? **[10]**.

In recent years there has been growing acceptance among women and physicians of the value of postmastectomy reconstruction, only a relatively small percentage of mastectomy patients ever have breast reconstruction **[2]**. Moreover, reconstruction of the breast after mastectomy is predominantly a demand of women in the western world and the well-developed countries. Nevertheless, in the

developing countries, the women hardly demand breast reconstruction after mastectomy unless offered or motivated. The causes of these facts are not clearly understood. Our aim in this study was to evaluate the acceptance of breast reconstruction procedures in women of Upper Egypt by exploring the causes of acceptance or refusal of the procedures.

PATIENTS AND METHODS

The study was conducted at the South Valley University Hospitals during the period from January 2003 to August 2003. The study population was recruited from inpatients of General Surgery and Oncology Departments. It includes 50 patients with malignant breast tumors treated with mastectomy. They were classified into two groups:

Group (I): Patients who did not have mastectomy at the time of the interview and were planed to undergo mastectomy.

Group (II): Patients who had undergone mastectomy before the time of the interview. The option of postmastectomy breast reconstruction was explained and offered to them. The patients were subjected to a questionnaire in order to know their view regarding the acceptability to undergo breast reconstruction procedure.

The Questionnaire Data:

The questionnaire consisted of 26 questions written in Arabic. A nurse had asked the patients the questions in a face-to-face interview. There were questions about socio-demographic data as the age, residency, religion, marital status, and the educational level as these factors may affect the decision of accepting the reconstruction. The patient was asked about her previous knowledge about breast reconstruction, if she would accept to perform the operation at that time, and whether or not she would consider it in the future.

Also, the women were given a list of possible reasons that may have influenced their decision not to have breast reconstruction and were requested to answer a "yes" or a "no" to each reason. Many of these reasons were gleaned from the scientific literature on breast reconstruction. Other reasons were based on the local community culture. Some were obtained from asking a direct question for the reason for not accepting the option of breast reconstruction so they may mention a different reason not mentioned in the questionnaire reasons list.

At the end, the patients were asked about the preferred method of reconstruction.

RESULTS

Socio-Demographic Data of the Study Population:

The patients' ages ranged from 27 to 70 years (mean age 49.5 year), most of them were illiterates and have low socio-economic level.

The majority of patients in the study were married (74%), illiterate (74%), their husbands were illiterates (48%), living in villages (70%), had monthly household income of less than 150 L.E. (46%).

How many Women had an Idea about Breast Reconstruction and how many would Accept it?

Only 4 patients (8%) were aware that breast reconstruction was an option following mastectomy, these 4 patients gained the knowledge from their neighbors who underwent the operation (Fig. 1).

Only 2 patients (4%) accept to undergo breast reconstruction operations at the time of the interview (Fig. 2), 1 from group (I) and 1 from group (II). The remaining 48 patients (96%) refused to have their breast reconstructed at time of interviewing; among them 23 patients (46%) were still considering it at a later time, 15 from group (I) and 8 from group (II) (Fig. 1). The cause of that was "to gain a complete cure cancer" in group (I), or "completion their adjuvant therapy course" in group (II).

Causes of Refusal:

Table (2) represents the incidence of each reason of refusal chosen by the patients and the difference between the 2 groups (Fig. 4).

Causes of Acceptance:

The 16 patients; including the two patients who had undergone reconstruction and the 14 patients who might consider reconstruction at a later time chose the following causes of acceptance. The causes of acceptance were to dress freely (72.2%), to feel whole again (55.5%), to avoid community criticism (50%), and to improve her psychologic condition (50%), and to forget the cancer experience (33.3%) (Fig. 5).

The Preferred Method of Reconstruction:

The last question in the questionnaire was "if you would undergo reconstruction, which type you would choose?". Most of the patients (90%) chose prosthetic reconstruction (Fig. 6).

Characteristics of Patients who Accepted Reconstruction or would Consider it in a Later Time:

A comparison was done between a group of patients who accepted or would consider the procedure in a later time with other patients who refused the procedure completely (Table 3).

