

Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology

journal homepage: www.elsevier.com/locate/jomsm

Original Research

The impact of surgical correction on the quality of life in patients with dentofacial deformity—A prospective study



Chen Loong Soh*, Vinod Narayanan

Saveetha Dental College, No. 162, Poonamalle High Road, Vellappanchavadi, Chennai 600077, India

ARTICLE INFO

Article history:

Received 24 December 2013
 Received in revised form 7 February 2014
 Accepted 4 March 2014
 Available online 24 April 2014

Keywords:

Orthognathic surgery
 Quality of life
 OQLQ

ABSTRACT

Objective: The aim of this prospective cohort study was to determine the changes in quality of life following orthognathic surgery for patients with dentofacial deformity in the South Indian population.

Methods: A total of 66 (28 males and 38 females) patients undergoing orthognathic surgery for correction of dentofacial deformity were recruited for the study. Patients were required to complete the Orthognathic Quality of Life Questionnaire (OQLQ) before the surgical procedure and 6 months after the surgery. The pre-operative and post-operative scores were then compared. Effect size was also calculated. Three additional post-operative questions were also included to further validate the results.

Results: There was a statistically significant change at 6 months across three of the four domains evaluated: aesthetics, social aspects and awareness of deformity ($P < 0.05$). Oral function while recording an improvement did not show a statistically significant change at 6 months. Aesthetic domain recorded the largest effect size (2.98), followed by awareness of deformity (1.52), social aspects (1.49) and oral function (0.18). In all, 44% of patients had some form of discomfort at 6 months post-operatively, while 58% of patients were very happy with the surgical result.

Conclusion: The research reaffirms the positive effects of orthognathic surgery on quality of life.

© 2014 Asian AOMS, ASOMP, JSOP, JSOMS, JSOM, and JAMI. Published by Elsevier Ltd. All rights reserved.*

1. Introduction

Dentofacial deformity has a detrimental effect on a person's psychosocial well-being. The dentofacial complex is also uniquely related to functional aspects as well, such as breathing, speaking and eating [1]. In recent times orthognathic surgery as a choice of treatment has received much attention due to its impact on improving aesthetics and function.

Numerous authors have published work on the psychosocial impact of orthognathic surgery and its relation to quality of life [2–7]; and numerous types of questionnaires have been utilised for such purposes. This includes generic health questionnaires, oral health-specific questionnaires, and condition-specific questionnaires [8].

Most studies point to an improvement in the quality of life for such patients. However, the rapid change in facial appearance

that surgery offers requires almost instantaneous adaptation. The assessment of this change in quality of life is not possible to quantify by objective means alone, and a subjective assessment helps validate such results.

Changes associated with such surgeries may also be perceived differently across countries, health care systems and cultures [9,10]. The concept of 'beauty' and 'facial attractiveness' is complex. Perceptions vary among various people, therefore making it difficult to measure such a subjective commodity due to differences transcending cultures and societies [11,12].

The aim of this study was to determine the changes in quality of life following orthognathic surgery for patients with dentofacial deformity in the South Indian population.

2. Methods

This prospective cohort study was carried out from April 2012 to September of 2013 following review and ethical clearance by the institutional Ethical Committee. Patients with dentofacial deformity indicated for orthognathic surgery were included in this study. The exclusion criteria included patients with congenital craniofacial deformities, patients with cleft lip and palate, patients who had previously undergone orthognathic surgery, and patients unable to complete the questionnaire. A total of 77 patients met the inclusion

* AsianAOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

* Corresponding author. Tel.: +91 9940690089.
 E-mail address: drclsloh@gmail.com (C.L. Soh).

criteria and were included in this study, out of which 11 patients did not complete the follow-up study and were therefore excluded. Thus, 66 patients (28 males, 38 females) were included in this study, with an age range of 18–30 years (mean 23.4 years). Data were collected from each patient at two intervals: the first during the presurgical orthodontic phase of treatment before the surgical procedure and the second following a minimum of 6 months post-surgery.

The outcome measures were evaluated using the Orthognathic Quality of Life Questionnaire (OQLQ), which is a 22-statement questionnaire based on a 4-point Likert scale, along with three additional post-operative questions. The questionnaire consists of 4 domains: aesthetics, social aspects, oral function and awareness of deformity, respectively. The 4-point scale was graded from 1 to 4, with 1 being the least severe to 4 being the most severe. Lower scores indicate a better quality of life while higher scores indicate a greater degree of concern.

Three additional post-operative questions were also included, with responses also graded on a 5-point scale (Table 1) to obtain additional insight into patient responses to the treatment of dentofacial deformity via orthognathic surgery.

The data were evaluated using the Statistical Package for the Social Sciences (SPSS 17). Comparison between pre-operative and post-operative scores was done using a paired *t*-test. One-way

Table 1
Additional post-operative questions.

