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

EFEITO DO TRATAMENTO RESTAURADOR NA QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL EM ADOLESCENTES

TRABALHO DE CONCLUSÃO DE CURSO

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Santa Maria, RS, Brasil
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EFEITO DO TRATAMENTO RESTAURADOR NA QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL EM ADOLESCENTES

Bruna Brondani

Trabalho de conclusão de curso apresentado ao Curso de Graduação em Odontologia da Universidade Federal de Santa Maria (UFSM, RS), como requisito parcial para obtenção do grau de **Cirurgião-dentista**.

Professora Orientadora: Dra. Luana Severo Alves

Santa Maria, RS, Brasil
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A Comissão Examinadora, abaixo assinada,
aprova o Trabalho de Conclusão de Curso

EFEITO DO TRATAMENTO RESTAURADOR NA QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL EM ADOLESCENTES

elaborado por
Bruna Brondani

como requisito parcial para obtenção do grau de
Cirurgião-dentista

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Santa Maria, 21 de Novembro de 2016.

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É impossível progredir sem mudança, e aqueles que não mudam suas mentes, não podem mudar nada.

(George Bernard Shaw)

RESUMO

Introdução: A presença de lesões de cárie cavitada não tratada tem sido associada a uma pior qualidade de vida relacionada à saúde bucal (OHRQoL), no entanto, pouco se sabe sobre o efeito do tratamento restaurador na OHRQoL. **Objetivo:** Avaliar o efeito do tratamento restaurador na OHRQoL entre adolescentes do Sul do Brasil. **Metodologia:** Este estudo longitudinal incluiu uma amostra de conveniência composta por 128 adolescentes, com idades entre 10 e 15 anos, que receberam tratamento restaurador de lesões cariosas cavitadas em uma clínica odontológica na Universidade Federal de Santa Maria, Brasil. A OHRQoL foi mensurada através da versão brasileira do *Child Perceptions Questionnaire* para crianças de 11 a 14 anos (CPQ_{11-14}). O questionário foi respondido através de entrevista face-a-face com o participante antes do tratamento restaurador e 1 mês após a sua conclusão. Os pais/responsáveis legais responderam perguntas sobre o status socioeconômico. O teste t pareado e cálculo do tamanho de efeito foram utilizados para avaliar alterações nos escores médios do CPQ_{11-14} após a conclusão do tratamento. **Resultados:** O escore médio total do $CPQ_{11-14,}$ previamente ao início do tratamento, foi de 15,9 (d.p.=10,3), e esta média diminuiu para 6,3 (d.p.=6,5) após a conclusão do tratamento (P <0,001). O mesmo padrão foi observado nos quatro domínios do CPQ_{11-14} (Sintomas Orais, Limitação Funcional, Bem-estar Emocional e Bem-estar Social). Os tamanhos de efeito variaram de 0,4 a 1,1, sendo os domínios Sintomas Orais e Bem-estar Emocional os que apresentaram maiores mudanças após a conclusão do tratamento restaurador. **Conclusões:** O tratamento restaurador resultou em uma melhora significativa na OHRQoL dos adolescentes avaliados.

Palavras-chave: OHRQoL, restauração dental, epidemiologia.

