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ORIGINAL ARTICLE

Challenges and Outcomes of Augmentation Rhinoplasty in the Hazara Community of Pakistan: A Cross-Sectional Study

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ABSTRACT

Background: Augmentation rhinoplasty focuses on enhancing and altering the nasal structures to deliver a beautiful result and better nose function. A lot of people worldwide, especially persons of Asian and Middle Eastern origin, choose rhinoplasty to enhance a low nasal bump, a tip that doesn't protrude enough and a thick layer of soft tissue. A major feature of the Hazara community in northern Pakistan is the distinctive shape of their face and nose such as a broad nasal base, low radix and a flat dorsum.

Materials & Methods: A cross-sectional study was conducted under the STROBE guidelines and Hilinski Decleration was conducted from July 2022 to January 2023. In this study, patients of Hazara community who underwent augmentation rhinoplasty with the age range of 18 to 50 years seeking aesthetic beautification were included.

Results: Intraoperative challenges were documented, with the most common being thick nasal skin (65%) and a low nasal dorsum (70%). Limited availability of septal cartilage necessitated the use of costal cartilage grafts in 30% of cases as depicted in figure 1 and on appliance of chi-square test it was observed that low nasal dorsum was major intraoperative challenge when compared to others with p-value of 0.0002 followed by thick nasal skin.

Conclusion: The unique features of the Hazara community mean that augmentation rhinoplasty can be done successfully with customized surgery. The results of this research indicate that tailoring treatments to match patients' cultures and anatomy is very important.

Keywords: rhinoplasty, Hazra community, nasal ala, beautification.

INTRODUCTION

Augmentation rhinoplasty focuses on enhancing and altering the nasal structures to deliver a beautiful result and better nose function. A lot of people worldwide, especially persons of Asian and Middle Eastern origin, choose rhinoplasty to enhance a low nasal bump, a tip that doesn't protrude enough and a thick layer of soft tissue[1,2]. A major feature of the Hazara community in northern Pakistan is the distinctive shape of their face and nose such as a broad nasal base, low radix and a flat dorsum[3]. Because of these anatomical differences, surgeons must use unique techniques to ensure the final results are culturally suitable, look good and are strong[4].

Advances in surgical techniques and implants have not made augmentation rhinoplasty easy in those who have thicker nasal skin and soft tissue such as members of the Hazara community[3,5]. If skin is too sebaceous, it may blur the shape of the nose, really affect how grafts or implants work and increase the chance of scar formation after the surgery. Besides, a variety of materials used for augmentation such as cartilage, implants or mixed grafts, also comes with risks of infections, tissue resorption, warping or tissue extrusion. What society feels about nasal appearance is an important factor, so patients require thoughtful advice before surgery and strong aftercare so they are satisfied[6,7].

In communities where it's hard to find specialized surgeons, outcomes of augmentation rhinoplasty are also affected by a patient's expectations, how economically well-off they are, how talented the surgeon is and how well they follow postoperative instructions[8]. There is a lack of long-term information available on outcomes and complications of augmentation rhinoplasty for the Hazara population, as studies usually examine groups from across Asia or borrow data from nearby regions. Since there is a lack of information regarding one's population, there is a strong requirement for more research helping inform the best care strategies and improved patient results. However, there is a paucity of data focusing specifically on the Hazara population, underscoring the need for targeted research in this area. This study aims to assess the challenges and outcomes associated with augmentation rhinoplasty in the Hazara community of Pakistan.

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MATERIALS AND METHODS

A cross-sectional study was conducted under the STROBE guidelines and Hilinski Decleration at the department of Plastic Surgery, Bolan Medical Complex and Teaching hospital Quetta for the assessment of challenges and outcomes in patients undergoing augmentation rhinoplasty of Hazara Community of Pakistan from July 2022 to January 2023. In this study, patients of Hazara community who underwent augmentation rhinoplasty with the age range of 18 to 50 years seeking aesthetic beautification were included while the patients with previous nasal surgeries, congenital nasal deformities, and those having chronic liver disease and other coagulation disorders like hemophilia and thalassemia were also excluded from the study.

Detailed sociodemographic history of the patients were recorded including age, gender, smoking, educational background and previous history of medical and nasal illness was recorded. Preoperatively assessment was done by otorhinolaryngologist, plastic surgeon, and anesthesiologist was made and any previous pathologies were ruled out and patient was declared fit for surgery. For the fulfillment of aesthetic requirements, surgical technique was tailored based on anatomical variations and requirements by utilizing cartilage grafts. Postoperative follow-up was conducted at 1 week, 1 month, 3 months, and 6 months, assessing aesthetic outcomes, patient satisfaction, and complications. Patient satisfaction was assessed by employing rhinoplasty outcome evaluation (ROE) questionnaire. Incidence of postoperative complications were also recoded and assessed.

