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Stella Folchini

AVALIAÇÃO DA PERCEPÇÃO DE PACIENTES ADULTOS ACERCA DOS EFEITOS DO TRATAMENTO ORTO-CIRÚRGICO NA QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL: UM ESTUDO MISTO

Santa Maria, RS
2021

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Dissertação apresentada ao Programa de Pós-Graduação em Ciências Odontológicas, Área de Concentração em Odontologia, ênfase em Ortodontia, da Universidade Federal de Santa Maria (UFSM, RS), como requisito parcial para obtenção do título de **Mestre em Ciências Odontológicas**.

Orientadora: Prof[a]. Dr[a]. Mariana Marquezan
Coorientador: Prof. Dr. Vilmar Antônio Ferrazzo

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Stella Folchini

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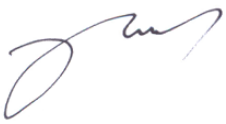

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Santa Maria, RS
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RESUMO

AVALIAÇÃO DA PERCEPÇÃO DE PACIENTES ADULTOS ACERCA DOS EFEITOS DO TRATAMENTO ORTO-CIRÚRGICO NA QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL: UM ESTUDO MISTO

AUTORA: Stella Folchini
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Indivíduos que apresentam deformidades faciais, como nos casos das más-oclusões de Classes II e III esqueléticas moderadas a graves, podem apresentar dores faciais e cefaléias, dificuldades ao mastigar, respirar, dormir, problemas emocionais, sociais, estéticos e inclusive no relacionamento interpessoal e profissional. Dessa maneira, a execução de um tratamento ortodôntico acompanhado da cirurgia ortognática pode alterar a qualidade de vida dessas pessoas. Este estudo teve o objetivo de avaliar e entender a influência do tratamento orto-cirúrgico na qualidade de vida relacionada à saúde bucal (QVRSB) em pacientes que apresentavam má-oclusões esqueléticas de Classe II e III. Foi realizado um estudo misto com uma amostra de um consultório particular da cidade de Santa Maria com 22 pacientes, dos quais 19 participaram efetivamente, que tiveram a média de idade de 41 anos. O estudo aconteceu entre os meses de março de 2020 à julho de 2021. Na primeira fase do estudo, foi realizado um estudo transversal no qual os pacientes responderam ao questionário OHIP-14 (do inglês Oral Health Impact Profile) após o término do tratamento. A segunda fase foi qualitativa e foi realizada com os mesmos pacientes imediatamente após a aplicação do questionário quantitativo. Os questionários e as entrevistas foram realizados por uma única entrevistadora através da plataforma Google meet. Os dados quantitativos foram analisados através de análise descritiva e os resultados qualitativos por análise temática proposta por Braun & Clark (2006). A média geral do OHIP após o tratamento foi de 4.21 DP (4.68). Ao todo, emergiram 4 temas: conceito de qualidade de vida, a vida pré-tratamento, a vida pós-tratamento e aspectos positivos e negativos do tratamento. Pode-se observar que a realização do tratamento orto-cirúrgico influenciou positivamente na qualidade de vida relacionada à saúde bucal dos pacientes da amostra nos aspectos estéticos, funcionais e psicoemocionais.

Palavras-chave: Cirurgia ortognática. Ortodontia corretiva. Qualidade de vida. Saúde bucal.

ABSTRACT

EVALUATION OF THE PERCEPTION OF ADULT PATIENTS ABOUT THE EFFECTS OF ORTHOSSURGICAL TREATMENT ON ORAL HEALTH-RELATED QUALITY OF LIFE: A MIXED STUDY

AUTHOR: Stella Folchini
ADVISOR: Mariana Marquezan
COORIENTATOR: Vilmar Antônio Ferrazzo

Individuals with facial deformities, as in cases of moderate to severe Class II and III skeletal malocclusions, may experience facial pain and headaches, difficulties with chewing, breathing, sleeping, emotional, social, esthetic and even interpersonal and professional problems. Thus, undergoing orthodontic treatment combined with orthognathic surgery can change the quality of life of these people. This study aimed to evaluate and understand the influence of ortho-surgical treatment on oral health-related quality of life (HRQOL) in patients with Class II and III skeletal malocclusions. A mixed study was conducted with a sample consisting of 22 patients, with a mean age of 41 years, from a private practice in the city of Santa Maria, of whom 19 effectively participated. The study took place in the period between March 2020 and July 2021. In its first phase, a cross-sectional study was conducted, in which patients answered the OHIP-14 questionnaire (Oral Health Impact Profile) after conclusion of treatment. The second, qualitative phase was carried out with the same patients immediately after applying the quantitative questionnaire. Questionnaires and interviews were conducted by a single interviewer through the Google meet platform. Quantitative data were analyzed by means of descriptive analysis, and qualitative results by the thematic analysis proposed by Braun & Clark (2006). The overall mean OHIP after treatment was 4.21 SD (4,68). Altogether, 4 themes emerged: concept of quality of life, pre-treatment life, post-treatment life and positive and negative aspects of treatment. It could be observed that having the ortho-surgical treatment performed, positively influenced the esthetic, functional and psycho-emotional aspects of the oral health-related quality of life of the patients in the sample.

Keywords: Corrective orthodontics. Orthognathic surgery. Oral health. Quality of life.

SUMÁRIO

1. INTRODUÇÃO

Uma aparência agradável é amplamente valorizada em todas as formas de comunicação, pela mídia, literatura contemporânea e marketing, o que sugere que o relacionamento interpessoal e profissional pode ser influenciado por uma aparência facial atraente. Segundo Gava (2012), existe um efeito positivo da atratividade sobre a vida de uma forma geral, sendo que pessoas fisicamente atraentes são percebidas de maneira mais positiva em uma variedade de dimensões.

A alteração da normalidade como acontece na presença de uma deformidade dentofacial ou discrepância entre as bases ósseas, como nos casos das más-oclusões de Classe II ou III moderadas a severas, tendem a afetar a qualidade de vida do paciente, influenciando sua auto-estima e a maneira como ele vive em sociedade (CUNNINGHAM; GARRATT; HUNT, 2000; KHADKA *et al*., 2011). A ortodontia associada à cirurgia ortognática tem sido uma opção de tratamento para estes casos há anos, não somente reposicionando as estruturas esqueléticas faciais, mas também a função em termos de desenvolvimento motor bucal, vias aéreas e fala (GAVA, 2012; KHADKA *et al*., 2011). Além disso, os pacientes alcançam benefícios psicossociais como resultado das intervenções ortognáticas, incluindo melhor autoconfiança, imagem corporal, facial e ajuste social (MODIG *et al*., 2006).

Os casos de deformidades faciais moderadas a graves, como prognatismo mandibular, excesso maxilar, retrognatismo mandibular ou deficiência maxilar tanto no sentido horizontal quanto vertical costumam possuir influência genética. Essas características, ao longo dos anos, geram fatores de risco para o desenvolvimento de problemas de autoestima nos pacientes que as possuem, apresentando valores médios de qualidade de vida mais baixos em comparação com aqueles que não têm. Estudos descrevem que o tratamento ortodôntico associado à cirurgia ortognática pode melhorar a qualidade de vida relacionada à saúde bucal, dado que, corrigindo as deformidades, a função oral seria beneficiada, gerando uma melhor eficiência mastigatória, além de uma possível melhora na higiene bucal dos pacientes (YI *et al*., 2019; ESLAMIPOUR *et al., 2017*).

Os avanços atuais nos métodos de diagnóstico, planejamento e nas técnicas cirúrgicas tornaram a cirurgia ortognática segura e utilizada com mais frequência no tratamento dessas deformidades. Técnicas modernas de estabilização, predição nos resultados estéticos das intervenções aumentaram a confiança dos pacientes nesse tipo de cirurgia, resultando em uma maior adesão a esta modalidade de tratamento (ESLAMIPOUR *et al*., 2017). No entanto,

complicações físicas e/ou psicológicas podem ocorrer, como a redução na sensibilidade nervosa ou a dificuldade do paciente em se adaptar à sua nova aparência facial (SILVA *et al.*, 2013).

As principais motivações dos pacientes que procuram pelo tratamento orto-cirúrgico estão relacionadas à melhora da autoconfiança, aparência e função oral (ALANKO; SVEDSTROM-ORISTO; TUOMISTO, 2010; PAHKALA; KELLOKOSKI, 2007). Esses motivos também podem incluir dores de cabeça recorrentes, dores faciais, problemas da articulação temporomandibular (ATM), dificuldades em morder e mastigar e insatisfação com a aparência facial, entre outros. Ocasionalmente, na fase pré-tratamento, os pacientes relatam que sofrem de problemas psicossociais, como o bullying (ALANKO; SVEDSTROM-ORISTO; TUOMISTO, 2010; DE OLIVEIRA; NADANOVSKY, 2005; PAHKALA; KELLOKOSKI, 2007).