ABSTRACT

Background: Untreated cavitated caries has been associated with a decline on the oral health related quality of life (OHRQoL); however, little is known about the effect of restorative treatment on the OHRQoL. **Aim:** To assess the effect of restorative treatment on the OHRQoL of South Brazilian adolescents. **Methods:** This longitudinal study included a convenience sample composed by 128 adolescents aged 10-15 years who received restorative treatment for cavitated caries lesions in a university clinic in Santa Maria, Brazil. OHRQoL was measured through the Brazilian version of the Child Perceptions Questionnaire for children aged 11 to 14 years (CPQ_{11-14}). The questionnaire was answered through a face-to-face interview with the participant before the restorative treatment and 1 month after its completion. Parents/legal guardians answered questions about socioeconomic status. Paired t-test and effect size calculation were used to evaluate changes in mean CPQ_{11-14} scores after completion of treatment. **Results:** The mean CPQ_{11-14} total score before treatment was 15.9 (SD = 10.3), and this mean decreased to 6.3 (SD = 6.5) after treatment completion ($P < 0.001$). The same pattern was observed in the four domains of CPQ_{11-14} (Oral Symptoms, Functional Limitation, Emotional Well-Being and Social Well-Being). Effect sizes varied from 0.4 to 1.1, with Oral Symptoms and Emotional Well-being domains showing the greatest changes after completion of restorative treatment. **Conclusions:** The restorative treatment resulted in a significant improvement in the OHRQoL of the evaluated adolescents.

Keywords: Oral health-related quality of life; dental restoration; epidemiology.

SUMÁRIO

INTRODUCTION

The oral health-related quality of life (OHRQoL) has received increased attention in recent years, being widely used in health services research to examine trends in oral health and to assess population-based needs[1]. The OHRQoL is a multidimensional construct that refers to the extent to which an individual's daily living is disrupted by oral problems[2]. Several cross-sectional studies have shown the negative impact of dental caries on OHRQoL among children and adolescents of different population's worldwide[3-6], commonly described as pain/sensitivity, functional or aesthetic impairment.

There is limited information on the effects of caries treatment on the improvement of the OHRQoL[7]. Cross-sectional studies have investigated the effect of treated and untreated caries by assessing separately the components of the DMF-T index[8-10]; however, few longitudinal studies have investigated this issue by assessing the quality of life of children and adolescents before and after caries treatment interventions[7, 11, 12, 13]. Longitudinal studies conducted among preschool children have shown that the OHRQoL is negatively influenced by the presence of dental caries and that this situation can be improved after dental treatment[7, 11, 12]. A recent longitudinal study was performed to estimate treatment-associated changes in the quality of life among Tanzanian adolescents, 6 months after the last scheduled treatment appointment. In this study, the authors failed to show a beneficial effect of Atraumatic Restorative Treatment (ART) restorations on the quality of life of the adolescents[13]. To the best of our knowledge, this is the unique study assessing the effect of caries treatment on quality of life among adolescents.

There is no study assessing the specific effect of restorative treatment on the quality of life of adolescents from developing countries. Such knowledge can guide oral health programs and public health policies in this target population. Therefore, the aim of this study was to evaluate the effect of restorative treatment on OHRQoL among adolescents from South Brazil. The conceptual hypothesis was that the restorative treatment would improve the OHRQoL of adolescents.

MATERIALS AND METHODS

Participants and Setting

A convenience sample comprised a group of 128 10-15-year-old patients attending a Dental Clinic specific for this age group at the Federal University of Santa Maria, South

Brazil. Dental treatments are performed by undergraduate students from the last years of Dentistry, under the supervision of post-graduate students and two professors. The most commonly performed procedures are restorative and endodontic treatment, topical application of fluoride, extraction of primary and permanent teeth and supragengival scaling. The clinic has been attending an estimated number of 50 new patients per year since 2010, which are mainly from low socioeconomic background drawn from public schools of Santa Maria. The city has 276,108 inhabitants, with nearly 75% of the schoolchildren enrolled in public schools and residing in the city[14]. To be included in the study, participants should present a minimum age of 10 years and a maximum age of 15 years. Adolescents presenting severe medical conditions, both physical and/or mental, were excluded from the sample. A total of 117 subjects would be necessary to achieve a minimum effect size of 0.3 with a level of significance of 0.05, a statistical power of 80%, and adding 30% for refusals and losses.

Data Collection

Data gathering was conducted from October 2010 to September 2016 and included two questionnaires.