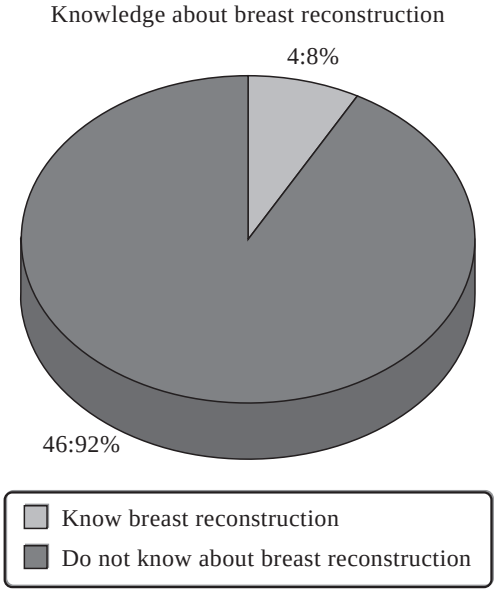

Fig. (1): Patient knowledge about breast reconstruction.

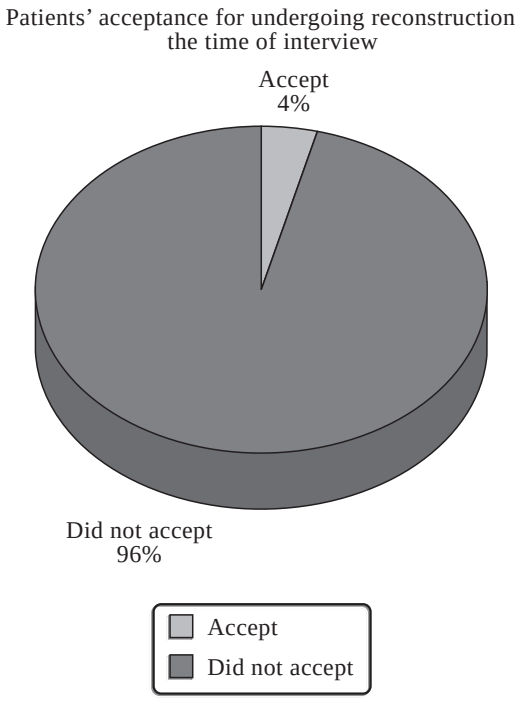

Fig. (2): Patient acceptance for undergoing reconstruction at the time of the interview.

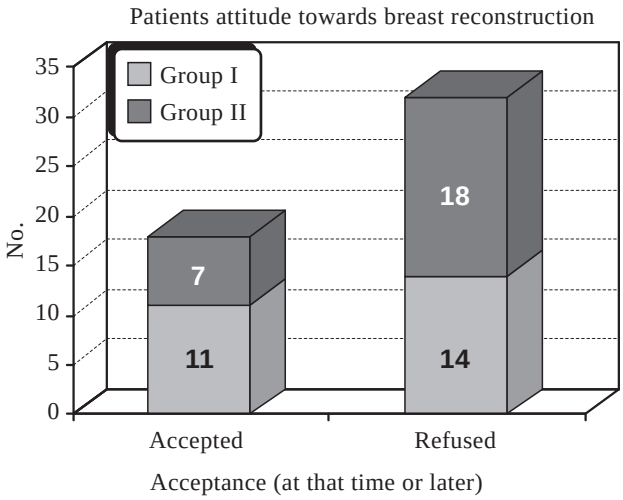

Fig. (3): Patient attitude toward breast reconstruction.

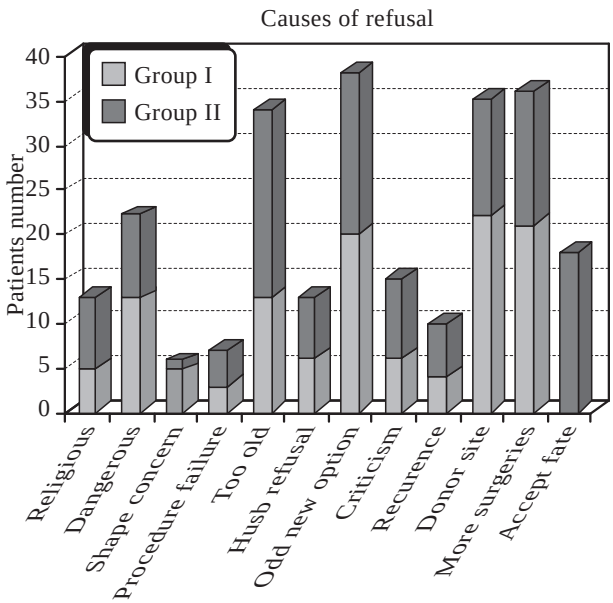

Fig. (4): Causes of refusal.