Intervenções como a cirurgia ortognática em pacientes com anomalias craniofaciais severas são eletivas e, portanto, realizadas apenas quando estritamente indicadas com base em critérios morfológicos e funcionais; outros fatores que influenciam a decisão para a cirurgia são a percepção da gravidade da má-oclusão pelo paciente e o impacto psicológico, funcional, comportamental na sua vida (CUNNINGHAM; GARRATT; HUNT, 2000; CUNNINGHAM; GARRATT; HUNT, 2002). Pacientes com essas deformidades apresentam uma qualidade de vida mais baixa do que aqueles com apenas má oclusão ou adultos sem necessidade de tratamento ortodôntico (ALANKO *et al*., 2017; PAHKALA; KELLOKOSKI, 2007).

A cirurgia ortognática já é um tratamento consolidado para anomalias dento-esqueléticas, todavia, alguns sintomas e sinais podem ser esperados no pós-operatório. A dor e o edema são consequências da lesão do tecido e procedimentos, como a crioterapia e o uso de medicamentos (analgésicos e antiinflamatórios), ajudam a controlar esses efeitos indesejáveis, porém sabe-se que medicamentos usados, a médio e longo prazo, podem causar reações adversas. Recentemente, o uso terapêutico do laser de baixa potência, descrito na literatura como tendo efeito biomodulador, tem sido indicado nos casos de dor e reparo tecidual (BITTENCOURT; PARANHOS; MARTINS-FILHO, 2017). Além disso, o recurso da drenagem linfática manual também pode ser utilizado para melhor evolução do edema pós-operatório (YAEDÚ *et al*., 2017). Todas essas modalidades de controle dos sintomas podem ter influência sobre a qualidade de vida relacionada à saúde bucal (QVRSB) no pós-operatório.

A qualidade de vida é um conceito multidimensional que inclui funções físicas, psicológicas e sociais percebidas subjetivamente, bem como uma sensação de bem-estar. A qualidade de vida relacionada à saúde bucal (QVRSB) inclui esses conceitos aplicados às funções orais dos pacientes (MODIG *et al*., 2006). Durante muito tempo, os métodos utilizados

para avaliar a saúde bucal incluíam, principalmente, indicadores dentários clínicos e focavam apenas na presença ou ausência de doença bucal (GHERUNPONG; TSAKOS; SHEIRAM, 2004). Considerando as mudanças no conceito de saúde, medidas de qualidade de vida foram desenvolvidas para avaliar também os efeitos físicos, mentais e sociais da saúde bucal, buscando quantificar em que medida a condição bucal interfere na vida cotidiana e bem-estar dos indivíduos e também são utilizadas na avaliação de resultados de tratamentos clínicos (BARBOSA; GAVIÃO, 2008; MARONEZE *et al*., 2019).

O interesse sobre a importância dos fatores psicossociais na saúde tem aumentado nos últimos anos, bem como o conhecimento da autopercepção dos indivíduos perante a sua condição bucal (GLICK *et al*., 2017; SILVA; MENDONÇA; VETTORE, 2008). A Organização Mundial de Saúde define qualidade de vida como percepções do indivíduo sobre cultura e sua ideia de valores, além dos objetivos, expectativas e preocupações pessoais. É um conceito abrangente, afetado de maneira complexa pela saúde física, estado psicológico, relacionamentos sociais e características de seu ambiente. Avaliar a melhoria na qualidade de vida é um importante indicador para verificar a qualidade do tratamento realizado (CUNNINGHAM; GARRATT; HUNT, 2000).

Embora as afecções bucais não representem, em sua maioria, risco à vida, elas são capazes de influenciar e afetar a qualidade de vida do paciente, proporcionalmente à sua seriedade, influenciando no convívio social e capacidade de realizar tarefas diárias como se alimentar adequadamente, trabalhar e praticar esportes (COHEN-CARNEIRO *et al*., 2011). Nesse ínterim, há o interesse de medir o quanto essas alterações em saúde oral, como no caso das deformidades esqueléticas, poderiam afetar a QVRSB da amostra de pacientes.

Um dos questionários internacionalmente mais utilizados para avaliar a qualidade de vida relacionada à saúde oral é o OHIP (Oral Health Impact Profile). Esse questionário avalia a influência das condições bucais na QVRSB (ALLEN, 2003; CUNNINGHAM; GARRAT; HUNT, 2000; MIGUEL; PALOMARES; FEU, 2014; SLADE, 1997; SLADE; SPENCER, 1994).

O OHIP-14 é uma versão reduzida do questionário original, lançada em 1997, usado para medir as percepções dos indivíduos sobre o impacto social das desordens orais no seu bem-estar (CUNNINGHAM; GARRAT; HUNT, 2002). No entanto, a maioria dos questionários tem uma abordagem negativa para deficiência oral, pois as perguntas são focadas nos problemas e não deixam margem para discussões sobre outros aspectos relacionados, negligenciando os comportamentos e crenças positivas junto com as estratégias de enfrentamento e adaptação de muitas pessoas com deficiência. Eles também falham em reconhecer o ambiente sociocultural

como uma influência sobre como a deficiência é percebida e acomodada em diferentes sociedades (BRONDANI; MACENTEE, 2007).

Existem poucos estudos na literatura que abordam a qualidade de vida pós-cirurgia ortognática pelo aspecto qualitativo (LIDDLE *et al*., 2018; SILVA *et al*., 2013). A pesquisa de metodologia mista pode fornecer visões distintas sobre a mesma questão, visto que reduz as limitações existentes no método quantitativo e qualitativo (BRESSAN; BAGNASCO; ALEO, 2017; TURATO, 2005).

Desta forma, através da pesquisa mista, teremos a possibilidade de compreender como a ortodôntico-cirúrgica pode influenciar na qualidade de vida relacionada à saúde bucal dos pacientes.

2. ARTIGO - EVALUATION OF THE PERCEPTION OF ADULT PATIENTS ABOUT THE EFFECTS OF ORTHOSSURGICAL TREATMENT ON ORAL HEALTH- RELATED QUALITY OF LIFE: A MIXED STUDY

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Title page

Evaluation of The Perception of Adult Patients about the Effects of Orthosurgical Treatment on Oral Health-Related Quality of Life: a mixed study

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Evaluation of the perception of adult patients about the effects of orthossurgical treatment on quality of life related to oral health: a mixed study

Abstract

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Individuals with facial deformities, as in cases of moderate to severe Class II and III skeletal malocclusions, may experience facial pain and headaches, difficulties with chewing, breathing, sleeping, emotional, social, esthetic and even interpersonal and professional problems. Thus, undergoing orthodontic treatment combined with orthognathic surgery can change the quality of life of these people. This study aimed to evaluate and understand the influence of ortho-surgical treatment on oral health-related quality of life (HRQOL) in patients with Class II and III skeletal malocclusions. A mixed study was conducted with a sample consisting of 22 patients, with a mean age of 41 years, from a private practice in the city of Santa Maria, of whom 19 effectively participated. The study took place in the period between March 2020 and July 2021. In its first phase, a cross-sectional study was conducted, in which patients answered the OHIP-14 questionnaire (Oral Health Impact Profile) after conclusion of treatment. The second, qualitative phase was carried out with the same patients immediately after applying the quantitative questionnaire. Questionnaires and interviews were conducted by a single interviewer through the Google meet platform. Quantitative data were analyzed by means of descriptive analysis, and qualitative results by the thematic analysis proposed by Braun & Clark (2006). The overall mean OHIP after treatment was 4.21 SD (4,68). Altogether, 4 themes emerged: concept of quality of life, pre-treatment life, post-treatment life and positive and negative aspects of treatment. It could be observed that having the ortho-surgical treatment performed, positively influenced the esthetic, functional and psycho-emotional aspects of the oral health-related quality of life of the patients in the sample.