PO-1: satisfaction with surgical outcome
1. Very happy
2. Somewhat happy
3. Neither happy nor unhappy
4. Not happy
5. Very unhappy
PO-2: opinion from family and friends
1. Very happy
2. Somewhat happy
3. Neither happy nor unhappy
4. Not happy
5. Very unhappy
PO-3: post-operative numbness/loss of sensation or discomfort in lip, tongue or other facial areas
1. Never
2. Rarely
3. Occasionally
4. Sometimes
5. Almost always

ANOVA was used to compare the difference in pre-operative and post-operative scores between different types of dentofacial deformity. The level of significance was set at $P < 0.05$. Effect sizes for each domain were also calculated by subtracting the mean post-treatment score from the mean pre-treatment score and then dividing by the standard deviation of the pre-treatment score. The minimal clinically important difference (MCID) was also determined utilising one half of standard deviation above the total mean score (Fig. 1).

3. Results

In the 66 patients, the most common skeletal deformity treated was vertical maxillary excess (44%). Table 2 provides a summary of diagnosis of all patients. Various surgical procedures were performed, with bimaxillary surgeries making up a total of 36.4% of all procedures. Lefort 1 superior repositioning was the most common single piece osteotomy (35%). All the patients were followed up for a minimum of 6 months, with a range from 193 days to 344 days (mean 274 days).

On comparing pre-operative and post-operative scores, there was a statistically significant difference across 3 of the four domains. The effect sizes for all the domains showed a large pre/post-treatment change (>0.8) except for the oral function domain (Table 3). The oral function domain did record an improvement before and after surgery but did not result in as large an effect size as the other domains. On comparing quality of life changes between patients with different dentofacial deformities, patients with vertical maxillary excess recorded the biggest change in the function domain (difference of 6.45). The biggest functional difference scores were seen in patients with skeletal class 3 (4.86). Table 4 provides the ANOVA test of significance for different domains with regard to the different types of dentofacial deformity. There is a statistically significant difference in the oral function domain, which after a post hoc Bonferroni test was identified as between skeletal class 3 and vertical maxillary excess ($P = 0.034$).

The minimal clinically important difference was calculated as one half of standard deviation above the total score. From this sample, it was determined to be 44.14. Of the 66 patients, 53 (80%) recorded a minimal clinically important difference.

With regard to the additional post-operative questions, the mean score for PO-1 was 1.47. Most patients were very happy with the surgical outcome (57.6%). The mean score for PO-2 was 1.48, with 60.6% of patient family members and friends giving a score of

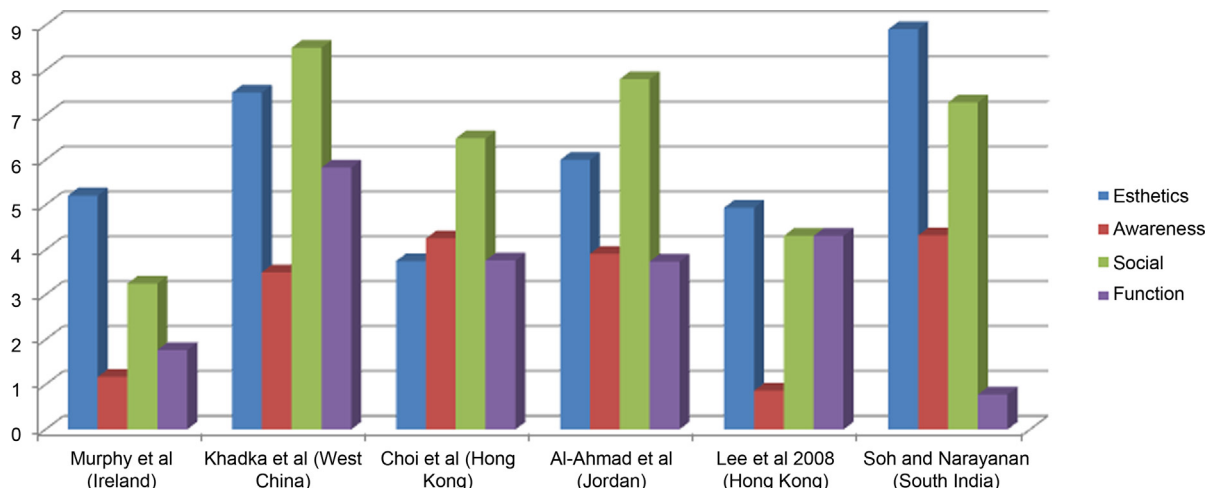


Fig. 1. Comparison between current study and similar study designs of other countries – mean difference scores of the four domains.

Download English Version:

<https://daneshyari.com/en/article/3160474>

Download Persian Version:

<https://daneshyari.com/article/3160474>

[Daneshyari.com](https://daneshyari.com)