Statistical Analysis: Anonymized data was recorded and entered into Microsoft Excel 2019 and were compared and counter checked for the errors and omissions. After dual cross-verification, data were imported and analyzed using SPSS version 26. Descriptive and qualitative statistics summarized patient demographics and surgical outcomes. Chi-square tests evaluated associations between variables, with a p-value <0.05 considered statistically significant.

RESULTS

A total of 60 patients of Hazara ethnicity underwent augmentation rhinoplasty during the study period. The mean age was 28.4 ± 6.2 years, with a female predominance (70%, n=42). Smoking history was noted in 12 patients (20%). The primary indications for surgery

were aesthetic concerns (60%), functional issues (15%), and a combination of both (25%) as explained in table 1.

Table 1: Patient Demographics and Surgical Indications

Study Parameters	Subgroups	N	(%)
Gender	Male	18	30
	Female	42	70
Smoking Status	Smoker	12	20
	Non-smoker	48	80
Surgical Indications	Aesthetic	36	60
	Functional	9	15
	Both	15	25

Intraoperative challenges were documented, with the most common being thick nasal skin (65%) and a low nasal dorsum (70%). Limited availability of septal cartilage necessitated the use of costal cartilage grafts in 30% of cases as depicted in figure 1 and on appliance of chi-square test it was observed that low nasal dorsum was major intraoperative challenge when compared to others with p-value of 0.0002 followed by thick nasal skin.

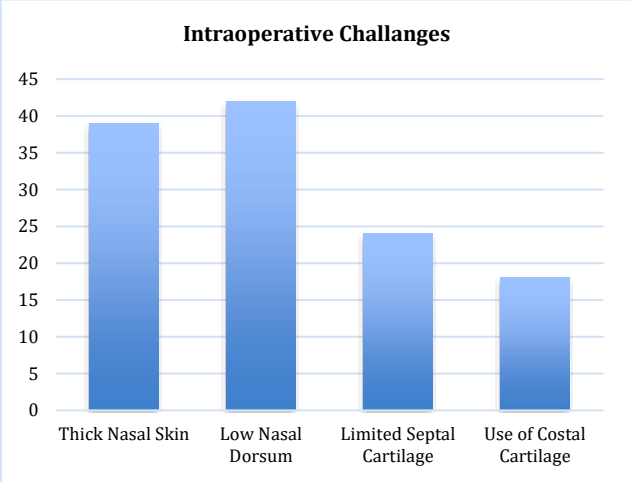

Figure 1: Assessment and Depiction of Intraoperative Challenges in Patients undergoing Augmentation Rhinoplasty.

Patient satisfaction was assessed using the Rhinoplasty Outcome Evaluation (ROE) questionnaire. The mean preoperative ROE score was 35.2 ± 5.6, which significantly improved to 78.5 ± 6.3 at the 6-month postoperative follow-up ($p < 0.001$) by employing paired sample t test and on appliance of paired sample t test, a significant correlation was also noted with r value of 0.832 and p-value of 0.0001 indicating greater level of satisfaction followed by augmentation rhinoplasty in Hazara community. Postoperative complications were minimal, with infections in 5%, graft resorption in 3.3%, hypertrophic scarring in 6.7%, and revision surgery required in 1.7% of cases and chi-square test was employed. It was observed that hypertrophic scarring was most common with the p-value of 0.0002 followed by graft repositioning and this had also highlighted that augmentation rhinoplasty has zero and minimal complication rate.

Table 3: Postoperative Complications in Patients of Augmentation Rhinoplasty of Hazara Community.

Complication	Percentages	P-value
Infection	5	0.0002
Graft Reposition	3.3	
Hypertrophic Scarring	6.7	
Revision Surgery	1.7	

DISCUSSION

The results of this study emphasize the special issues and positive outcomes found in patients having augmentation rhinoplasty in the Hazara area. As most surgeries here involve thick nasal skin and a narrow nasal area, using your own cartilage grafts is often required for successful results. The higher ROE scores after surgery suggest that patients are very happy with their results and support earlier studies stressing the focus on patients in rhinoplasty.

This research describes both the issues and results that arise from performing augmentation rhinoplasty in the Hazara community, a group with its own physical and cultural characteristics in Pakistan. According to our results, surgeons had to address mainly the issue of thick nasal skin and a shallow nose bridge which is commonly found in rhinoplasty on Asian and Middle Eastern populations[9].