Keywords: Corrective Orthodontics; Orthognathic surgery; Oral Health; Quality of life

Introduction

Patients with dentofacial deformity or discrepancy between bone bases and malocclusions can present functional, physical, emotional and social problems.[1,2] Interventions such as orthognathic surgery in patients with severe craniofacial anomalies are elective and performed only when strictly indicated and based on morphological and functional criteria.[1,3] Other factors that also influence the decision for surgery are the patient's perception of the severity of malocclusion and the psychological, functional and behavioral impact on their life.[1,3]

Orthognathic surgery has been a consolidated treatment for dento-skeletal abnormalities for many years, but some signs and symptoms can be expected in the postoperative period. Pain and swelling are consequences of tissue damage, and procedures such as cryotherapy and the use of medications (analgesics and anti-inflammatories) help to control these undesirable effects. However, medications used in the medium and long term can cause adverse reactions.[4,5] Furthermore, physical or psychological complications can occur after treatment, such as a reduction in nerve sensitivity or patients' difficulty in adapting to their new facial appearance.[6]

Patients with these deformities have a lower oral health-related quality of life than those with only malocclusion or adults without the need for orthodontic treatment.[7,8] Studies have shown that orthodontic treatment associated with orthognathic surgery can improve the quality of life of these patients because the treatment can improve oral problems and bring psychosocial benefits including improved self-confidence, body image, facial and social adjustment.[9] Some studies have also demonstrated positive influence of combined orthodontic treatment and orthognathic treatment on oral health-related quality of life (OHRQoL) of patients.[10,11,12]

OHRQoL is a measure that evaluates the extent to which oral health affects quality of life. Oral health influences health in general by interfering in and limiting daily activities, highlighting the impacts of its changes on functional, psychological and social aspects.[13,14,15] Oral diseases can have an impact on many aspects that include their participation as aggravating factors in several systemic conditions, a fact that corroborates the idea that oral health is capable of influencing a person's quality of life.[16]

However, reports in the literature are unclear about the reasons why orthodontic treatment associated with orthognathic therapy improves OHRQoL of these individuals and to explore the perceptions of these patients. Thus, the aim of this study was to understand the influence of orthodontic treatment associated with orthognathic treatment on oral health-related quality of life (OHRQoL) of patients.

Materials and methods

A sequential explanatory mixed-methods study design was used (Fig 1).[17] First, the quantitative study was carried out to evaluate OHRQoL of patients who completed their ortho-surgical treatment. The second phase of the study was of a qualitative nature, to explore what the meaning of orthodontic / surgical treatment was in the life of these patients.

Design and population

A cross-sectional study was conducted with a convenience sample of patients who completed their orthodontic and orthognathic treatment in a private clinic of Santa Maria, a city located in the southern state of Rio Grande do Sul, Brazil. At the time of data collection, Santa Maria had approximately 283.677 thousand inhabitants (IBGE 2020), of whom approximately 187,715 were adults (IBGE 2010).

Inclusion and exclusion criteria

Adult patients who completed their orthodontic surgical treatment for skeletal Class II or Class III malocclusions between 2005 and 2020.

Treatment performed

The advisor of this research performed all the orthodontic treatments in his private clinic from 2005 (beginning of the first case) to 2020 (end of the last case) in the city Santa Maria. Complete orthodontic records were requested before orthodontic treatment, in the pre-surgical phase, and after treatment was completed. Patients were treated with the Straight Wire technique by a single orthodontist and operated by the same maxillofacial surgeon in one hospital only. The surgical techniques performed in Class II and Class III patients were in the maxilla (LeFort I Osteotomy) and/or mandible (Bilateral Sagittal Mandibular Osteotomy) and in some cases associated with advancement or reduction genioplasty. The surgeries were performed under general anesthesia.

Data collection

Patients were contacted by phone in February and March 2021 and invited to participate in the study through the Google meet digital platform. First, patients answered a sociodemographic, socioeconomic and psychosocial questionnaire, applied by a trained interviewer who did not participate in the treatment of patients.

Study outcome

Quantitative stage

The short and validated version of Oral Health Impact Profile (OHIP-14) questionnaire was used to evaluate the outcome of this study, the oral health-related quality of life (OHRQoL)[17]. OHIP-14 measures the individual's perception of the social impact of present oral diseases and / or oral conditions on their well-being and quality of life. It is one of the most widely used international indicators to assess OHRQoL because it has good psychometric qualities and allows measurement of the self-perception of the consequences inherent to oral conditions[18,19,20].

The OHIP-14 questionnaire is divided into 14 questions distributed according to the following 7 domains: functional limitation, in which the difficulty of pronouncing words and taste sensitivity, physical pain will be evaluated, assessing discomfort when eating, psychological discomfort, assessing the tensions associated with oral condition, physical handicap, analyzing possible damage to food, psychological handicap, resulting from the difficulty in relaxing and shame associated with their condition, handicap or social incapacity, due to the impact on interaction with other people and disadvantages in life satisfaction in general and inability to develop their activities. Higher scores on the questionnaire indicated a worse OHRQoL. The questions are organized so that the participants indicated how often they experience each of the problems within a 12-month period, according to a Likert-type scale with five answer categories,. The response categories and their quotes were: “Very often” = 4; “Fairly Often” (Sometimes) = 3; “Occasionally” (Rarely)= 2; “Hardly ever” (Rarely) = 1; “Never" = 0.

Qualitative stage

First, the interviewer conducted training in theoretical classes with an experienced researcher in the field. Subsequently, a pilot study with two patients was carried out to adapt the research questions. The qualitative phase of this study was carried out immediately after the completion of the quantitative questionnaire on the Google Meeting platform. Open questions were asked based on the OHIP questionnaire[16] and other questions were also added for a better understanding of the theme (Table I).

All questions were recorded with the aid of an audio recorder and transcribed in full. The interviews were interrupted after data saturation. Saturation was considered the time when the interviewee's speech began to be repetitive, and the researcher understood that sufficient material had been obtained to answer the research question.[21]

Data analysis

A descriptive statistical analysis was performed to describe and summarize the quantitative data set. Quantitative data were analyzed using the Stata 14.0 software (Stata Corporation). Qualitative data were analyzed by using the thematic analysis proposed by Braun & Clark (2006)[22]. Thematic analysis is a method for identifying, analyzing and reporting patterns (themes) in the data. It minimally organizes and describes its data set in detail.

Results

Table II describes the patients of the sample according to their sociodemographic and economic characteristics. The quantitative phase was conducted by holding interviews with nineteen patients (Table II) among the 22 who were eligible. Two patients in the sample, who were treated, did not respond to the interviews, because it was not possible to contact them, and one refused to accept participation in the online interview. All the interviews were held after orthodontic and surgical treatment had been performed.

The majority of the patients were women, of whom 57.89% of the sample was composed. Age ranged between 21- and 61-years. Family income was measured by the median that was approximately U$2.700,00 in which the majority had an income lower than this value (52,64%). Moreover, Class II Malocclusion was observed to be preponderant (57.89%). Table III shows the scores of the OHIP-14 after treatment. The overall mean was 4.21 (SD 4.68). The physical pain domain had the highest mean value 1.63 (SD 1.83) and the social disability domain had the lowest mean value 0.10 SD (0.31).

From the Qualitative Phase, the following four themes were extracted: concept of quality of life, life before treatment, life after treatment, and positive and negative aspects of treatment. The majority of interviewees appreciated the absence of pain as part of a satisfactory quality of life. Physical and emotional health were also cited as important factors, because patients appreciated feeling good about themselves, and having balance and inner peace.

Concept of Quality of Life

Quality of Life was reported by the patients as: absence of feeling pain, having emotional and physical health, and having a satisfactory esthetic appearance. Patients emphasized that pain was incapacitating, affected their quality of life, and influenced their daily activities. It was also mentioned that quality of life was related to self-esteem and to the way that other people or the patients see themselves.

“To me, quality of life is not feeling pain, is having adequate health, work and a satisfactory family life. It is a set of situations that involve health, work, and personal life. This quest for harmony is quality of life” (patient 1).

“To me, quality of life is not feeling pains. Pain is something that bothers me a great deal” (patient 6)

Life before treatment

The patients reported having pre-operative pain in the maxillo-mandibular region and headaches before undergoing treatment. The quality of chewing, sleep and breathing were closely associated with skeletal problems because patients felt it difficult to eat and swallow some types of foods, due to occlusal errors caused by the skeletal deformities. Some patients reported that they were unable to eat fruit and more fibrous foods. Sleep was frequently cited, because according to the patients, breathing was deficient which made them wake up during the night, without having reparative sleep and still feeling tired the next day. Self-esteem and facial esthetics were also shown to be most important to the majority of the interviewees, as many patients felt socially embarrassed by their appearance, and had also failed to perform their activities for this reason.

“... I woke up very tired, indeed I woke up more tired than I had been when I went to sleep. I have never had the biotype for sleep apnea (I was thin), but the difference was remarkable after surgery” (patient 5).

“Normally, I did not have my photo taken, and before I started with the treatment, I used to dance at the CTG (*Centro de Tradições Gaúchas*, a regional center of traditions). I danced for about 6 years - I used to like it very much and stopped because of this, because I wasn’t able to smile and do things like that” (patient 9).