Demographic-Socioeconomic Characteristics

Questions on adolescent's socioeconomic status were answered by parents or legal guardians. The structured questionnaire provided information about sex and age, race/ethnic group, mother's educational level and household income. The race/ethnic group was classified according to skin color (white, black, brown or other) and after was dichotomized as "White" and "Non-White", based on previously established criteria[15]. Educational level compared mothers that completed 8 years of formal instruction, which corresponds to primary school in Brazil, with those that did not. Household income was collected in Brazilian currency (*real*) of all residents in the home and subsequently transformed based on the monthly minimum wage (approx. USD 277).

Oral Health-Related Quality of Life

The OHRQoL was evaluated through the Brazilian short-version of the Child Perceptions Questionnaire for 11 to 14 year-old children (CPQ_{11-14}) [16]. This short form of CPQ_{11-14} contains 16 questions about the frequency of events in four domains: oral symptoms (OS), functional limitations (FL), emotional well-being (EW) and social well-being (SW). Each item asks about the frequency of events, as applied to the teeth, lips and jaws, in the last

3 months. Each question can be answered in a Likert scale with the following options: 'never' (0), 'once or twice' (1), 'sometimes' (2), 'often' (3), and 'every day or almost every day' (4). The total score can vary from 0 to 64. Higher scores represent a greater impact of oral condition on children's quality of life. The questionnaire was applied to each participant through face-to-face interviews. The interviewers were previously trained and have not participated in the dental procedure. The CPQ_{11-14} was applied prior to dental treatment and 1-month-post-treatment completion.

Data analyses

Statistical analyses were performed using STATA 14.0 (Stata Corporation, College Station, TX, USA). Change scores were calculated by subtracting the pre-restorative treatment mean score from the post-restorative treatment mean score for overall CPQ_{11-14} and its four domains. A positive change means an improvement while a negative one indicates deterioration of OHRQoL[17]. Statistical significance of the changes was assessed by using paired *t*-tests. The effect size was calculated by [mean difference/ standard deviation change score (SD)] to estimate the change magnitude.

Finally, a comparison between changes in the CPQ_{11-14} mean scores at follow-up was performed using the paired *t*-test.

Ethics

This study was approved by the Human Research Ethics Committee of the Federal University of Santa Maria, under process No 0144.0.243.000-10, in 2012. Parents/legal guardians of the participants signed a written informed consent and the adolescent agreed to participate in the study.

RESULTS

The study sample comprised 128 adolescents. As shown in Table 1, the majority of participants were aged 10-12 years old, female, white, living with a household income less than one Brazilian monthly minimum wage and had mothers with eight years of education or more. Most of the restorations were performed in posterior teeth (74.6%) and the predominant material was composite resin (73.5%). Sixty-six participants (51.2%) rated their oral health as regular at baseline, while 90% reported that their oral health was better following the treatment at the clinic.

Table 2 shows the overall and domain-specific CPQ_{11-14} scores in the sample, comparing pre- and post- restorative treatment. All scores were significantly lower after dental treatment (P <0.001). As shown in figure 1, the overall CPQ_{11-14} score decreased from 15.9 (SD10.3) before treatment to 6.3 (SD6.5) after treatment, resulting in a change of 9.6 point (SD9.0). The highest change was observed in the oral symptoms and in the emotional well-being domains, with an average of 2.9 (SD3.0 and SD3.7, respectively). The effect size, in general, can be considered high in all domains, except in the social well-being, in which it was observed a value of 0.4.

DISCUSSION

The present study aimed at assessing the effect of restorative treatment on the OHRQoL in a convenience sample of 10-15-year-old adolescents. The main finding was that restorative treatment improved adolescent's OHRQoL. To the best of our knowledge, this is the first longitudinal study evaluating the relationship between restorative treatment and improvements on OHRQoL among Brazilian adolescents.