Using costal cartilage grafts in a third of cases is needed because there is not enough septal cartilage in patients with lower dorsums. Doctors have recognized that costal cartilage can help increase dorsal volume and give good support, even though it might be subject to warping and cause problems at the donor site[10]. We found that most complications included hypertrophic scarring (6.7%) and infections (5%) which are common in augmentation rhinoplasty worldwide[11]. This highlight the need for careful surgery in groups with thicker skin and unusual features to help avoid infections and scaring.

Four weeks after surgery, those who had hysterectomies rated their satisfaction with overall care much higher than those who had not yet recovered from the procedure, with a significant difference of 43.3 versus 78.5. The result demonstrates that augmentation rhinoplasty can fulfill both appearance and function needs when proper approaches are applied and patients are involved in the planning[12]. Here, the satisfaction rates are seen to match what is observed in other Asian communities, where rhinoplasty is used to correct mainly culture- and feature-centered issues[13].

Since the rate of revision is low (1.7%) and complications are rare, we find that careful evaluation, special surgical care and strict post-surgery care can allow surgeons to have major success with AR patients, regardless of nasal structure[14]. In addition, since the Hazara community values improved but realistic features, this can help explain why those who have had surgery are very happy[15,16]. The research has some restrictions such as its use of a cross-sectional approach, small number of participants and depending on people's subjective answers. Research with bigger cohorts and more accurate measurements of how the nose works and looks are necessary to approve the conclusions in this study. Still, this study provides insights about the Hazara population and shows that using surgery and grafts that fit their culture is necessary to get better outcomes.

CONCLUSION

The unique features of the Hazara community mean that augmentation rhinoplasty can be done successfully with customized surgery. The results of this research indicate that tailoring treatments to match patients' cultures and anatomy is very important. To do the best job for this group, it is necessary to keep improving research and surgical methods.

REFERENCES

1. Kifayatullah A, Rashid M, Rehman SU, Khan I. Outcomes of dorsal nasal augmentation using costochondral graft. J Pak Med Assoc. 2024;74(6):1104–8.
2. Khan N, Rashid M, Khan I, Sarwar S, Rashid H, Khurshid M, et al. Satisfaction in patients after rhinoplasty using the rhinoplasty outcome evaluation questionnaire. Cureus. 2019;11(9):e5647.
3. Hawrami FAH, Amin ZM, Faruk MM, Hama RA. Evaluation esthetic and functional outcomes after rhinoplasty. J Contemp Med Sci. 2020;6(2):50–3.
4. Bashir D, Qadri MS, Rather RH. Exploring satisfaction and outcomes in rhinoplasty: experience from a tertiary care hospital in Kashmir valley, India. Int J Res Med Sci. 2023;11(6):12083.
5. Khan SF, Shah SM, Jan MU, Zaman H. Risk and complications of rhinoplasty. Pak J Med Health Sci. 2022;16(11):135.

6. Javaid RH, Ali S, Kiani AA. Augmentation rhinoplasty: 9th costal cartilage graft for stage III saddle nose deformity. Pak Armed Forces Med J. 2018;68(5):1439–43.
7. Saban Y, Daniel RK. Rhinoplasty in thick-skinned patients. Plast Reconstr Surg. 2013;131(6):1330–8.
8. Lee M, Most SP. Ethnic considerations in rhinoplasty. Facial Plast Surg Clin North Am. 2010;18(2):229–39.
9. Jang YJ, Yoon JH, Kim YD, Jung DH. Use of autologous costal cartilage in rhinoplasty. Arch Facial Plast Surg. 2008;10(6):394–400.
10. Gunter JP, Cochran CS, Marin VP. Dorsal augmentation with autogenous rib cartilage. Clin Plast Surg. 2010;37(2):219–30.
11. Rohrich RJ, Ahmad J. Rhinoplasty complications: prevention and management. Plast Reconstr Surg. 2011;128(2):49e–56e.
12. Alsarraf R. Outcomes research in facial plastic surgery: a review and new directions. Aesthetic Plast Surg. 2000;24(3):192–7.
13. Kim DW, Toriumi DM. Asian rhinoplasty. Clin Plast Surg. 2007;34(2):245–59.
14. Gunter JP, Rohrich RJ, Adams WP. Dallas Rhinoplasty: Nasal Surgery by the Masters. 3rd ed. St. Louis: Quality Medical Publishing; 2013.
15. Guyuron B, Behmand RA. Nasal analysis and facial aesthetics. Plast Reconstr Surg. 2003;111(2):890–4.
16. Seo KK, Kim DY, Lee SY. Analysis of nasal shape in Korean people for rhinoplasty. Ann Plast Surg. 2011;67(6):526–30.

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