“...before surgery it was total chaos, both appearance and a great deal of toothache, pain in the mouth, it was a completely different life and food. Barbecue? Forget that. 'Today, at least I look at people face to face’” (patient 19).

“ I didn’t have pain, but the protrusion harmed my sleep because I was unable to close my mouth properly to go to sleep” (patient 10).

Life after treatment and positive aspects

The patients reported that they felt extremely satisfied with the results of their treatment. The points emphasized were the improvement in self-esteem, they felt more confident when talking to other persons and related to them, and when they looked in the mirror with satisfaction. The esthetic aspects achieved were praised by all the patients, many no longer saw themselves without their new image. They were extremely pleased and would have liked to have undergone this change earlier. The quality of breathing and sleep were also pointed out as being positive changes because many of them mentioned that now they woke up rested, without headaches, and felt that the sleep was reparative. Moreover, some patient reported that although their respiratory function seemed to be good before, they perceived an enormous improvement after the surgery. In addition, the patients felt that their masticatory function was benefited, making chewing more efficient, with stable occlusion, including diminished toothache and muscular pains.

"... when I see myself today, its excellent. When I see photos of me before and now, it's particularly good" (patient 4).

"The positive points I think are: having a more normal chewing capacity, esthetics and sleep" (patient 5).

" ...certainly improved my self-esteem because in addition to correcting the bite, the entire smile has improved" (patient 3).

"And this is where the quality of life comes in. It makes all the difference: being able to sleep, rest, it is related to your next day" (patient 7).

"In the first place, I would emphasize appearance, whether you like it or not, the thing that counts most in people's life is appearance, isn't it? For me, my day to day life changed from night to day" (patient 19).

Negative aspects of treatment

In general, post-operative pain was reported, particularly in the first week. It takes time to return to normal life and routine, due to the difficulty with eating and speaking to people. There were also many complaints with regard to nerve paresthesia, which patients found to be bad because it affected speech and chewing with some intensity. Nevertheless, they appeared to be managing the situation well, and, in some patients, there was a significant improvement with the passage of time since the surgery. Some patients also manifested themselves negatively with regard to the time of treatment. This was due to the fact that it was a complex treatment

that involved presurgical orthodontic treatment. The orthognathic surgery of itself, and finalization of post-surgical orthodontic treatment, in general, ended up tiring them due to the fact of having taken years until conclusion of the process was achieved.

"A negative point is this lack of sensitivity, it returned in my upper lip, but not in the lower lip. It is not something I think that draws attention, but due to it, this lip does not move. I am a teacher, and if the lesson takes rather a long time, I feel it tires this side, and I have to stop for a little while. I think this is tiresome" (patient 15).

"The paresthesia, this is uncomfortable at the base of the nose, it is a negative aspect. Hum....my chewing is not very good, I think it changed my sense of taste a bit […]" (patient 4).

"The post-operative period is the most difficult. Apart from the pain, the swelling is most uncomfortable, you cannot chew. I spent a month without being able to and it drove me crazy...I had that desire to want to chew" (patient 17).

Class II and Class III differences

Some differences were found when analyzing the results in order to categorize Class II and Class III patients (Table IV). Both groups reported esthetic and functional benefits, however, the Class II group laid greater emphasis on the respiratory improvements after treatment. Many Class II patients were mouth breathers and had apnea, which was solved after orthodontics associated with orthognathic surgery. Thus, these patients observed a positive effect on sleep, because by being able to breathe adequately, they felt that sleep became more restorative.

On the other hand, when analyzing the reports of Class III patients, there was an emphasis on esthetic and psychosocial benefits associated with their post-treatment image. Since many felt socially withdrawn due to their appearance, which influenced their daily activities and the way they saw themselves. Therefore, among other benefits, the treatment improved their self-esteem and ability to interact with other people.

Discussion

In this study, the oral health-related quality of life (OHRQoL) of patients who received surgical orthodontic treatment was evaluated. The treatment was reported to be capable of improving the esthetic and functional aspects of patients, and positively influenced their self-perception of quality of life, which was in agreement with other studies [2, 10, 11, 12].

The overall mean of OHIP-14 after treatment was 4.21 in this study. Previous studies have found values ranging from 3.26 to 6.87 [10,12, 25]. In all of these quantitative studies, it was found that the treatment improved the OHRQoL of individuals when considering the positive aspects that occurred in chewing, sleeping, breathing, dental esthetics, facial esthetics, self-esteem and social life [10,24,25]. Other studies have also found that patients had increased well-being in different aspects of their lives, including psychological, functional, social, emotional and physical well-being [26, 27].

Through interviews that qualitatively assessed the OHRQoL, patients were able to express important questions that are often not contained in closed quantitative questionnaires. With regard to their understanding of the meaning of quality of life, patients reported that quality of life was influenced by oral health and meant the absence of pain. They emphasized pain when chewing, headaches and intraoral injuries due to inadequate occlusion. Moreover, they reported that having a satisfactory esthetic appearance was important because appearance influenced their daily activities and their relationships with other people. As far as we know there are no studies that have found similar results through quantitative analyses.

As regards the patients' present perception of how life was before orthodontic-surgical treatment, they reported that headaches and pain in the facial muscles were frequent, which influenced their diet, the quality of chewing and interaction with other people. They also felt less physically and esthetically attractive, which affected their self-esteem and generated greater social withdrawal, influencing activities such as taking photographs and talking to friends. In the qualitative study by Pahkala and Kellokoski, 2005 [7] improvements were also reported in facial appearance (82%), chewing ability (61%) and facial pain (56%). Modig in 2005 [9] also emphasized that their patients were satisfied with the outcome of the surgery. Post-operative improvement was mentioned in terms of chewing, appearance, headaches and bullying. Furthermore, his patients felt safer in the company of other people post-operatively. Other studies have also shown that patients with dentofacial deformities had lower quality of life scores, as was shown in a systematic review and quantitative study using a validated questionnaire. [12, 23]

As regards the perception of quality of life after the conclusion of treatment, the patients interviewed reported that it was important to improve their OHRQoL due to functional aspects such as: a) sleep, which before the treatment was not peaceful and restorative and culminated in excessive tiredness; b) improved breathing [10]; c) absence of obstructive sleep apnea; d) more efficient chewing; 11 e) resolution of pain such as chronic headaches[11]. Moreover, the patients' self-esteem and esthetic self-perception was benefited, in agreement with the literature[2,9]. After

their treatment, the patients felt more confident due to the esthetic changes that occurred. This was in line with a mixed methods study that evaluated the effect of dental treatment on the OHRQoL of adolescents. In this study it was found that after dental treatment, adolescents felt more confident to smile and interact socially because they knew that the oral problems with their teeth had been solved[28].

Although patients were unanimous about the improvement in their OHRQoL, they also reported negative aspects, especially during the first week after surgery. Other studies have also shown that orthognathic surgery was a complex procedure that modified the position of the patients' bone bases and could generate some immediate postoperative effects that were also reported in the present study, such as edema, bruises, pain, transient nerve paresthesia or temporary change in taste[6,10,27].

Some differences were found when categorizing Class II and Class III patients. Class II patients were observed to report more functional discomfort, such as restless sleep, muscle pain, when compared with Class III patients, who apparently complained more about adverse esthetic effects. Similar ideas were found in the literature, according to Pahkala and Kellokoski, a prognathic mandible is esthetically considered to be more disturbing than a retrognathic mandible since patients with mandibular deficiency can “improve” their facial appearance by positioning the jaw forward. Kurabe in 2016, informed that skeletal class III patients had stronger feelings of insecurity regarding their facial appearance. Baherimoghaddam in 2015 stated that patients with Class III malocclusion were significantly less happy with their appearance compared with Class II. He also stated that improvements in the domains of functional limitation and physical pain continued for one year and were persistent after treatment performed in Class II patients.

The strengths of this study lie in the fact that it was a mixed methods research to explore the perceptions of patients after orthognathic and orthodontic treatment with regard to OHRQoL, a topic about which the literature still lacks information. This method allowed for a more in-depth exploration of the subject, by giving patients the freedom to tell their story, and report the situations and changes to which they were submitted. This study explored each patient's experiences of what his/her life was like before treatment and how it had changed by allowing them to provide detailed information. Therefore, this study can be used as a tool for dentists to provide information about the advantages and disadvantages of treatment by considering the experiences of other patients, and help professionals and patients in clinical decision-making.

