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Perceptions and satisfaction of aesthetic outcome following secondary cleft rhinoplasty: Evaluation by patients versus health professionals

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ABSTRACT

Objective: To explore how improvement in facial appearance is related to patients' perception and satisfaction following cleft rhinoplasty.

Design: A cross-sectional survey.

Participants: 35 cleft rhinoplasty patients treated between 2005 and 2010. 45 observers comprised of healthcare professionals.

Main outcome measures: Evaluation of patient satisfaction including Rhinoplasty Outcome Evaluation (ROE) questionnaire, Preoperative and Postoperative Semi-quantitative Ordinal Scale Rating (PPSOSR) and a specifically designed semi-structured questionnaire. Evaluation by panel of observers using Asher-McDade Aesthetic Index (AMAI) Rating and PPSOSR.

Results: Patient satisfaction was high, based on the ROE questionnaire (score 76.1). 91% of patients rated their appearance as improved, 3% remained 'uncertain' and 6% felt 'different but not improved.' Teenage females (score 94.1) showed statistically higher satisfaction, when compared to older females (score 75.5), or their male counterparts (score 69.8). The preoperative appearance ratings were not statistically different between patients and panel members but postoperatively, patients' rating of their appearance was statistically higher.

All components of the AMAI were scored between 'good' to 'fair' (score 9.3). Seventy percent of the panel rated the postoperative appearance as improved. Interestingly, 10% rated the postoperative appearance as 'unchanged', while 3% reported a 'worsened' appearance. There was no correlation between panel assessment of aesthetic outcome and patient satisfaction.

Conclusions: Cleft rhinoplasty contributes to subjective patient satisfaction as a result of their perceived improvement in appearance and function, even though this was not correlated to objective aesthetic rating by panel members.

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1. Introduction

The majority of published literature concentrates on improving cleft rhinoplasty techniques but there is a lack of research that focus on the impact of surgery on patients' perception and satisfaction with their outcome. Body image attitudes are formulated by one's thoughts, feelings and behaviour related to their physical appearance (Clifford, 1978). Living in a culture that is driven by image and external beauty, where major emphasis is typically placed on physical appearance, cleft deformity exacts additional psychological and social stressors on these patients (Sousa et al., 2009).

A patient's self-image may be adversely affected by a negative response from outsiders, whether it is actual or perceived (Charon, 1979; Goffman, 1968; Turner et al., 1997). An interesting study showed that despite the three-dimensional facial analysis showing no significant difference in facial asymmetry when compared to orthognathic patients, those with unilateral cleft lip were rated significantly less attractive (Meyer-Marcotty et al., 2011). Furthermore, a recent study demonstrated that patients, parents and health professionals were more satisfied with the patients' facial aesthetic appearance than the general public, and suggested that the perceptions of the general public may negatively impact on the patients' everyday social and professional activities (Gkantidis et al., 2013).

The primary aim of cleft rhinoplasty is to improve facial appearance with the central goal of influencing patient perception so that this positively impacts on their satisfaction. In a study of

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adults with facial disfigurement, it was found that the patient's social functioning can be predicted by the patient's subjective satisfaction of their facial appearance (van den Elzen et al., 2012). Previous studies have shown that from both a physical and psychological perspective, successful surgical procedures can directly influence patient satisfaction with their appearance, and in turn, a favourable outcome on self confidence and esteem (Lefebvre and Munro, 1978) (Rachmiel et al., 1999). This is particularly pertinent to the population of patients seeking cleft rhinoplasty. The overall objective of this study was to explore how improvement in facial appearance is related to patient satisfaction following cleft rhinoplasty.

1.1. Aims and hypotheses

The primary aim of this study was to assess patient satisfaction following secondary cleft rhinoplasty at our unit. It was hypothesised that patients' subjective satisfaction would be high following cleft rhinoplasty aimed at improving their appearance.

Additionally, we aimed to evaluate the aesthetic outcome of the cleft rhinoplasty performed. In order to evaluate this as objectively as possible, a panel of independent observers consisting of various healthcare professionals was assembled. Previously validated assessment tools were used. It was hypothesised that objective improvement in nasal appearance was achieved following cleft rhinoplasty.

Our final aim was to examine whether there was an association between a patients' satisfaction level (subjective outcome) and an observers assessment of aesthetic improvement (objective outcome). We hypothesised that patient satisfaction is positively correlated to observer-rated aesthetic outcome, and therefore if the aesthetic outcome was better, patient satisfaction levels would be correspondingly higher.