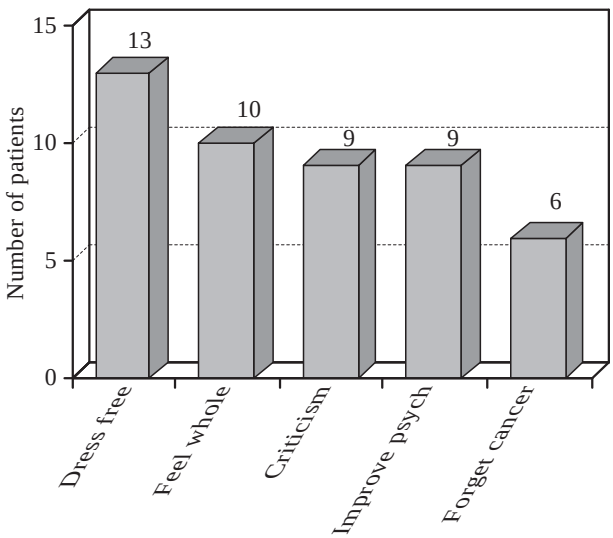

Fig. (5): Causes of acceptance.

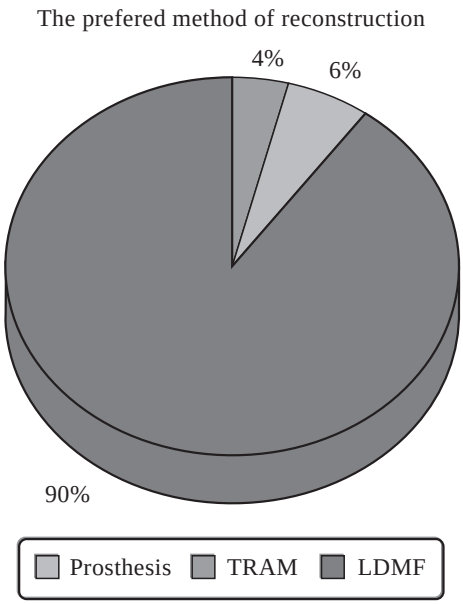

Fig. (6): The preferred method of reconstruction.

Table (1): Reasons listed in the questionnaire for accepting or refusing reconstruction.

Causes of refusal listed in the questionnaire	Causes of acceptance listed in the questionnaire
• Fear from community look for the procedure	• To be able to wear clothes comfortably
• Think that it is religiously prohibited	• To improve her psychological status
• It may danger her health (life)	• To improve sexual relation
• Fear of the shape of the new breast	• To feel whole
• Fear of procedure failure	
• Fear of cancer recurrence	
• Strange new option	
• Worry about the donor site morbidity	
• Considers herself too old for reconstruction	
• Fear of more surgeries	
• Husband refusal	
• Accept the fate and accustomed the situation	

Table (2): Causes of refusal.

Causes of refusal	Group (I) (n=25)	Group (II) (n=25)	*p* value	Total
Strange new option	18 (72%)	18 (71%)	1	36 (72%)
Fear of more surgeries	19 (76%)	14 (56%)	0.2	33 (66%)
Consider herself too old	11 (44%)	21 (84%)	0.003*	32 (64%)
Worry about the donor site morbidity	20 (80%)	12 (48%)	0.007*	32 (64%)
It may danger her health (life)	11 (44%)	9 (36%)	0.5	20 (40%)
Fear from community criticism	4 (16%)	8 (32%)	0.1	12 (24%)
It is religiously prohibited	3 (12%)	8 (32%)	0.08	11 (22%)
Husband refusal	4 (16%)	7 (28%)	0.3	11 (22%)
Fear of cancer recurrence	3 (12%)	6 (24%)	0.4	9 (18%)
Fear of procedure failure	2 (8%)	4 (16%)	0.3	6 (12%)
Fear of the shape of the new breast	3 (12%)	1 (4%)	0.3	4 (8%)
Accept the fate and accustomed the situation		18 (72%)		