Some limitations must also be pointed out. Questionnaires were answered by patients only after the end of treatment and the time elapsed from surgery varied among patients. Thus,

it is possible that patients who had been operated on a long time ago, did not remember the details of that period as well, when compared with those who underwent treatment more recently. This effect can be alleviated because ortho-surgical treatment is considered to have a great impact, therefore, even patients who had been treated years ago are able to recall the experience and the positive effects saved in their memory. Furthermore, as only patients from a single private clinic were included, the results of this study should be interpreted with caution, as other populations may have different perceptions. In this sense, we recommend that further studies with other populations should be conducted.

Conclusion

This study can be used to encourage interventions with orthognathic surgery associated with orthodontic treatment, as these treatments seemed to have important effects on improving the oral health-related quality of life of patients according to their reports on the themes extracted in the analysis.

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Table I. Questionnaire used in qualitative interviews

1) What does quality of life mean to you?
2) Do you think that oral health influences your quality of life?
3) How was your life before dental treatment? Can you tell me about it?
4) How did you feel about your oral health before dental treatment?
5) How is your life after dental treatment?
6) Do you think this treatment was important to you?
7) What was the main negative point of the treatment?
8) Would you recommend treatment to those who have the same skeletal problem as you had?

Table II. Characteristics of the sample of 16 adults at a private clinic in Brazil.

Variable	Quantitative date n (%)	Qualitative date n (%)
Gender		
Female	11 (57,89%)	11 (57,89%)
Male	8 (42,11%)	8 (42,11%)
Age		
21-38 years	7 (36,84%)	7 (36,84%)
36-61 years	12 (63,15%)	12 (63,15%)
Household income		
≥ 14000	9 (47,36 %)	9 (47,36 %)
< 14000	9 (52,64 %)	9 (52,64 %)
Class II malocclusion	11 (57,89%)	11 (57,89%)
Class III Maloclusion	8 (42,10 %)	8 (42,10 %)

Table III. Means of overall and domain OHIP-14 scores after treatment

Overall mean	Mean (SD)
Domain means	4.21 (4.68)
1 Functional limitation	0.63 (1.30)
2 Physical pain	1.63 (1.83)
3 Psychological discomfort	0.79 (1.27)
4 Physical disability	0.37 (0.76)
5 Psychological disability	0.42 (0.84)
6 Social disability	0.10 (0.31)
7 Handicap	0.26 (0.65)

Table IV. OHRQoL results categorized by skeletal Class of Angle.

Class II	**Life before treatment**	**Life after treatment**	
(P7)	“I had a serious problem with obstructive sleep apnea, memory problem, tiredness. My chewing was not ideal, I felt stressed about my appearance…"	“I never had those symptoms again, chewing improved a lot and esthetics also improved a lot. So, this is the main point, it improved the functional issue and the aesthetic issue in the background, right…"	
(P5)	"I had some issues, the aesthetic issue, I didn't like the appearance of my teeth, I had difficulty chewing, my sleep was quite impaired due to micrognathism" “I woke up very tired, more tired than when I went to sleep”.	“I was very satisfied, much better, this issue of food, restful sleep and even self-esteem as well.”	
(P15)	"I had more problems sleeping because I was a mouth breather, I couldn't touch my lips, I snored, I was bothered by my teeth being misaligned, I couldn't cut food with my front teeth"	“I can cut the food, I do lip dryness perfectly, it has improved my gingival smile, teeth alignment, I sleep with my mouth closed and I don't snore anymore”.	
Class III	**Life before treatment**	**Life after treatment**	
(P11)	"Look, I had some difficulties, especially in speech, the issue of chewing, I didn't close my teeth" "My appearance, the aesthetic part, before I was more ashamed of my appearance, I tried to hide"	"My speech is calm, the food issue is calm" "I see my teeth the neatest, I don't try to hide it"	

(P19)	"before the surgery, there was total chaos, both the appearance, a lot of pain in the teeth, pain in the mouth, I didn't take a picture, I didn't smile, I didn't face people directly" "I slept with my mouth open, drooled the pillow, I had a lot of difficulty speaking"	"Total change, very happy with everything, so much people, food doesn't bother me anymore, perfect, no discomfort in the roof of my mouth" "firstly the appearance, today what counts a lot in life is the appearance, right"	
(P9)	"I felt ugly, it was kind of complicated, I wanted to do it as soon as possible."	"I liked it a lot, it's changed like totally, it's now the smile is the thing I like the most about me like this	

Figures

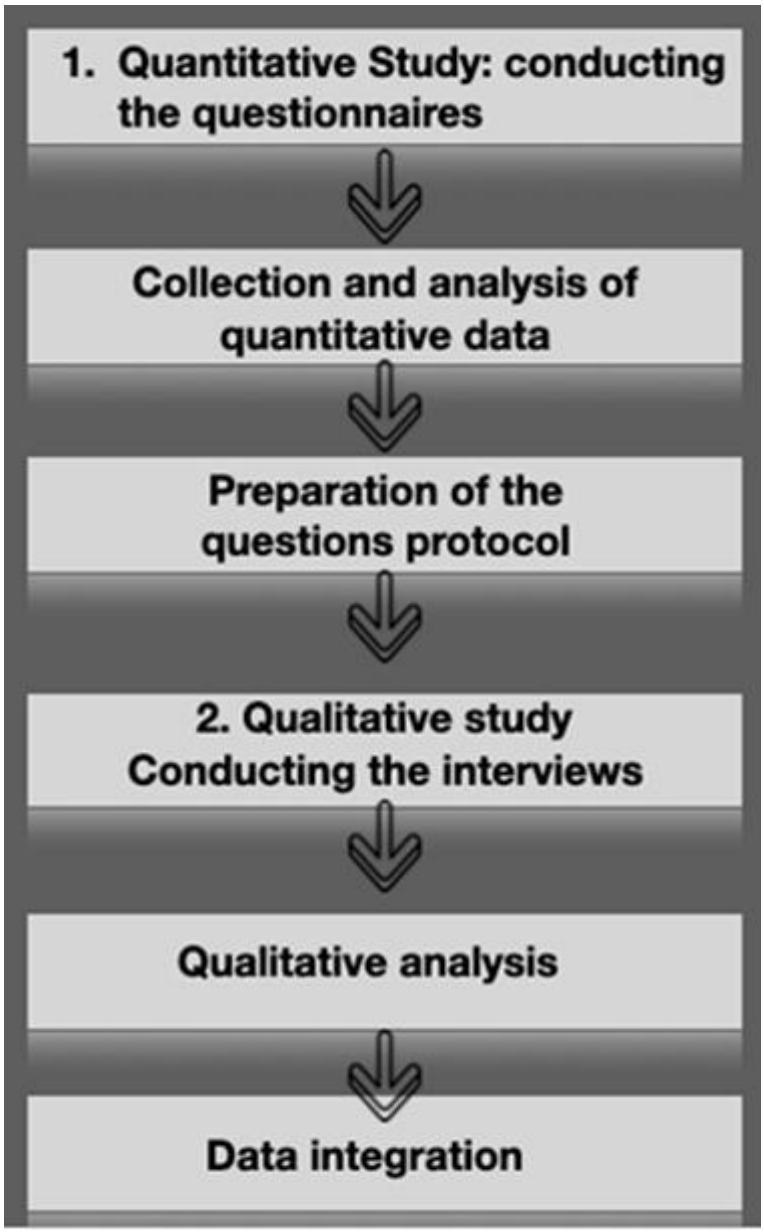

Figure. 1. Sequential explanatory mixed-methods study

3. CONCLUSÃO

Dessa maneira, pode-se observar que alterações faciais esqueléticas podem ser capazes de impactar em vários aspectos na vida dos pacientes, gerando dor ou desconforto ao mastigar, episódios de apneia ao dormir, resultando em um sono agitado e não renovador, além de gerar, frequentemente, cefaléias e de influenciar na estética facial e na auto-estima. Através desse estudo e da sua metodologia mista, foi possível observar que o tratamento com ortodontia seguida de cirurgia ortognática pareceu influenciar positivamente na qualidade de vida relacionada à saúde bucal dos pacientes.

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APÊNDICE A - TERMO DE CONSENTIMENTO LIVRE E ESCLARECIDO

Título do estudo: Influência do tratamento orto-cirúrgico na qualidade de vida relacionada à saúde bucal em pacientes adultos: um estudo misto

Pesquisador responsável: Vilmar Ferrazzo
Instituição/Departamento: Estomatologia/UFSM
Telefone e endereço postal completo do pesquisador: Clínica de Ortodontia da Universidade Federal de Santa Maria. Avenida Roraima, 1000, Prédio 26F, Bairro Camobi Telefone: 55-3220-9301. E-mail: vilmarferrazzo@gmail.com
Local da coleta de dados: Google meet

Este termo tem como objetivo informar, esclarecer e pedir a sua autorização na pesquisa intitulada "Influência do tratamento orto-cirúrgico na qualidade de vida relacionada à saúde bucal em pacientes adultos: um estudo misto" a ser desenvolvida pela mestranda Stella Folchini, orientada pelos professores Dr. Vilmar Ferrazzo (pesquisador responsável) e Mariana Marquezan. Esse termo foi confeccionado em 2 vias iguais que serão assinadas por você e pelo responsável da pesquisa. Uma das vias deverá ficar com você e a outra com os pesquisadores.

