Research Article

Plastic Surgery Improves Baseline Anxiety in Males Having Lesions on Face

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Abstract:

Background: Congenital and acquired lesions both cause marked elevation in anxiety due to decreased self-esteem and confidence. Plastic surgery can address and markedly improve the anxiety level by addressing such lesions. Medical and surgical concerns related to body may elevate baseline anxiety. Although females are more concerned and fretful about such lesions, we observed that males are also prone to similar levels of anxiety.

Objective: The objective of the study is to find out effect of plastic surgery on anxiety level of males having facial lesions.

Methods: This prospective study was conducted in Plastic Surgery Department of King Edward Medical University, Lahore, Pakistan from Feb 2018 to Jan 2019 and 100 male patients with either congenital or acquired lesions of face were enrolled and operated. Anxiety level was rated by applying Hamilton anxiety scale immediate preoperatively and satisfaction along with quality of scar was noted after 2 months.

Results: 53% of enrolled patients were having educational status above secondary school, 63% patients were from urban, 56% patients were below 27 years of age, 44% were above 27 years of age and 33% were married. Trauma was the cause of lesion in 61% while 13% were with Rhomberg disease and 26% with congenital lesions disorder. Majority of patients had lesion involving forehead. On Hamilton anxiety scale, pre-operative anxiety score was high (21.76±5.846) as compared to postoperative score (10.04±4.537). Scar scoring with Vancouver Scar Scale was 4.36±1.798 post operatively. Majority of patients showed significant improvement in anxiety scores post operatively.

Conclusion: Irrespective of age, socioeconomic status and education level, lesions involving face elevated baseline anxiety in males. Plastic surgery addresses these concerns permanently resulting in marked improvement in anxiety level.

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Introduction:

Personality related anxiety is considered as one of the common medical issues with its prevalence estimated between 0.9% to 27.3%[1]. Avoidance from interactions and public gatherings is noted in these people due to the fear of being rejected[2]. Sweating, trembling and flushing are some of the presenting symptoms of such males. Many factors including family and work place stress, and social status are responsible to cause perpetuate anxiety in such people[3].

Disfigurement of face is one of the major causes leading to anxiety[4]. Studies show that concerns about appearance are more in females but males may also have similar levels[5]. The patient's agony and stress is based on pressure to have an ideal looks in the society[6]. Trauma of face, like congenital lesions, leads to anxiety related symptoms in approximately 10-70% patients. Anxiety resulting from facial concerns does not fade off by its own and sustains or even increases with passage of time until the root factor is not treated[3,7].

Plastic surgery is one of the specialties which can address facial lesions. Improvement in appearance ultimately can result in better self-esteem and can decrease baseline anxiety of the patients having facial lesions.

Rationale of this study is to find out impacts of treating lesions on face by plastic surgery on baseline anxiety of patients having such lesions.

Methods:

Plastic Surgery Department of King Edward Medical University, Lahore, Pakistan, is the main referral center of the territory and this prospective study was conducted from February 2018 to January 2019. From out-patient department, 100 male patients, estimated by using 90% confidence level and 10 % absolute precision with expected percentage with surgery as 100%, having age above 12 years with congenital melanocytic nevi, Rhomberg's disease or post traumatic scars on face were recruited after informed consent. Demographics like age, marital status, education and socioeconomic status were noted in Performa. Interview of all patients done by the panel through questionnaire based on Hamilton Anxiety Scoring Scale (Ham-A)[8]. After anxiety scoring patients were scheduled for surgery. Same team of surgeons was responsible to plan and carry out surgical procedures of all the patients. Patients with previous history of any psychiatric disorder, those who were taking anti-anxiety medication or psycho-therapy were not included in the study (Figure I).

Once operated, all patients were provided standard wound care plans and medications. Stitches were removed at 5th day follow up. All wound related active issues settled after four weeks of surgery. Patients were kept in repeated follow up and after two months of surgery, Ham-A was applied again to get anxiety score.

Scoring from 0 to 4 is done for every element to express level of anxiety. The total score is from zero to 56. Score less than 17 shows mild, score from 18 to 24 indicates mild to moderate, 25-30 expresses moderate to severe while >30 shows very severe anxiety.