Few prospective studies have previously reported the effect of treating tooth decay on OHRQoL[7, 11, 13], being only one of them conducted in Brazil[7] and another one conducted with adolescents[13]. The recent study conducted by Abanto et al. (2016) demonstrated a positive association between caries treatment and improvement in OHRQoL among Brazilian preschool children. Evaluating the impact of dental treatment in Tanzanian adolescents, Mashoto et al. (2010) observed that participants who received ART restorations have not rated their OHRQoL as better at follow-up compared to baseline. The present study is in disagreement with these previous findings, since we found significant reductions in the CPQ_{11-14} scores after dental treatment. Our result is a conceivable finding since the execution of restorative treatment is able to control pain/sensitivity, improve chewing ability, and, when performed in anterior teeth, restore the aesthetics, and ultimately benefit social interactions. We could speculate that the study by Mashoto et al. (2010) may have included less complex restorations that could be restored using the ART technique, with a lower negative impact on OHRQoL and, ultimately, a lower positive effect of treatment. Furthermore, the lack of improvement on the quality of life of Tanzanian adolescents may be explained by the 6-months-post-treatment completion of the follow-up questionnaire, which may have turn the positive effects of restorations undetected by the adolescents. It is possible that the self-perception of OHRQoL may have been influenced by the time elapsed between treatment

completion and data collection. The present study found higher effect sizes when compared with those found by Mashoto et al. (2010). According to Leppink et al. (2016), our effect sizes can be considered large, which may be attributed to the reduced period of time since treatment completion and data collection on OHRQoL (1 month post treatment).

In a cross-sectional study conducted with a representative sample of South Brazilian adolescents, Alves et al. (2013) showed that treated caries was significantly associated with an improved quality of life in the Functional Limitation and Emotional Well-being domains. In our study, all domains showed significant lower CPQ_{11-14} scores after dental treatment, with a lower (but significant) change post restorative treatment in the Social Well-Being domain. This finding may be explained by the reduced number of individuals who received restorative treatment in anterior teeth. In fact, baseline scores in this domain were lower than in the other domains, thus evidencing that the commitment of social interactions was not an issue in this sample.

We used a convenience sample of participants who sought for dental care, which could be associated with a worst oral health perception at baseline. This could be a limitation of this study. Notwithstanding, we were able to demonstrate an improvement in their self-perception after restorative treatment, which may be seen as a strength of the study. Furthermore, this is the unique clinic in the city that offers dental treatment specifically for this age group. Another possible limitation related to the sample was that we also considered participants who received other types of procedures beyond the restorative treatment. However, we assume that the improvement on OHRQoL perceived by the adolescents were associated with the filling of carious cavities, which is in agreement with previous studies demonstrating the negative impact of dental caries in OHRQoL and the beneficial effect of its treatment on the improvement of self-perception and well-being[5, 6, 9].

In conclusion, this prospective study demonstrated that the restorative treatment of decayed teeth significantly improved OHRQoL among South Brazilian adolescents, with was evident in the overall and domain-specific CPQ_{11-14} scores. The main difference between baseline and follow-up scores were observed in the Oral Symptoms and Emotional Well-being domains.

Table 1. Sociodemographic and clinical characteristics of the adolescent's sample (n=128). Santa Maria, RS, Brazil, 2016.

Variables	N	%
Age		
10-12 years-old	81	63.3
13-15 years-old	47	36.7
Sex		
Girls	70	55.1
Boys	57	44.9
Skin Color		
White	102	82.3
Non-White	22	17.7
Household Income		
< 1 BMW*	73	57.9
≥ 1BMW*	53	42.1
Mother's Schooling		
< 8 years (formal instruction)	60	49.2
≥ 8 years (formal instruction)	62	50.8
Location of Dental Restoration		
Anterior Teeth	11	9.3
Posterior Teeth	88	74.6
Both	19	16.1
Type of material used		
Composite Resin	86	73.5
Glass Ionomer Cement	9	7.7
Both	22	18.8
Baseline Self-rated Oral Health		
Good/Excellent	44	34.1
Regular	66	51.2
Fair/Poor	19	14.7
Follow-up Self-rated Oral Health		
No change	10	9.1
Better	98	90.0
Worse	1	0.9