Esta pesquisa tem como objetivo avaliar e entender o efeito do tratamento ortodôntico associado a cirugia ortognática na qualidade de vida. Você será convidado a responder algumas perguntas sobre esse tema que serão realizadas através de entrevista individual. As entrevistas serão agendadas e realizadas na clínica de Odontologia pessoalmente ou online através de plataformas digitais, de acordo com a sua preferência. Todas as suas respostas serão gravadas com um gravador de áudio e posteriormente serão ouvidas e reescritas literalmente pelos pesquisadores responsáveis por essa pesquisa.

Você, como participante da pesquisa, não receberá nenhum benefício direto. Entre os benefícios de sua participação estão o tratamento e acompanhamento odontológico que será ofertado na clínica de Odontologia para todos os participantes desta amostra. Caso não aceite participar, o seu tratamento dentário também não será prejudicado. Como benefício indireto, salienta-se o conhecimento científico que será gerado, propiciando o maior entendimento dos efeitos positivos e negativos deste tipo de tratamento, auxiliando outros dentistas e pacientes na tomada de decisão clínica.

A pesquisa se caracteriza por riscos mínimos. Como esta pesquisa utiliza entrevistas gravadas, você poderá ficar cansado (a) ao responder as perguntas. Se isso acontecer, você poderá descansar alguns minutos para que a avaliação seja então retomada. Você também

poderá ficar com vergonha de responder alguma pergunta. Caso isto ocorra, as perguntas poderão não ser respondidas ou a pesquisadora dará atenção e ouvirá o seu relato, se esse for o seu desejo. Nessa circunstância, será informado novamente que você pode interromper sua participação nessa atividade a qualquer momento, se achar conveniente sem qualquer tipo de prejuízo.

Você não receberá qualquer remuneração por sua participação. Caso seja a sua vontade, a qualquer momento você poderá desistir da sua participação nesta pesquisa, sem nenhum problema. Para esclarecer qualquer dúvida, você também poderá falar com o pesquisador responsável ou com o Comité de Ética em Pesquisa pelos telefone contidos nesse documento.

Todos os seus dados de identificação serão mantidos em sigilo. As informações desta pesquisa serão confidenciais e poderão divulgadas, apenas, em eventos ou publicações, sem a identificação dos participantes, a não ser entre os responsáveis pelo estudo, sendo assegurado assim, o sigilo sobre sua participação.

Os gastos necessários para a sua participação na pesquisa serão assumidos pelos pesquisadores. Fica, também, garantida indenização em casos de danos comprovadamente decorrentes da participação na pesquisa.

Eu, _____, acredito ter sido suficientemente informado sobre o estudo “Influência do tratamento orto-cirúrgico na qualidade de vida relacionada à saúde bucal em pacientes adultos: um estudo misto”. Ficaram claros para mim quais são os propósitos do estudo, os procedimentos a serem realizados, seus desconfortos e riscos, as garantias de confidencialidade e de esclarecimentos permanentes. Concordo voluntariamente em participar deste estudo e poderei retirar o meu consentimento a qualquer momento, antes ou durante o mesmo, sem penalidades ou prejuízo ou perda de qualquer benefício que eu possa ter adquirido, ou no meu atendimento neste serviço. Recebi uma cópia deste termo de consentimento livre e esclarecido e me foi dada a oportunidade de ler e esclarecer as minhas dúvidas.

Santa Maria, RS, ____ de _____ de 202__.

Assinatura do participante da pesquisa	Assinatura do pesquisador responsável

APÊNDICE B - TERMO DE AUTORIZAÇÃO INSTITUCIONAL

UNIVERSIDADE FEDERAL DE SANTA MARIA
CENTRO DE CIÊNCIAS DA SAÚDE
CURSO DE ODONTOLOGIA
DEPARTAMENTO DE ESTOMATOLOGIA

TERMO DE AUTORIZAÇÃO INSTITUCIONAL

Eu, responsável pelo Departamento de Estomatologia do Centro de Ciências da Saúde da Universidade Federal de Santa Maria, autorizo a realização do estudo "Influência do tratamento orto-cirúrgico na qualidade de vida relacionada à saúde bucal em pacientes adultos: um estudo misto", a ser conduzido pelos pesquisadores Stella Folchini e Vilmar Antônio Ferrazzo.

Fui informado, pelos responsáveis do estudo, sobre as características e objetivos da pesquisa, bem como das atividades que serão realizadas na instituição a qual represento.

Esta instituição está ciente de sua responsabilidade como Instituição coparticipante do presente projeto de pesquisa e de seu compromisso no resguardo da segurança e bem-estar dos sujeitos de pesquisa nela recrutados, dispondo de infraestrutura necessária para a garantia de tal segurança e bem-estar.

Santa Maria, julho de 2020.

_____

Chefe do Departamento de Estomatologia

APÊNDICE C - TERMO DE CONFIDENCIALIDADE

TERMO DE CONFIDENCIALIDADE

Título do projeto: Influência do tratamento orto-cirúrgico na qualidade de vida relacionada à saúde bucal em pacientes adultos: um estudo misto

Pesquisadora: Mestranda Stella Folchini - contato: (55) 98109-3767.

Pesquisador responsável/orientador: Prof. Dr. Vilmar Antônio Ferrazzo - contato: (55) 99961-6274

Local da coleta de dados: Google meet

Os responsáveis por essa pesquisa se comprometem a preservar a privacidade dos participantes cujos dados serão coletados por meio de questionários e por perguntas semiestruturadas, feitas por um entrevistador previamente treinado, que serão gravadas com gravador de áudio, nas dependências da Clínica Proprium Odontologia ou por via plataformas digitais como zoom ou google meet. As entrevistas e gravações serão realizadas com o consentimento prévio dos participantes e, posteriormente, as gravações serão transcritas na íntegra e, então, analisadas. Os pesquisadores informam, ainda, que estas informações serão utilizadas, única e exclusivamente, para execução deste estudo.

As informações somente poderão ser divulgadas de forma anônima e serão mantidas na UFSM- Avenida Roraima, 1000, prédio 26F, Departamento de Estomatologia, sala 2393, 97105-970 - Santa Maria – Rio Grande do Sul(RS), por um período de cinco anos, sob a responsabilidade do professor Vilmar Antônio Ferrazzo. Após este período os dados serão destruídos pelos pesquisadores.

Este projeto de pesquisa foi revisado e aprovado pelo Comitê de Ética em Pesquisa da UFSM em ...../...../....., e recebeu o número CAAE .....

Santa Maria, julho de 2020

Vilmar Antônio Ferrazzo, DDS, MSc, PhD Professor Associado – Programa de Pós-Graduação em Ciências Odontológicas Universidade Federal de Santa Maria
e-mail: vilmarferrazzo@gmail.com

APÊNDICE D - QUESTIONÁRIO SOCIOECONÔMICO E SOCIODEMOGRÁFICO

QUESTIONÁRIO SOCIOECONÔMICO E SOCIODEMOGRÁFICO

Marque com um x na segunda coluna uma das opções destacadas na primeira

Nome completo:_____

Telefone: _____

Endereço:_____

_____

Renda mensal familiar (aproximadamente em reais):

Sua escolaridade:
( ) não estudou
( ) 1º grau incompleto
( ) 1º grau completo
( ) 2º grau incompleto
( ) 2º grau completo
( ) 3º grau incompleto
( ) 3º grau completo

Escolaridade da mãe:
( ) não estudou
( ) 1º grau incompleto
( ) 1º grau completo
( ) 2º grau incompleto
( ) 2º grau completo
( ) 3º grau incompleto
( ) 3º grau completo

Escolaridade do pai:
( ) não estudou
( ) 1º grau incompleto
( ) 1º grau completo
( ) 2º grau incompleto
( ) 2º grau completo
( ) 3º grau incompleto
( ) 3º grau completo

Você mora com:
( ) Pais/responsáveis; ( ) Sozinho; ( ) Amigos; ( ) Com namorado(a)/companheiro(a)
FILHOS? _____

Quantos cômodos tem na sua casa (exceto banheiro)? _____

Contando com você, quantas pessoas moram na sua casa ou apartamento? _____

Nos últimos 6 meses, você teve dor de dente? ( ) Não; ( ) Sim; ( ) Não lembro.