Group (I) : Patients who did not have mastectomy at the time of the interview and were planed to undergo mastectomy.
Group (II): Patients who had undergone mastectomy before the time of the interview.
p value : Correlation coefficient calculated by Pearson Chi-square test.
*: Significant *p* value.

Table (3): Characteristics of the patients who accepted reconstruction or would consider it in a later time.

Items of difference	Patients accepted or would consider reconstruction later (n=18)	Patients refused reconstruction completely (n=32)	*p* value
No. of patients from group (I)	11 patients (44%)	14 patients (46%)	
No. of patients from group (II)	7 patients (20%)	18 patients (80%)	
Mean age	46.8 years	51.6 years	
Marital status:			
Married	14 (77.7%)	23 (71.8%)	0.3
Widow	2 (11.1%)	7 (21.8%)	
Single	2 (11.1%)	2 (6.2%)	
Residence:			
Village	10 (55.5%)	25 (78.1%)	0.2
Small city	6 (33.3%)	6 (18.7%)	
Big city			
Educational level:	2 (11.1%)	1 (3.1%)	0.04*
Illiterate	11 (61.1%)	26 (81.2%)	
Just can read	6 (33.3%)	5 (15.6%)	
Higher education			
Husband educational level:	1 (5.5%)	1 (3.1%)	0.03*
Illiterate	8 (25%)	17 (53.1%)	
Just can read	6 (33.3%)	10 (31.2%)	
Higher education	4 (22.2%)	3 (9.3%)	
Monthly household income:			
<150 L.E.	7 (38.8%)	16 (50%)	0.04*
150-300 L.E.	3 (16.6%)	12 (37.5%)	
300-450 L.E.	4 (22.2%)	3 (9.3%)	
>450 L.E.	4 (22.2%)	1 (3.1%)	
Care of make up:			
No attention	16 (88.8%)	29 (90.6%)	0.5
Little	2 (11.1%)	3 (9.3%)	
Care of clothes:			
No attention	6 (33.3%)	17 (53.1%)	0.3
Little	8 (44.4%)	10 (31.3%)	
Fair	4 (22.2%)	5 (15.6%)	
Fear of surgery:			
No	3 (18.8%)	5 (15.6%)	0.6
Little	7 (38.8%)	11 (34.3%)	
Very	8 (44.4%)	16 (50%)	
Knowledge about breast cancer:			
Don't know	1 (5.5%)	5 (15.6%)	0.3
Simple disease	2 (11.1%)	1 (3.1%)	
Dangerous disease	14 (77.7%)	26 (81.2%)	
Importance of mastectomy:			
Important	16 (88.8%)	27 (84.4%)	0.6
Not important	2 (11.1%)	5 (15.6%)	
Husband feeling would change (changed)	10 (55.5%)	6 (18.7%)	0.2
Mastectomy would affect (affected) sexual relation	5 (27.7%)	6 (18.7%)	0.3
Mastectomy would affect (affected) appearance	17 (94.4%)	28 (87.5%)	0.2
Would use (used) external prosthesis	17 (94.4%)	27 (84.3%)	0.2

Group (I) : Patients who did not have mastectomy at the time of the interview and were planed to undergo mastectomy.
Group (II): Patients who had undergone mastectomy before the time of the interview.
p value : Correlation calculated by Pearson Chi-square test.
*: Significant *p* value.

DISCUSSION

In recent years there has been a growing acceptance among women and physicians of the value of postmastectomy reconstruction, only a relatively small percentage of mastectomy patients ever have breast reconstruction **[2]**.