Data related to post operative surgical scar status was done by Vancouver score which comprised of vascularity (scored 0-3), pigmentation (scored 0-2), pliability (scored 0-5) and height (scored 0-3). Total score was 13 and clinical scoring was done out of it. Satisfaction of patients by Visual analogue scale with scoring from 0 to 10 was done by patients. Similarly, pre and post- surgical anxiety score was calculated by using Ham A scoring. SPSS 21 was used for analysis by applying paired as well
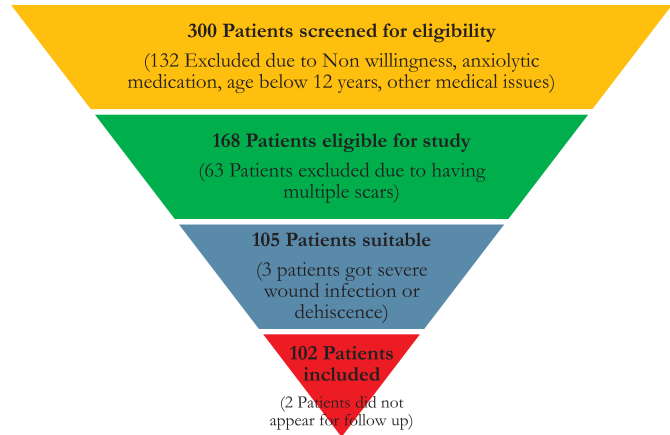

Fig. 1: *Patient inclusion pyramid.*

as independent sample t-test.

Results:

Fifty three percent of patients were having educational status above secondary school 63% belonged to urban

Table I: *Demographics of study participants*	
Variables	**Values**
Age	25.90±12.03
Below 27 years	56%
Above 27 years	44%
Education	
Below Secondary School	47%
Above Secondary School	53%
Residence	
Rural	37%
Urban	63%
Marital Status	
Married	33%
Unmarried/Single	67 %
Wound Condition	
Normal	97%
Mildly Infected	3%
Infected	0%
Patient Satisfaction	7.96±0.96
Vancouver Scoring	4.36±1.798

areas, 56% had less than 27 years of age and 33% patients were married as shown in Table I.

Sixty one percent patients were with post traumatic scars, 26 percent were having congenital lesions as congenital melanocytic nevi while 13% were with Rhomberg,s disease. Out of 100 patients, 32% were having lesion on forehead, 11% with eyebrow, 4% upper eyelid, 6% with lower eyelid, 24% cheeks, 5% on
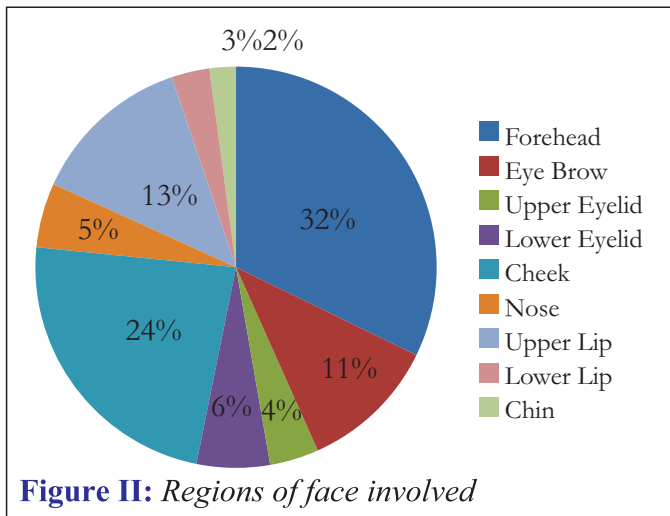
Figure II: *Regions of face involved*

nose, 13 % upper lip, 3% on lower lip while 2% had chin involvement, as in Figure II.

Preoperative anxiety score was noted to be 21.76± 5.846. Majority of wounds healed uneventfully. Three patients had their wounds severely infected followed dehiscence which needed re-stitching of the wounds. Those patients were dropped due to out of the way treatment. Wounds of 3% patients had minimal infection and settled after injectable antimicrobials. Vancouver scar scoring was 4.36±1.798 post operatively. Patients' level of satisfaction was 7.96±0.96 on visual scale. A remarkable number (95%) of patients showed significant improvement in their anxiety score post operatively. Paired sample t-test applied to the change in anx-

