Original Article - Cross-sectional Study

Orthognathic Surgery or Overlay Prosthesis: Quality of Life in Bilateral Cleft Lip and Palate Patients

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Abstract

Background: The concern to restore and evaluate bilateral cleft lip and palate (BCLP) patients' quality of life, after rehabilitation, is an issue that has been discussed in the literature because it is the ultimate goal of any proposed treatment. **Objective:** To evaluate the overall and oral quality of life of BCLP patients who had completed their treatment with orthognathic surgery (OrSg) compared to those who completed theirs with prosthetic rehabilitation in the form of overlay prosthesis (OP). **Materials and Methods:** The study comprised 40 patients, 20 in OrSg group and 20 in OP group. Epidemiological survey and application of two questionnaires (World Health Organization Quality of Life-brief [WHOQOL-bref] and Oral Health Impact Profile-14 [OHIP-14]) were done. The final results were evaluated statistically by the Mann–Whitney test. **Results:** Regarding the comparison with the WHOQOL-bref, no significant statistical differences between groups were found. In the analysis of the OHIP-14, only in "psychological limitation" field difference could be observed, where OrSg group showed more negative impact when compared to the OP group. **Conclusion:** Both rehabilitations provide a satisfactory quality of life for patients.

Keywords: Cleft lip, cleft palate, dental prosthesis, orthognathic surgery, quality of life

Introduction

The concern to restore and evaluate patients' quality of life, mainly after rehabilitation, is a subject that has been widely discussed in the literature because it is the ultimate goal of any proposed treatment.[1,2]

The subjectivity involved in the issue made study groups come together to establish evaluation methods that implicated both objectives and psychosocial aspects of the functioning life.[3] This way, the World Health Organization Quality of Life-brief (WHOQOL-bref) questionnaire was developed to assess quality of life in general.

Slade and Spencer[4] introduced in the literature a questionnaire about the quality of life called Oral Health Impact Profile (OHIP). Slade[5] published a paper describing the short version of OHIP, which comprised 14 questions keeping the same areas and initial loyalty.

Oliveira and Nadanovsky[6] validated it in Brazil, and since then the questionnaire has been widely used in the literature due to being generic. In this questionnaire, the lower the scores the better are the individual's quality of life.

Patients with bilateral cleft lip and palate (BCLP) suffer more consequences of corrective primary surgeries. This may lead them to an overly concave profile, and approximately 25%–38% of these patients require surgical correction of jaw discrepancies with orthognathic surgery (OrSg).[7-9]

One of the disadvantages of OrSg is the patient morbidity, previous orthodontic preparation time, high cost of surgical material procedures, possibility of trans and postoperative complications, and relapse in some cases.[10,11]

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Available literature shows that the osteotomies made in cleft patients may not be as stable as desired on the long term. Tissue contraction caused by the scars of primary and corrective surgeries has resulted in a higher relapse rate in this group.[11]

To offer the patient, an alternative treatment the "overlay prosthesis (OP)" was developed.[12,13] Its use is indicated in cases where the patient has some systemic and/or local problem, that contraindicate OrSg or when patients simply prefer a conservative/nonsurgical approach.

The obvious advantages of OP are reduced working time, minimal morbidity, and reversibility.[13]

The aim of this study was to evaluate the quality of general and oral life of patients with BCLP, rehabilitated with OP compared to those who underwent OrSg to measure the impact of rehabilitation in the patient's life.

Materials and Methods

This study was approved by the Research Ethics Committee, in Hospital Of Rehabilitation of Craniofacial Anomalies, University of São Paulo, view number 207/ 803-2013.

To perform the study, the WHOQOL-bref and the OHIP-14 questionnaires were administered.

The patients selected followed the schedule of routine procedures of the hospital but was randomly chosen among the patients allocated.

During the process of data collection, 65 patients were evaluated, but only 40 were selected based on the following inclusion criteria: 18 years of age minimum, BCLP with at least 1 year of completion of treatment and showing no remaining fistula and/or open palate as well as associated syndromes [Figure 1].

The sample was divided into 20 patients for the OrSg Group (underwent OrSg) and 20 for the OP group (finalized with OP).

Informed written consent was obtained from all individual participants included in the study.

Application and analysis of questionnaires

Patients read and answered the questionnaires alone in a private room, where they could not be hindered. The patient received help only when there was no understanding of some question.

The selected method of analysis of the OHIP-14 was the addition, in which the answers (0–4) were added and could have a maximum score of 56 points.[5] If the respondent chooses the option number four in all questions, it means a worse quality of life. According to this method, the higher the score is, the worse is the quality of life.

The WHOQOL-bref questionnaire was analyzed according to the coordination provided by the manual of the World Health Organization published in 1995.