Our study population was of low socioeconomic level with a high percentage of poverty and illiteracy. This reflects the agricultural and rural community of Upper Egypt villages. In the same time, our hospital provides its services for free.

The mean age of the patients was 49.5 years. The relatively old ages of the patients was due to a new trend in the general surgery department to perform breast conservative surgery which appear an easier choice for the patients for keeping their breasts.

The present study identified some differences in attitudes and responses compared to studies of western countries. We found that only 4 patients (8%) of the women were aware that breast reconstruction was an option following mastectomy. All these 4 patients gain that knowledge from other patient in their neighbors who underwent the operation. Two patients (4%) of the cases elected reconstruction, while 48 patients (96%) did not. Among patients who did not elect to undergo reconstruction 33% were still considering it at a later time.

An Egyptian study conducted in Cairo, Ain Shams University hospital by Mostafa **[7]**, found that 84% (42 from 50 patients) had a previous idea about breast reconstruction, only 7 patients (14%) accepted to undergo reconstruction. Such big difference in the patients' knowledge about breast reconstruction may be due to difference in the exposure to mass media and in educational and socio-economic level of the population study. In California, United States of America, a study conducted by Handel et al., **[4]**, they found that 94% of the patients were aware of breast reconstruction; 45% of them elect it, while 55% had not. Among the women who did not undergo reconstruction, 18% were still considering it at a later time. Recently Keith et al. **[5]**, found that 49.6% elected breast reconstruction.

In order to counsel women effectively and to minimize disappointment, the reasons for electing to have this operation, the motives cited for choosing not to have reconstruction, and the sentiments contributing to a women's ambivalence about this surgery should be explored and understood.

We categorized our patients into two groups: Group (I), included patients who did not have mastectomy at the time of the interview and were planed to undergo mastectomy, and group (II), included patients who had undergone mastectomy before the time of the interview. The reason for such classification was to discover whether the reasons for refusal will differs between the two groups or not.

The most common cited reason for not pursuing breast reconstruction was because it is "a new and strange option" (72%), since never heard before. Some females mentioned that they did not want to try new thing not known to the public, even if it looks a good idea, while others though that this is a new operation being tried on them. The spirit of changement is not found in the patients. No difference between group (I) and group (II) as regard this reason was found.

As mentioned before in our study, only 8% (4 patients) were aware about that option and 4% (2 patients) accept to undergo the procedure. In Ain Shams study 84% were aware about that option and 14% (7 patients) accept to undergo the procedure. Our results were more similar to what was conducted by Handel et al. **[4]**, who found that 94% of patients were aware of breast reconstruction; 45% of them elect it. Meaning that the percentage of patients who will accept the reconstruction would be about half of the percentage of patients who knew the procedure before.

The difference of acceptance rate of our study (4%) from Ain Shams study (14%) might be attributed partially to the big difference in the patient previous knowledge about breast reconstruction (8% in our study versus 84% in Ain Shams study). Some other factors also might contribute as the socioeconomic level difference between the two studies.

The status in the western countries differs. They search for educating patients' accurate detailed information. Schain et al., **[10]** mentioned that lack of quality-controlled information on this subject is one of the factors that inhibit women from electing this type of corrective surgery. Reaby **[8]** in Australia found that "not having enough information about the procedure" was an important reason for not having reconstruction and was mentioned by 85% of patients who did not underwent reconstruction.

The second most common cause cited was that they "fear from the donor site morbidity" (66%), this is especially in the group (I) (84%) and less

in the second group (48%). This was in agreement with a study by Reaby **[8]**, who found that the women's major reason (in 25% of her study population) was "fears of complications associated with reconstruction". Also, this was in accordance with Handel et al., **[4]**, who found that "concerns about complications" were the commonest cause for not having breast reconstruction. Our patients always exclude the prosthetic reconstruction because of its high cost, so they always think in autologus tissue reconstruction when considering reconstruction. Statistically significant difference ($p<0.05$) was found between the two groups in choosing this reason. The difference between the two groups may be explained by that patient who will undergo mastectomy did not have scars before and she did not accustomed to it. In the other hand mastectomized patients who accustomed scar and found it is not a big problem and a reasonable price for a new breast.