iety and showed p value <0.001. For each variable, independent sample t-test was used to evaluate anxiety pre and postoperatively related to different variables like age, marital status, educational and locality. The results are given in Table II.
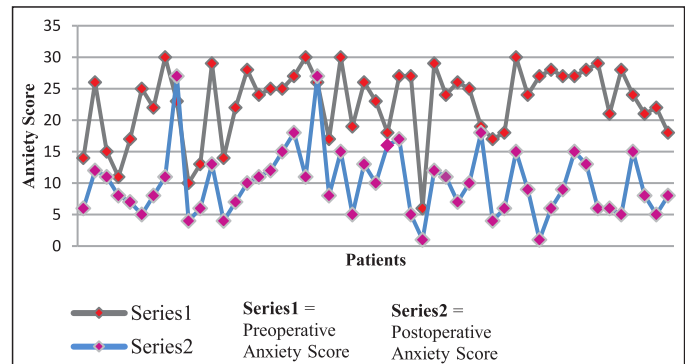

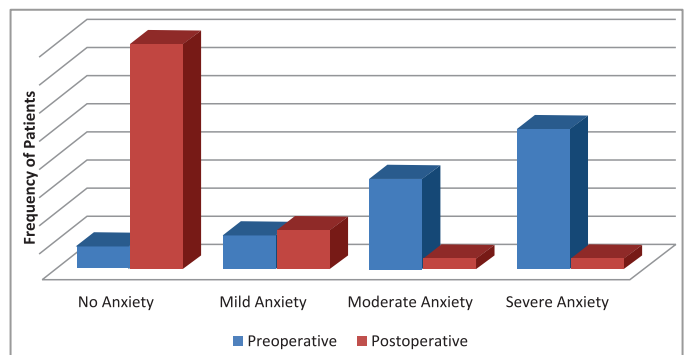**Figure III:** *Pattern of Pre and Postoperative Anxiety Score of Patients*

Figure IV: *Anxiety grading*

Variables	No. of patients	Preoperative anxiety		Postoperative anxiety		P-value£
		Mean value	P-value¥	Mean value	P-value¥	
Total Patients	100	22.76±5.843		10.04±5.477		<0.001
Educational Group						
Above Secondary School	53	22.31±6.048	0.529	8.86±4.962	0.078	<0.001
Below Secondary School	47	23.36±5.645		11.59±5.844		<0.001
Residential Group						
Rural	37	22.71±5.438	0.981	11.14±7.244	0.571	<0.001
Urban	63	22.77±5.964		9.86±5.228		<0.001
Marital Status						
Married	33	22.70±6.258	0.950	11.25±7.122	0.208	<0.001
Unmarried/Single	67	22.81±5.665		9.26±4.033		<0.001
Age Group						
Below 27 years	56	22.29±5.747	0.524	8.79±3.775	0.071	<0.001
Above 27 years	44	23.35±6.035		11.57±6.801		<0.001

Table II: *HAM-A Anxiety Score pre and postoperatively*

¥Comparison of anxiety score among group variables £ Comparison between preoperative and postoperative score

To present change in anxiety level pre and post surgically, a graph was constructed shown in Figure III.

Based on anxiety score according to HAM-A, there were different categories comprising of negligible, mild, moderate and severe anxiety. Frequency of the patients in various categories is shown in Figure IV.

Discussion:

Preoperative and postoperative anxiety of the patients having surgery for their facial lesions was assessed based on anxiety score. Baseline anxiety was found significantly higher in males despite of their level of education, marital status or age. Higher pre-operative anxiety scores in majority of patients showed greater concern for their lesions. In contrast to published literature where females were considered to have more concerns with their facial appearance, our study showed significant concerns in males as well[9]. Significant drop in anxiety level was noted postoperatively as compared to pre-operative anxiety (21.76 vs. 10.04, p < 0.001). Males of age between 12 and 74 years were operated for their various facial lesions. As found in other studies, most of the patients presented in their age of adolescence or youth and had age 15-35 years (70%). Only five patients were noted to be above sixty years age which depicts the minimal concern of elders regarding appearance[10]. However, the five males were still having high anxiety score preoperatively.

Despite of their varied level of education, like other studies, all the males were having similar aesthetic concerns which showed that educational status didn't affect the concerns to follow the beauty standards of society[11]. Reasonable number of patients (63%) belonged to urban background than rural area (37%) most likely due to less awareness about the plastic surgery treatment options as prescribed by literature[12]. Surprisingly, in contrast to literature, the concerns of patients from both backgrounds were almost alike. Though single or unmarried males were more as compared to married but the anxiety level was identical in both groups[13].