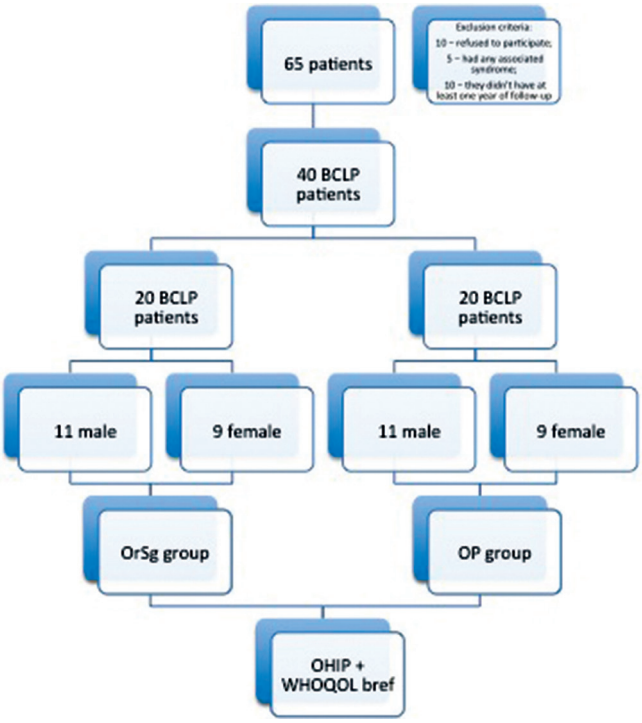

Figure 1: Flowchart of the patients

Data obtained was statistically analyzed using the Mann–Whitney test, and the 5% significance level was set.

Of the 40 selected patients, 20 were part of the OrSg group, 11 men and 9 women with a mean age of 29.15 years. The OP Group also consisted of 20 individuals, 11 men, and 9 women, with an average age of 32.15 years.

The WHOQOL-bref questionnaire was analyzed according to each domain separately. As the manual instructions, questions 1 and 2 were analyzed individually. The Mann–Whitney statistical test observed no statistical difference between the groups in any investigated field [Table 1].

The OHIP-14 questionnaire was evaluated according to each of the seven areas separately, and Table 2 shows the scenario of the oral quality of life of the patients.

The results of the statistical test (Mann–Whitney) in the OHIP-14, comparing the two groups, showed that only in the "psychological limitation" a statistically significant difference could be observed.

Discussion

The BCLP still has much to be explored. Based on that, the idea of studying this specific population arise, comparing the results of different rehabilitation proposals with the same goal, returning the quality of life for the patient and reinserting them in society.

The analysis of quality of life is a growing issue in the literature.[14-16] However, when we seek such data directed to cleft patients, we noticed a lack of studies since mostly the

Table 1: Comparative the analysis of the results of the World Health Organization quality of life-bref questionnaire between the two groups

	Mean (SD)		*P*
	OrSg (*n*=20)	OP (*n*=20)	
Q1	86.250 (12.760)	81.250 (17.909)	0.431
Q2	86.250 (15.120)	81.250 (17.909)	0.394
Physical	80.893 (12.113)	77.857 (14.684)	0.447
Psychological	74.375 (13.738)	78.750 (14.864)	0.340
Social relationship	79.583 (16.771)	80.833 (15.788)	0.848
Environment	69.219 (12.955)	68.281 (15.976)	1.000

Q1=Question 1 (perception of quality of life); Q2=Question 2 (satisfaction with health); SD=Standard deviation; OrSg=Orthognathic surgery; OP=Overlay prosthesis

Table 2: Comparative the analysis of the results of the Oral Health Impact Profile-14 questionnaire between the two groups

	Mean (SD)		*P*
	OrSg (*n*=20)	OP (*n*=20)	
Functional limitation	0.550 (1.191)	0.850 (1.226)	0.407
Physical pain	1.250 (1.154)	1.150 (1.348)	0.700
Psychological distress	1.300 (1.625)	0.900 (1.651)	0.327
Physical limitation	0.950 (1.356)	1.200 (2.331)	0.803
Psychological limitation	1.200 (1.152)	0.750 (2.023)	0.015*
Social limitation	0.650 (1.137)	0.700 (1.380)	0.863
Disability	0.550 (1.050)	0.250 (0.550)	0.553
General analysis	6.450 (6.013)	5.800 (6.787)	0.605

*P<0.05. SD=Standard deviation; OrSg=Orthognathic surgery; OP=Overlay prosthesis

presence of cleft lip and palate becomes an exclusion criterion in studies.[1,14]

After examining the data of the WHOQOL-bref, it could be observed that there was no statistically significant difference in any field between the two groups.

When compared with the study of Cruz *et al*.[2] it could be seen that the values found in patients with cleft in the present study are compatible, if not slightly above the average of the normative values of the general population.

The literature has extensive studies with OHIP-14 applied in patients without cleft, and in patients underwent OrSg, but still falls short when we search for specific studies with cleft patients and more so for rehabilitation with OP.[14,17]

The low impact of the OP in oral life, noted in OP Group, is in agreement with the study by Montero *et al*.[18] The final result found in the OHIP-14 is consistent with the findings in the literature for patients without clefts, both in the overall analysis of the questionnaire (mean OHIP-14 = 6.450), as in the fields separately.[14,17]

This study found statistically significant difference in the "psychological limitation" field (OHIP-14) in the OrSg group. What is possible to infer from this, is that the final rehabilitation with OrSg compared with the OP had a more negative impact on the individual's quality of life.

This finding may be due to the fact that patients spend a good part of adolescence, which is when they do the greatest interpersonal relationships, waiting for the end of treatment, performing orthodontic-surgical preparations. At this stage, the image has a very important role as regards the psychological issue of individual.

What, on the other hand, was not observed in OP Group, because the finalization with the prosthesis can be given at any stage of living.

Conclusion

Regarding the limitations of the study, we concluded that both treatments did not adversely affect patients' quality of life.

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Conflicts of interest

There are no conflicts of interest.

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