We have reported other causes which related to complications of the procedure. These were "it may danger her health (life)" (40%), "fear of the shape of the new breast" (8%), "fear of the procedure failure" (12%). So, our patients main concern if they think in complication were the donor site morbidity (66%).

These data highlight that health professionals and physicians need to be honest and present all inherent risks. The patients must be well informed and be aware that breast reconstruction is a safe procedure.

The third commonest cause was that the fear from going through more surgeries (mentioned by 64% of the patients). This reason was cited by Schain et al., **[10]**, as it is the most frequent cited reason for not pursuing breast reconstruction. Also, Handel et al., **[4]**, found that it was a significant factor in preventing women to have reconstruction, it was the second common cause cited by a group of mastectomy patients did not underwent reconstruction (mentioned by 45% of cases). Reaby **[8]** mentioned this cause as an important one, she found that 75% of patients had mastectomy without reconstruction. Some differences between the two groups (76% in group I versus 56% in group II) were observed. This difference is statistically insignificant. The difference may be explained also by the fact that patients in group II had mastectomy before and accustomed to undergo more surgeries.

The fourth commonest mentioned cause was that the patient considers herself too old for reconstruction. This was in agreement with Reaby **[8]** who reported that reason as the second commonest major reason (22% of her study population). Also she found a significant difference on age between patients who had mastectomy alone and those who had reconstruction. We reported a difference between the two groups as regard that reason (44% vs. 84%), which was statistically significant ($p<0.05$). This may be because the mastectomized patient passed through many stressful events in her treatment as the mastectomy, chemotherapy, or radiotherapy and follow up.

Older women must be educated that age is not a contraindication for reconstruction. Also, it is important for women to comprehend that reconstructive surgery is not cosmetic treatment for vanity but a legitimate means to restore a lost body part.

The commonest cause for patients' refusal reported in the second group was that they "accept the fate and accustomed the situation" (76%). Only 9% of Ain Shams study patients reported that reason.

The belief of that breast reconstruction is "religiously prohibited" was a cause mentioned by 22% (11 patients) 3 patients in the first group (12%) and 8 patients in the second group (32%). To our knowledge, this reason was not mentioned in previous studies. Women who mentioned that reason explain it as reconstruction may be a change in God made, and refusal for her destiny made by God.

Fear from community criticism (24%) was also a causet hat we did not find in previous studies.

Other mentioned causes we reported was "husband refusal" (22%), which were in agreement with Mostafa **[7]** (15% of his patients). This may indicates that our patients are more obedient to their husbands "Fear of cancer recurrence" (18%), the incidence of this cause did not match with what's reported by Handel et al., **[4]** who found that this reason was significantly affecting the decision in their patients. This may be due to better awareness of the dangerous of cancer. It is important to educate mastectomy patients that reconstructive surgery does not increase the risk of developing a recurrence, nor does it mask early detection of recurrence.

The commonest cause for accepting reconstruction was "to dress freely". This finding conforms with that of Schain et al., **[10]** who mentioned that the most commonly cited factors leading an individual to elect breast reconstruction are the desire

to have more freedom in selecting clothing style and the wish to eliminate the need for an annoying external prosthesis.

The second commonest cause found was "to avoid community criticism". Patients with mastectomy in our community are sham for being mastectomized. The reconstruction offers them a chance to appear normal. In our knowledge, this reason was not found in any of the published literatures.

Other reasons include "to improve her psychologic condition", "to feel whole again", "want to forget the cancer experience", and "to improve sexual relation". This was in accordance with other studies **[4,8,10]**.

When we compare the group of patients who accepted (n=2) or would consider the procedure in a later time (n=16), with the patients who refused the procedure completely (n=32). We found that their mean age was less (46.8 year versus 51.6 year), had higher educational level (p<0.05), their husbands had higher educational level (p<0.05), and had higher monthly household income (p<0.05). Handel et al., **[4]** found that there was a significant difference in age at time of mastectomy between those patients who did not elect reconstruction and those who did. This was in accordance with what had been reported with Keith et al.,**[5]** that women who wish breast reconstruction were younger, and more depressed. They also found that marital status, tumor size, extroversion, neuroticism, and tough-mindedness did not independently predict the desire for reconstruction.

