

Reasons of orthodontic patients for not accepting orthognathic surgery: A qualitative study

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Abstract

Introduction: Surgical Orthodontics encompasses one of the four branches of Orthodontics intending to correct dentofacial anomalies. Patients with complex facial anomalies deal with many psychological issues, impairment of oral function and deteriorates mental health. The need of orthognathic surgery arises in patients that cannot be camouflaged with orthodontic treatment alone. Although orthognathic surgery has been accepted more often as a part of orthodontic treatment plan but still there is great percentage of refusal. The aim of this study was to find out the reasons of refusal for orthognathic surgery when offered to orthodontic patients as an ideal treatment plan

Material and Methods: Fifteen Orthodontic patients were interviewed that refused orthognathic surgery. For privacy, patients were interviewed in an isolated room. The structured interview was recorded lasting for for 10-15 minutes. The data collected was transcribed manually. Thematic analysis was carried out by identifying major themes from the transcribed data.

Results: Different reasons were found out for refusal of orthognathic surgery. These reasons were grouped under four main themes. One was core theme and the others was peripheral. The most prevalent reason for the refusal was the complexity of the treatment. The second major reason was fear. Other reasons included pressure from the family and increase in treatment cost.

Conclusions: Complexity of the treatment included longer duration of treatment, pre and post-surgical complications and treatment being invasive. The second reason was fear followed by treatment cost and family refusing for orthognathic surgery.

Keywords: Facial surgery; anxiety with treatment; camouflage

Introduction

Surgical Orthodontics encompasses one of the four branches of Orthodontics. The word orthognathic comes from the Greek

word 'orthos' meaning to straighten, and 'gnathos,' meaning jaw, meaning thereby as straightening the jaw through surgical procedures.¹ It is intended to correct dentofacial abnormalities. A dentofacial anomaly is a variation from normal facial and dental structure. It debilitates the patient in two forms; jaw activity and esthetics. Approximately 2-3% of the community suffers from dentofacial abnormality.²

Patients with complex facial anomalies deal with many psychological issues such as indignity and no confidence. These anomalies not only impair oral function but also deteriorate mental health, thus becoming

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common reasons for which patients seek treatment and report to orthodontists.³ The need of orthognathic surgery arises in patients with severe skeletal discrepancies and malocclusions that cannot be treated or masked with conventional orthodontic treatment.⁴

Current research reflects interest on how orthognathic surgery affects patients' quality of life. A cross-sectional study explored the effect of orthognathic treatment phases on quality of life and reported that patients with completed orthognathic surgical treatment had a good impact on oral health-related quality of life and better cosmetic satisfaction than in patients undergoing treatment.⁵

Changes in quality of life after orthognathic surgery in Saudi patients revealed highly significant improvement in quality of life following orthognathic surgery. This improvement was evident in all four domains i.e. oral function, facial aesthetics, awareness of dentofacial aesthetics, and social aspects.⁶

Different studies are done to explore the variables associated with satisfaction and disappointment at the end of orthognathic surgical treatment. Pereira et al revealed that patient satisfaction was related with final cosmetic results, social advantages from the treatment, type of orthognathic surgery, sex, and changes in patient self-concept during treatment. Variables associated with dissatisfaction were treatment duration; sensation of functional impairment and/or dysfunction after surgery and perceived neglected information about surgical complications.⁷

Regarding esthetic results and general satisfaction following orthognathic surgery, patients have reported an improvement in facial esthetics, pleased with the outcome and some would recommend surgery to others in need.⁸

It is important to know patient's perception to analyze sense of opting orthognathic surgery and their knowledge regarding surgery. Studies have shown that patients had undergone surgery mainly for esthetics,

function and TMJ abnormalities and depicted that orthodontists preferred surgery for the same factors.⁹

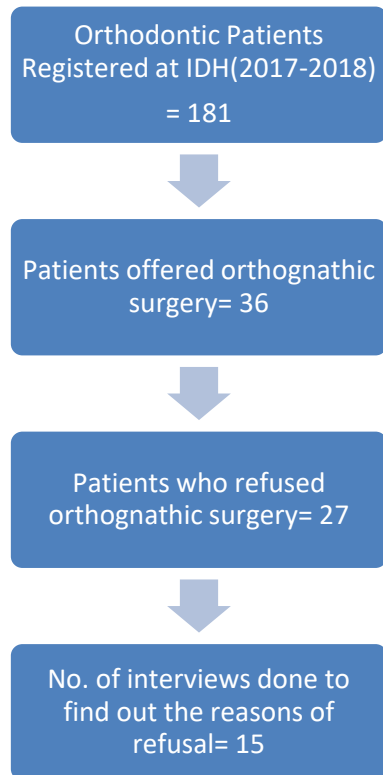
The literature supports the need of orthognathic surgery and how it improves the quality of life. Few authors have reported complications associated with orthognathic surgery. While most patients undergo orthognathic surgery for aesthetic purposes, aesthetic improvements are most often followed by postoperative functional complications. Various postoperative complications of orthognathic surgery have been reported, which have led to serious problems in a number of cases. A majority of these complications for example infections, device fracture, inferior alveolar nerve injury, temporomandibular disorder, relapse can be managed through proper treatment.^{10,11}