2. Material and methods

2.1. Design

This was a cross-sectional study where patients were required to complete two sets of assessment tools and a semi-structured questionnaire. The assessment tools used were the Rhinoplasty Outcome Evaluation (ROE) questionnaire and the pre- and post-operative Semi-quantitative Ordinal Scale Ratings of their nasal appearance. A specifically designed semi-structured questionnaire was used to elicit patients' beliefs and issues regarding their nasal appearance.

In order to evaluate the postoperative outcome objectively, a panel of observers from various healthcare professional backgrounds was assembled to independently critique and evaluate the preoperative and postoperative outcomes. This was composed of Plastic and Reconstructive (3), Ear, Nose and Throat/Maxillofacial surgeons (3), and Anaesthetic (5) consultants, specifically dealing with cleft surgery. Senior specialist surgical trainees (Plastics/ENT) (10), senior speech therapists/cleft nurse specialists (4), senior dental trainees (4) and consultant and trainee specialist physicians (10), paediatric ICU and ward nursing staff (6). Two forms of assessment tools were used: The Asher-McDade Aesthetic Index Rating and the pre- and post-operative Semi-quantitative Ordinal Scale Rating.

2.2. Patients

All patients who had undergone cleft rhinoplasty procedures at our unit between 2005 and 2010 were reviewed. Inclusion criteria consisted of patients requiring secondary rhinoplasty, having had a

previous complete unilateral or bilateral cleft lip repair. All procedures were performed by a single cleft surgeon.

Patient medical case notes were reviewed retrospectively and demographics and preoperative anatomical cleft deformities recorded, in addition to rhinoplasty techniques employed for each surgery. A 20-min telephone interview was conducted with each patient to complete the assessment tools described (Table 1). All interviews were conducted by the primary author who had recently joined the cleft service and had not met or been involved with any of the patients' procedures which had been carried out at least two years prior to the study.

2.3. Assessment of patient satisfaction

2.3.1. Rhinoplasty Outcome Evaluation Questionnaire

The Rhinoplasty Outcomes Evaluation questionnaire was developed to assess patients' preoperative and postoperative nasal state (Alsarraaf et al., 2001). This consists of 6 questions relating to patients' opinion on nasal form and function. Each parameter is scored on a scale from 0 to 4, with 0 and 4 reflecting the worst and best scores, respectively. The total score is divided by 24 and multiplied by 100, resulting in a satisfaction score on a scale of 100. A score of >85 indicates an excellent score with the patient being 'very satisfied'.

2.3.2. Preoperative and Postoperative Semi-quantitative Ordinal Scale Ratings

This assessment tool consists of a 3-point preoperative and 5-point postoperative rating of patient pre/post operative outcomes. It does not produce an overall score but allowed both patients and observers to provide a semi-quantitative response (Pitak-Arnnop et al., 2011). Patients/observers were asked to comment on their preoperative appearance (3-point scale: 'liked', 'disliked' or 'uncertain'). They were also asked to rate their postoperative appearance as – (5-point scale: 'improved', 'worsened', 'different but not improved', 'unchanged' or 'uncertain').

2.3.3. Semi-structured questionnaire

These questions were designed specifically for this study to evaluate patient perception on qualitative issues not obtained by the two standardised assessment tools described above. The semi-structured nature allowed patients to respond in an open-ended manner while staying within a set framework of questions. It contains the following questions:

- i. Would you undergo the surgery again, knowing the final result?
- ii. Which part of nose bothered you most preoperatively?
- iii. Which part has been most improved by surgery?

Table 1

Assessment tools used for evaluating patient satisfaction and for rating aesthetic outcome.

Assessment of patient satisfaction	Reference
a Rhinoplasty Outcome Evaluation Questionnaire	Alsarraaf et al., 2001
b Preoperative and Postoperative Semi-quantitative Ordinal Scale Ratings	Pitak-Arnnop et al., 2011
c Semi-structured Questionnaire	Byrne et al., 2014 (this study)
Aesthetic outcome assessment by panel of observers	
a Asher-McDade Aesthetic Index Rating	Asher-McDade et al., 1991, 1992
b Preoperative and Postoperative Semi-quantitative Ordinal Scale Ratings	Pitak-Arnnop et al., 2011

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