7) No último mês, quantas vezes por dia você escovou os seus dentes?
( ) Não escovo meus dentes diariamente;
( ) Uma vez por dia;
( ) Duas vezes por dia;
( ) Três vezes por dia;
( ) Quatro ou mais vezes por dia;

Você utiliza fio dental?
( ) Não utilizo;
( ) Utilizo somente alguns dias (menos de uma vez ao dia);
( ) 1 vez por dia.

ANEXO A - ORAL HEALTH IMPACT PROFILE (OHIP - 14)

Agora serão feitas perguntas sobre como a saúde da sua boca afetam o seu dia a dia. Responda cada uma das questões de acordo com a frequência com que elas interferem na sua vida, ou seja, nunca, raramente, às vezes, constantemente ou sempre, em relação ao último mês. Para cada questão só deve ser dada uma única resposta. Não se preocupe, pois nenhuma resposta é mais certa do que outra.

Oral Health Impact Profile (OHIP–14)

Perguntas	**Respostas**					**OHIP–14 (Não preencher)**
	Nunca (0)	raramente (1)	as vezes (2)	Constantemente quase sempre (3)	Sempre (4)	
1.Você teve problemas para falar alguma palavra por causa de problemas com sua boca ou dentes?						**Item1** (0) (1) (2) (3) (4)
2.Você sentiu que o sabor dos alimentos ficou pior por causa de problemas com sua boca ou dentes?						**Item2** 0) (1) (2) (3) (4)
3.Você sentiu dores em sua boca ou nos seus dentes?						**Item3** (0) (1) (2) (3) (4)
4.Você se sentiu incomodado ao comer algum alimento por causa de problemas com sua boca ou dentes?						**Item4** (0) (1) (2) (3) (4)
5.Você ficou preocupado por causa de problemas com sua boca ou dentes?						**Item5** (0) (1) (2) (3) (4)
6.Você se sentiu estressado por causa de problemas com sua boca ou dentes?						**Item6** (0) (1) (2) (3) (4)
7.Sua alimentação ficou prejudicada por causa de problemas com sua boca ou dentes?						**Item7** (0) (1) (2) (3) (4)
8.Você teve que parar suas refeições por causa de problemas com sua boca ou dentes?						**Item8** (0) (1) (2) (3) (4)
9.Você encontrou dificuldade para relaxar por causa de problemas com sua boca ou dentes?						**Item9** (0) (1) (2) (3) (4)
10.Você sentiu-se envergonhado por causa de problemas com sua boca ou dentes?						**Item10** (0) (1) (2) (3) (4)

ANEXO B - NORMAS PARA SUBMISSÃO AJO-DO

Submission

Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Blinding

The *AJO-DO* uses a blind review process; the identity of the author and the location of the research are concealed from the reviewers, and the identities of the reviewers are concealed from the author. The following submission items are sent to reviewers during the review process and should not contain any identifying information.
Highlights * Manuscript * Figures * Tables * Other Material
The title page, which should contain complete author information, is not sent to reviewers. In the manuscript, please pay special attention to Material and Methods and Acknowledgments sections; wherever author or the author's institution is mentioned, use the "hidden" format in Word to conceal it, or move it to the title page.

Guidelines for Original Articles

Submit Original Articles via EM: https://www.editorialmanager.com/ajodo/.

Before you begin, please review the guidelines below. To view a 7-minute video explaining how to prepare your article for submission, go to Video on Manuscript Preparation.

1. *Title Page.* Put all information pertaining to the authors in a separate document. Include the title of the article, full name(s) of the author(s), academic degrees, and institutional affiliations and positions; identify the corresponding author and include an address, telephone and fax numbers, and an e-mail address. This information will not be available to the reviewers.

2. *Abstract.* Structured abstracts of 250 words or less are preferred. A structured abstract contains the following sections: Introduction, describing the problem; Methods, describing how the study was performed; Results, describing the primary results; and Conclusions, reporting what the authors conclude from the findings and any clinical implications.

3. *Manuscript.* The manuscript proper should be organized in the following sections: Introduction and literature review, Material and Methods, Results, Discussion, Conclusions, References, and figure captions. Express measurements in metric units, whenever practical. Refer to teeth by their full names. For style questions, refer to the *AMA Manual of Style, 10th edition*. Cite references selectively, and number them in the order cited. Make sure that all references have been mentioned in the text. Follow the format for references in "Uniform Requirements for Manuscripts Submitted to Biomedical Journals" (Ann Intern Med 1997;126:36-47); http://www.icmje.org. Include the list of references with the manuscript proper. Submit figures and tables separately (see below); do not embed figures in the word processing document.

4. *Figures.* Digital images should be in TIF or EPS format, CMYK or grayscale, at least 5 inches wide and at least 300 pixels per inch (118 pixels per cm). Do not embed images in a word processing program. If published, images could be reduced to 1 column width (about 3 inches), so authors should ensure that figures will remain legible at that scale. For best results, avoid screening, shading, and colored backgrounds; use the simplest patterns available to indicate differences in charts. If a figure has been previously published, the legend (included in the manuscript proper) must give full credit to the original source, and written permission from the original publisher must be included. Be sure you have mentioned each figure, in order, in the text.

5. *Tables.* Tables should be self-explanatory and should supplement, not duplicate, the text. Number them with Roman numerals, in the order they are mentioned in the text. Provide a brief title for each. If a table has been previously published, include a footnote in the table giving full credit to the original source and include written permission for its use from the copyright holder. Submit tables as text-based files (Word is preferred, Excel is accepted) and not as graphic elements. Do not use colors, shading, boldface, or italic in tables. Do not submit tables as parts A and B; instead, divide into 2 separate tables. Do not "protect" tables by making them "read-only." The table title should be put above the table and not as a cell in the table. Similarly, table footnotes should be under the table, not table cells.

6. *Model release and permission forms.* Photographs of identifiable persons must be accompanied by a release signed by the person or both living parents or the guardian of minors. Illustrations or tables that have appeared in copyrighted material must be accompanied by written permission for their use from the copyright owner and original author, and the legend must properly credit the source. Permission also must be obtained to use modified tables or figures.

7. *Copyright release.* All authors will be asked to e-sign a copyright release before the article is published. In accordance with the Copyright Act of 1976, which became effective February 1, 1978, all manuscripts must be accompanied by the following written statement, signed by all authors: *"The undersigned author(s) transfers all copyright ownership of the manuscript [insert title of article here] to the American Association of Orthodontists in the event the work is published. The undersigned author(s) warrants that the article is original, does not infringe upon any copyright or other proprietary right of any third party, is not under consideration by another journal, has not been previously published, and includes any product that may derive from the published journal, whether print or electronic media. I (we) sign for and accept responsibility for releasing this material."* Scan the printed copyright release and submit it via EM.

8. *Use the International Committee of Medical Journal Editors Form for the Disclosure of Conflict of Interest (ICMJE Conflict of Interest Form).* If the manuscript is accepted, the disclosed information will be published with the article. The usual and customary listing of sources of support and institutional affiliations on the title page is proper and does not imply a conflict of interest. Guest editorials, Letters, and Review articles may be rejected if a conflict of interest exists.

9. *Institutional Review Board approval.* For those articles that report on the results of experiments of treatments where patients or animals have been used as the sample, Institutional Review Board (IRB) approval is mandatory. No experimental studies will be sent out for review without an IRB approval accompanying the manuscript submission.

Guidelines for Systematic Reviews

Systematic Reviews and Meta-Analyses must be prepared according to contemporary PRISMA (Preferred Reporting for Systematic Reviews and Meta-Analyses) standards. The *AJO-DO* will screen submissions for compliance before beginning the review process. To help authors understand and apply the standards, we have prepared a separate Guidelines for AJO-DO Systematic Reviews and Meta-Analyses. This guide includes links to a Model Orthodontic Systematic Review and an accompanying Explanation and Elaboration document. These documents have been prepared in accordance with PRISMA guidelines and the "PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies that Evaluate Health Care Interventions: Explanations and Elaboration" (http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.1000100).

These guidelines are supplemental to the Guidelines for Original Articles, which describe how to meet general submission requirements, such as figure formats, reference style, required releases, and blinding. However, we have made these guidelines more relevant to orthodontics and have adapted the reporting template to encourage transparent and pertinent reporting by introducing subheadings corresponding to established PRISMA items.

Further information on reporting of systematic reviews can also be obtained in the Cochrane Handbook for Systematic Reviews of Interventions (http://www.cochrane-handbook.org).