We found also that this group of women tends to live in larger cities, had more care of make up and clothes, less fear from undergoing surgeries in general, and had better knowledge of their disease and the importance of mastectomy. The previous differences were not statistically significant. This may be explained by that their effect on decision is less important than the previous items. Also, it may be explained by the small number of the study population.

This group of patients had also more realistic idea about the effect of mastectomy. They think that mastectomy makes their husband changed or would change, affected or would affect the sexual relation and appearance. All of them used or would use external breast prosthesis.

These results coinside more or less with what had been reported by Clifford **[3]** who found that most of the women requesting reconstruction following mastectomy did not seek out this experience because of some internal turmoil but did so to do away with (undo or reject) a medical defect that has become "reversible". The desire to want to change an undesirable condition that is indeed alterable may be evidence of adaptive responses and flexible coping, not maladaptation or neurotic defensiveness. This also conforms to Holland and Rowland **[9]** who stated that the populations of women seeking breast reconstruction are psychologically healthy and functioning at a high level. They did exhibit a certain degree of emotional morbidity related to having had cancer and loss of their breast. For the most part, however, they approach the reconstruction experience with realistic expectations of the potential benefits that might result.

In our study, we found that most of the patients (90%) chose prosthetic reconstruction because it will not disturbe any normal part of her body as there will be no donor site morbidity.

Conclusion and Recommendations:

Causes of refusal of the procedure in our community are more numerous and complicated than the western communities. Some of the reasons for refusal that were not mentioned in the western literatures, including "a strange and new option". Our community is a restrictive one and new things usually aren't appeal. Religious factor also was important as some women may think erroneously that this surgery is prohibited like some "cosmetic surgeries". "Fear of community criticism" also was a cause that was not found in previous studies.

"Concerns about having additional surgeries" prevent some mastectomy patients from having reconstruction. So, immediate reconstruction could significantly increase the number of women electing this option, specially that the morbidity and mortality from immediate breast reconstruction are no greater than for delayed reconstruction.

The causes of acceptance of the procedure in our community are more similar to the western communities apart from the cause "fear from community criticism" which we did not find it mentioned in previous study. Mastectomy is a sham event in our community.

We found only a small percentage of patients who heard before about the option of breast reconstruction. Education is of a paramount importance. It increase the awareness of the publics and patients of the value of postmastectomy breast reconstruction and the safety of the procedure. The educational materials can be added to educational programs to increase awareness of breast cancer and screening, and best

to be offered in the primary health care services. Mass media can also play an important role in informing the public.

Also, general surgeon and oncologist must be aware of that option and their patients have the right to be informed about it. We need a better cooperation among the health professionals who work with patients with mastectomy to offer them the option of post-mastectomy breast reconstruction. This will help such patients to overcome their psychological trauma.

The role of general surgeon is very important, as many women look to their breast surgeon for basic information about breast reconstruction as well as for approval or permission to consult a plastic surgeon about this option.

Including breast reconstruction as an optional part of the treatment and rehabilitation process, the surgeon may reduce some of the fear and anxiety associated with losing a breast.

It seems that breast reconstruction option is well accepted and needed in our community. We feel that with increase awareness of the medical personals in oncology and general surgery departments and the awareness of the community about that option, we expect in the near futures that the number of mastectomy patients seeking breast reconstruction will increase markedly.

Our recommendations are:

1- Increase awareness of the general publics and medical personnel of the value of post mastectomy breast reconstruction.

2- Start a breast reconstruction protocol in collaboration with General Surgery and Oncology Department for a better interdisciplinary care of breast cancer patients.

3- A cooperation among all physcican dealing with breast cancer patients, including the general surgeon, plastic surgeon, and the oncologist, psychiatrists for a better counseling and optimum care of these patients.

4- Patients counselling about breast reconstruction is very important and it is better to counsel the patient and her husband together and to provide some pictures of previous patients undergone breast reconstruction.

5- Large multicentric national study is needed to be done for explorating the needs and wishes of our patients.

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