Numerous studies have stated how orthognathic surgery is beneficial for an individual, some of which reported about patients' perception and satisfaction after surgery. Although outcome and success of orthognathic surgery is vastly reported, there are still circumstances in which patients refuse to opt for orthognathic surgery. Refusal to orthognathic surgery is necessary to be noted so that different reasons given by the patient can be documented and we can identify problem behind refusal. Therefore, the aim of this study was to find out about the reasons of refusal for orthognathic surgery when offered to orthodontic patients as an ideal treatment plan.

Material and Methods

This was a qualitative study carried out after ethical approval for the study from the Institutional Review Board committee of Islamabad Dental Hospital, Bharakahu. Based on the criteria of 'a patient who refused orthognathic surgery' from 2017 to 2018, 15 subjects were approached by non-probability convenience sampling, who agreed to a 10-15-minute formal semi-structured interview. Patients were allotted serial numbers to ensure anonymity so that their names didn't

show in the transcription. Saturation of data was achieved by 15 subjects. The patients were provided with an informative sheet of their orthognathic surgical treatment plan and consent obtained to audio record the interview. Interviews were conducted in a private room to respect the privacy of the patient and the interview was recorded in Urdu language.



then followed by a translation into English for analysis. Analysis of each interview was done immediately after translation and was an on-going exercise with data collection. It was carried out by first open coding using the key-in-word-context (KWIC) approach. Codes were linked to each other by axial coding until themes began to emerge. Themes were developed based on categories and sub-categories. Verbatim comments were selected from the translated raw data to augment our concluding categories and sub-categories. Qualitative data, due to its intrinsic component of human interpretation, is validated by respondent validity. The final interpretations of each interview were used for respondent validity. Five subjects were reached out to read/listen to the interpretation of their interviews to validate that they were a true representation of their lived experience surrounding the topic.

Results

The participants consisted of 8 male and 7 female patients who refused orthognathic surgery. To ensure the anonymity of participants, subjects were allotted with serial numbers. After the analysis of the data, 4 themes were discovered including one core theme and 3 peripheral themes. Findings are represented with verbatim translation of participants, indicated in quotes.

For data analysis, each recorded interview

Themes	Categories/subcategories	Comments (verbatim)
A) Fear	1) Surgical Procedure	
	I) Blood, Needle, GA	<i>"I couldn't accept the surgical option because I have a fear of general anesthesia."</i>
	II) Failure of the procedure	<i>"I was willing for the surgery because it was quick way, but my parents were afraid that surgery might cause some problems or fail."</i>
	III) Extraction of the teeth	<i>"There were many reasons due to which I refused. One was that my doctor told me that I had to get my 4 teeth extracted pre-surgically."</i>

was translated verbatim first into Urdu and

	2) Post-op complications	
	I) Surgical Complications	<i>"I was willing for the surgery I knew that this option was more favorable for me, but my family didn't agree. They were afraid of the post-operative complications (e.g.: lingual nerve damage). I discussed with them in detail that every surgery involves the complications, but they didn't approve."</i> <i>"My family wasn't ready for the surgery. They were afraid of the post-operative complications that's why they didn't give approval for the surgery."</i>
	II) Fear of cosmetic change	<i>"I refused the surgery because I couldn't accept my post-surgical profile shown to me by my doctor. It was a huge change for me, and it also didn't suit me. I discussed with my family and fiancé they also said the same."</i>
	III) Pain	<i>"I was told by my doctor that there will be pain in the surgical procedure post operatively that's why I didn't want surgery."</i>
B) Famport System)	1) Family Support	<i>"It's difficult to come here for the treatment. My family says stay at home to look after the child and home. This non-surgical treatment is enough, no need to go for the surgical procedure. I will accept the surgery if my family supports me."</i>
	2) Financial Dependence and Lack of Support	<i>"We cannot afford the surgical expenses that's why my brother and me refused the surgical treatment option."</i> <i>"I was ready for the surgery, but my parents and my uncle didn't approve. They were like no need to go for the surgery just get the braces. They said surgical treatment involves operations, more expenses and longer duration. Otherwise if they had approved, I would have undergone the surgery"</i>
C) Expense		<i>"I didn't accept the surgery because I didn't want to go for the expensive treatment. My parents were willing for the surgery and told me to go for it, but I refused to pay for the surgical expenses."</i> <i>Third reason for my refusal was that I cannot afford the surgical expenses I can pay in instalments for the conventional orthodontic treatment which is more feasible for me."</i>
D) Complex Treatment	1) Complex treatment pre and post surgically	<i>"I refused because in the pre-surgical phase my appearance was going to be worse initially until surgery. This was the second reason for my refusal."</i>
	2) Duration	<i>"I was tired of this conventional orthodontic treatment. Then my doctor offered me the surgery, but I refused"</i>