Guidelines for Randomized Clinical Trials

Randomized Clinical Trials must meet current CONSORT (Consolidated Standards of Reporting Trials) requirements. The *AJO-DO* will screen submissions for compliance before beginning the review process. To help authors understand and apply the standards, we have prepared a separate document, Guidelines for AJO-DO Submissions: Randomized Clinical Trials. This document contains links to an Annotated RCT Sample Article and The CONSORT Statement: Application within and adaptations for orthodontic trials.

These guidelines are supplemental to the Guidelines for Original Articles, which describe how to meet general submission requirements, such as figure formats, reference style, required releases, and blinding.

Guidelines for Case Reports

Effective April 1, 2021, please submit new Case Reports to the *AJO-DO Clinical Companion*, https://www.editorialmanager.com/xaor/. Author Guidelines are available at the Clinical Companion website.

Clinician's Corner

Effective April 1, 2021, please submit new Clinician's Corner articles to the *AJO-DO Clinical Companion*, https://www.editorialmanager.com/xaor/. Author Guidelines are available at the Clinical Companion website.

Digital Orthodontics

Articles published in the Digital Orthodontics section will rely on or feature an emerging technology.

Guidelines for Miscellaneous Submissions

Letters to the Editor and their responses appear in the Readers' Forum section and are encouraged to stimulate healthy discourse between authors and our readers. Letters to the Editor must refer to an article that was published within the previous six (6) months and must be less than 500 words including references. Submit Letters via the Editorial Manager Web site. Submit a signed copyright release with the letter.

Brief, substantiated commentary on subjects of interest to the orthodontic profession is published occasionally as a Special Article. Submit Guest Editorials and Special Articles via the Web site.

Books and monographs (domestic and foreign) will be reviewed, depending upon their interest and value to subscribers. Send books to Chris Burke, Department of Orthodontics, University of Washington D-569, HSC Box 357446, Seattle,WA98195-7446. They will not be returned.

Checklist for Authors

____Title page, including full name, academic degrees, and institutional affiliation and position of each author, and full mailing address and contact information for the corresponding author; brief description of each author's contribution to the submission; and author to whom correspondence and reprint requests are to be sent, including address, business and home phone numbers, fax numbers, and e-mail address

____ CRediT Author Statement, formatted with the names of authors first and CRediT role(s) following. More details and an example

____Highlights (up to 5 Highlights, written in complete sentences, 85 characters each

____Abstract (structured, 250 words; a graphical abstract is optional)

____Manuscript, including references and figure legends

____Figures, in TIF or EPS format

____Tables

____Copyright release statement, signed by all authors

____Photographic consent statement(s)

____ICMJE Conflict of interest statement for each author

____Permissions to reproduce previously published material

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Preparation

Double anonymized review

This journal uses double anonymized review, which means the identities of the authors are concealed from the reviewers, and vice versa. More information is available on our website. To facilitate this, please include the following separately:
Title page (with author details): This should include the title, authors' names, affiliations, acknowledgements and any Declaration of Interest statement, and a complete address for the corresponding author including an e-mail address.
Anonymized manuscript (no author details): The main body of the paper (including the references, figures, tables and any acknowledgements) should not include any identifying information, such as the authors' names or affiliations.

Article structure

Introduction

Provide an adequate background so readers can understand the nature of the problem and its significance. State the objectives of the work. Cite literature selectively, avoiding a detailed literature survey or a summary of the results.

Material and Methods

Provide sufficient detail to allow the work to be reproduced. If methods have already been published, indicate by a reference citation and describe only the relevant modifications. Include manufacturer information (company name and location) for any commercial product mentioned. Report your power analysis and ethics approval, as appropriate.

Results

Results should be clear and concise.

Discussion

Explain your findings and explore their significance. Compare and contrast your results with other relevant studies. Mention the limitations of your study, and discuss the implications of the findings for future research and for clinical practice. Do not repeat information given in other parts of the manuscript.

Conclusions

Write a short Conclusions section that can stand alone. If possible, refer back to the goals or objectives of the research.

Essential title page information

• ***Title.*** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
• ***Author names and affiliations.*** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
• ***Corresponding author.*** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. **Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.**
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ANEXO C

PARECER CONSUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: INFLUÊNCIA DO TRATAMENTO ORTO-CIRÚRGICO NA QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL EM PACIENTES ADULTOS: UM ESTUDO MISTO **Pesquisador:** VILMAR ANTONIO FERRAZZO **Área Temática:**
Versão: 2

CAAE: 41856621.0.0000.5346

Instituição Proponente: Departamento de Estomatologia

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 4.499.971

Apresentação do Projeto:

Projeto consiste em dissertação de mestrado vinculado ao Programa de Pós Graduação em Ciências Odontológicas. RESUMO: "Os aspectos estéticos faciais e as características esqueléticas e dentoalveolares sobre o perfil facial são um importante fator que influencia o relacionamento interpessoal e profissional. Indivíduos que apresentam deformidades faciais, como nos casos das más- oclusões de Classes II e III esqueléticas moderadas a graves, relatam desconforto, dificuldades ao mastigar, problemas emocionais e sociais. Desta maneira, execução de um tratamento ortodôntico acompanhado da cirurgia ortognática pode alterar a qualidade de vida destas pessoas. Este estudo tem o objetivo avaliar a influência do tratamento ortodôntico cirúrgico na qualidade de vida relacionada à saúde bucal (QVRSB) em pacientes que apresentam má oclusões esqueléticas de Classe II e III de Angle. Será realizado um estudo transversal misto com uma amostra de conveniência de 20 pacientes adultos.
A primeira fase do estudo será quantitativa e os pacientes responderão ao questionário Perfil de Impacto na Saúde Oral (PISO) com perguntas fechadas, após o término do tratamento, com a qual conseguiremos dados quantificáveis. A segunda fase será qualitativa, através da aplicação de questionário e entrevista. Nessa fase conseguiremos resultados mais subjetivos e será onde os pacientes serão questionados de maneira aberta, para entender como e se o tratamento alterou a sua qualidade de vida relacionada à saude bucal. Os questionários serão aplicados por uma única entrevistadora, que entrará em contato com os pacientes pessoalmente ou via plataforma online de acordo com a preferência dos mesmos. Após obtenção dos dados quantitativos, estes serão analisados descritivamente e para os qualitativos será utilizada a análise temática proposta por Braun & Clark." Quanto a Amostra da presente pesquisa, consta no projeto, pág.15: será realizado um estudo transversal com pacientes adultos com idade entre 21 e 62 anos após o término do tratamento ortodôntico e ortognático em clínica privada da cidade de Santa Maria, sul do estado do Rio Grande do Sul, que possui cerca de 277.309 mil habitantes.

Os dados pré tratamentos não foram coletados para esta pesquisa, os participantes passaram pelos procedimentos em diferentes momentos, podendo confeccionar um viés de memória (Recall bias), pois há a possibilidade de pacientes tratados há mais tempo não responderem aos questionamento da mesma forma que aqueles tratados mais recentemente.
A amostra do estudo será de conveniência e serão incluídos somente os pacientes que concluíram seu tratamento ortognático no período de 2005 (inicio de tratamento ortodôntico) a 2019 (final do tratamento orto -cirúrgico) em clínica privada de Santa Maria.
Os pacientes da amostra tinham plano de saúde para cobertura de procedimentos cirúrgicos.

Objetivo da Pesquisa:

Avaliar e entender a influência do tratamento Ortodôntico e Cirúrgico Ortognático na qualidade de vida relacionada à saúde bucal de pacientes que apresentam má oclusões esqueléticas Classe II e III de Angle.

Avaliação dos Riscos e Benefícios:

Tendo em vistas características do projeto a descrição de riscos e benefícios pode ser considerada suficiente.**Considerações sobre os Termos de apresentação obrigatória:** Os termos de apresentação obrigatória podem ser considerados suficientes.

Recomendações:

Veja no site do CEP - https://www.ufsm.br/pro-reitorias/prpgp/cep/ - modelos e orientações para apresentação dos documentos. ACOMPANHE AS ORIENTAÇÕES DISPONÍVEIS, EVITE PENDÊNCIAS E AGILIZE A TRAMITAÇÃO DO SEU PROJETO.

Conclusões ou Pendências e Lista de Inadequações:

.

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Este parecer foi elaborado baseado nos documentos abaixo relacionados:

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Folha de Rosto	Folha_rosto.pdf	06/01/2021 21:28:17	VILMAR ANTONIO FERRAZZO	Aceito

Situação do parecer: Aprovado **Necessita Apreciação da CONEP:** Não

SANTA MARIA, 15 de Janeiro de 2021

Assinado por:
CLAUDEMIR DE QUADROS
(Coordenador(a))