Improvement in the appearances resulted in higher level of satisfaction (7.96 of 10). Three patients didn't satisfied probably because of infection leading to issue in their wound healing. Anxiety of these 2 patients was rather raised postoperatively due to mild infection and settled with intra venous antibiotics. The postoperative anxiety scores were according to the level of improvement in the appearance and score of Vancouver scale.

Contrast to other studies, forehead was the region most commonly seen and usual plastic surgery procedure like excision of lesions or scar revision was implied in most of the cases[14]. After plastic surgery, whatsoever the zone of face, significant alteration in anxiety level was noted. Overall level of anxiety level of the patients was better with significant and comparable outcome. The study results support that patients of every group show marked concerns with issues of face. Our study strongly suggests that baseline anxiety level can be lowered by addressing the facial lesions by plastic surgery. Duration of lesion affects the anxiety level so we are planning to conduct further studies by segregating lesions on the basis of duration as our study is lacking in this regard.

Conclusion:

Facial lesions of males, congenital and acquired, enhance their baseline anxiety level despite of their age, socioeconomic status and educational level. These facial concerns if addressed permanently through plastic surgery, the level of anxiety can be lowered significantly.

Ethical Approval: Given

Conflict of Interest: The authors declare no conflict of interest.

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References:

1. Peterka-Bonetta J, Sindermann C, Elhai JD, Montag C. Personality associations with smartphone and internet use disorder: A comparison study including links to impulsivity and social anxiety. Frontiers in Public Health. 2019;7(2):127.

2. Paz V, Nicolaisen-Sobesky E, Collado E, Horta S, Rey C, Rivero M, et al. Effect of self-esteem on social interactions during the Ultimatum Game. Psychiatry research. 2017;252(11):247-55.

3. Martinez-Calderon J, Meeus M, Struyf F, Morales-Asencio JM, Gijon-Nogueron G, Luque-Suarez A. The role of psychological factors in the perpetuation of pain intensity and disability in people with chronic shoulder pain: a systematic review. BMJ open. 2018;8(4):e020703.

4. Jain M, Khadilkar N, De Sousa A. Burn-related factors affecting anxiety, depression and self-esteem in burn patients: an exploratory study. Annals of burns and fire disasters. 2017;30(1):30.

5. Castle DJ, Honigman RJ, Phillips KA. Does cosmetic surgery improve psychosocial wellbeing? Medical Journal of Australia. 2002;176(12):601-4.

6. Sahni V. Psychological impact of facial trauma. Craniomaxillofacial trauma & reconstruction. 2018;11(1):15-20.

7. Stone A, Fisher V. Changing Negative Perceptions of Individuals With Facial Disfigurement: The Effectiveness of a Brief Intervention. Basic and Applied Social Psychology. 2020;42(5):341-53.

8. Hallit S, Haddad C, Hallit R, Akel M, Obeid S, Haddad G, et al. Validation of the Hamilton anxiety rating scale and state trait anxiety inventory a and B in Arabic among the Lebanese population. Clinical Epidemiology and Global Health. 2019;7(3):464-70.

9. Prashanth NT, Raghuveer HP, D Kumar D. Anxiety and depression in facial njuries: a comparative study. J Int Oral Health. 2015;7(9):94–100.

10. Trekels J, Karsay K, Eggermont S, Vandenbosch L. How social and mass media relate to youth's self-sexualization: Taking a cross-national perspective on rewarded appearance ideals. Journal of Youth and Adolescence. 2018;47(7):1440-55.

11. van Nierop M, Lecei A, Myin-Germeys I, Collip D, Viechtbauer W, Jacobs N, et al. Stress reactivity links childhood trauma exposure to an admixture of depressive, anxiety, and psychosis symptoms. Psychiatry research. 2018;260(41):451-7.

12. Bhardwaj S, Parashar S, Verma K, Arora R, Chhikara BS. Evaluation of awareness about beauty products composition and proper utilization among college students. Integrated Journal of Social Sciences. 2019;6(2):57-64.

13. Adams KE, Tyler JM, Calogero R, Lee J. Exploring the relationship between appearance-contingent self-worth and self-esteem: The roles of self-objectification and appearance anxiety. Body image. 2017;23(4):176-82.

14. Hussaini HM, Rahman NA, Rahman RA. Maxillofacial trauma with emphasis on soft-tissue injuries in Malaysia. Int J Oral and Maxillo Surg. 2007;36(9): 797-801.