		<i>because I didn't want to go for any further treatment". "I was ready for the surgery, but my parents and my uncle didn't approve. They were like no need to go for the surgery just get the braces. They said surgical treatment involves operations, more expenses and longer duration. Otherwise if they had approved, I would have undergone the surgery"</i>
	3) Invasiveness of actual surgical procedure	<i>"I was afraid of the complex treatment offered to me. I wanted my teeth to be corrected by normal and simple treatment." "I was also afraid of this complex surgical treatment offered to me." "I was ready for the surgery, but my parents and my uncle didn't agree. They said surgical treatment involves operations, more expenses and longer duration. Otherwise if they had approved, I would have undergone the surgery" I wanted to get simple and easy treatment, but surgical treatment was complex and difficult task for me. Both treatment plans require same time period that's why I said why don't go for the less invasive procedure." I got little afraid when I heard about the surgery. I didn't have any idea what will happen in the surgery, but my parents refused the surgery. They also got afraid of the surgery that's why they refused the surgical option."</i>

Discussion

Orthognathic surgery is a common treatment modality for severe skeletal deformity. Orthognathic surgery is usually carried out when the discrepancy cannot be camouflaged alone with orthodontics. This treatment modality has had a good impact on the psychological aspect as well as an improvement in the quality of life. Orthognathic surgery depends on patient's perception and motivations. We therefore carried out this study to find out different reasons for not accepting orthognathic surgery when it was offered to the orthodontic patients as an ideal treatment plan.

This study was carried out in a private setup where the patients were interviewed for a short time. Privacy was an important factor because it gave patients the confidence to narrate their exact reason, it ensured confidentiality and to rule out any external

pressure that they could have felt during the interview.

In this study, the thematic content analysis of interview transcripts found that our results were categorized as 1 core theme termed as complexity of the treatment. Other peripheral themes were termed as fear, family support and expense. The most prevalent reason was the complexity of the treatment which included complex pre and post-surgical treatment, duration and invasiveness of the procedure. Patients were concerned regarding prolonged duration time, some of the patients did not want an invasive approach to their orthodontic malocclusion.

In 1988, research was done in which the patients subsequently refused or accepted orthognathic surgical procedures. Two different classes were correlated according to their psychological profiles and the result showed no significance.¹² The results of this study were similar to our study in a way that

no significant change was reported in the patient's psychological profile.

The second main reason for the refusal of surgery was fear of the surgery. Fear of the surgery was further divided into fear of surgical procedure and fear of post-op complications. Fear of surgery included fear of needle, blood, extractions of teeth and failure of the procedure itself. Fear of post-op complications included pain, fear of cosmetic change. These results are comparable to analysis conducted in University of Oslo that revealed most common reasons for not accepting the orthognathic surgery were fear of post-operative complications (nerve injury), precise care demand and fear of surgery.^{13,14}

Another study done in OSA patients was to find out OSA surgery and postoperative discomfort that compared phase I surgery versus phase II surgery. Phase II surgery was the second phase intervention of orthognathic surgery. They also concluded that patients who refused the phase II surgery was due to post-op discomfort which included pain, masticatory discomfort, need of analgesics, foreign body feeling.¹⁵

One of the reasons in our study for the decision to refuse orthognathic surgery was the expense of the overall orthodontic treatment. Subjects could not afford the orthognathic surgery and stated that they could only pay for orthodontic treatment. In 2011, a study was done to rule out the reasons for not opting for surgery. It also helped in knowing different approaches by which we can increase its availability in the population. Most common reasons for rejection came into light such as potential risks and cost. Some reasons for acceptance of orthognathic surgery came into light such as fast treatment and esthetic reasons.¹⁶

Lack of family support was another reason some patients did not accept orthognathic surgery. Some of the patients were financially dependent on their parents and some wanted to opt for surgery but their parents refused for this treatment modality. In this study,

various reasons were illustrated that literature also supported. This is an important aspect that should be countered and further studies need to be done to minimize the refusal of the orthognathic surgery.

A single center study was the limitation of this study. We recommend a multicenter study involving different institutes, so that more reasons can be explored and decision to refuse can be explained in a more detailed manner. With the help of these reasons, different schemes can probably be generated to help patients in deciding and comprehending additional concepts about orthognathic surgery treatment option.

Conclusions

Through this qualitative study we found that most common reasons for refusing orthognathic surgery were complexity of the treatment followed by fear which includes fear of surgical procedure and post-op complications, family support and expenses.

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