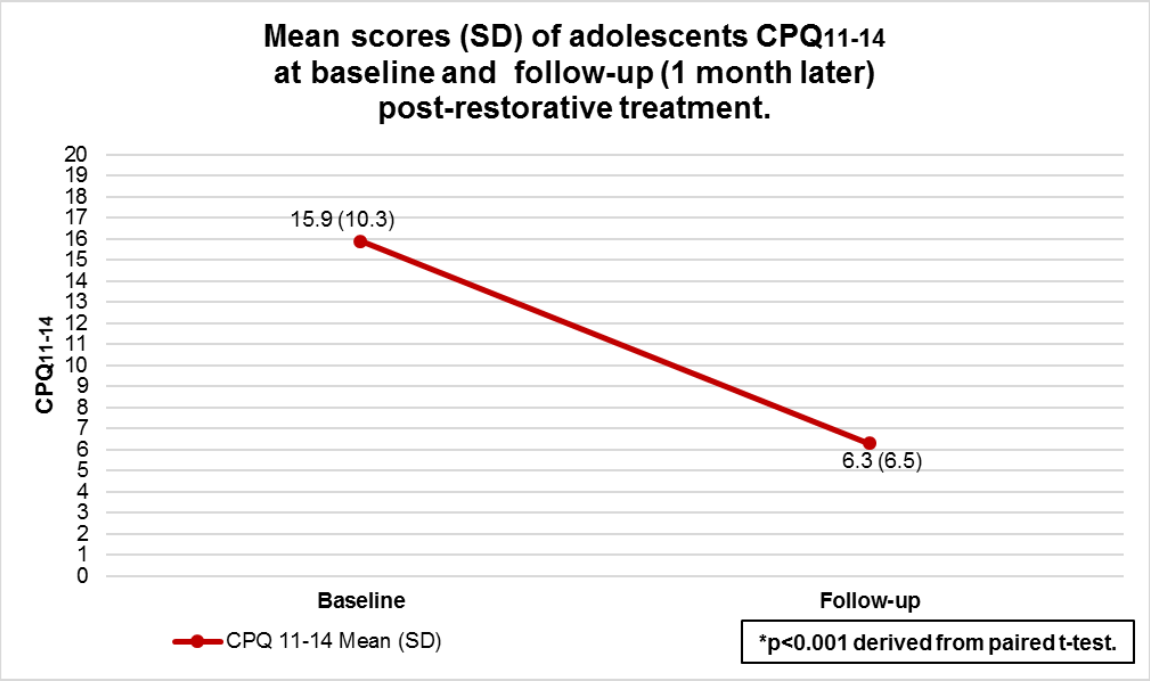
* BMW: Brazilian Minimal Wage in 2016 (approximately $277 during the data gathered).

Table 2. Overall and domain-specific CPQ_{11-14} scores in the whole sample, pre- and post-restorative treatment (n=128). Santa Maria, RS, Brazil, 2016.

	CPQ_{11-14}						
	Range at Baseline	Baseline Mean (SD)	Follow-up Mean (SD)	p*	Range at Follow-up	Change Scores Mean (SD)	Effect Size
Oral Symptoms	0 – 16	5.3 (2.9)	2.3 (2.0)	<0.001	0 – 8	2.9 (3.0)	1.0
Functional Limitation	0 – 14	4.3 (3.2)	1.7 (2.1)	<0.001	0 – 9	2.6 (3.1)	0.8
Emotional Well-being	0 – 16	4.1 (3.8)	1.2 (2.5)	<0.001	0 – 15	2.9 (3.7)	0.8
Social Well-being	0 – 14	2.2 (3.1)	1.1 (2.1)	<0.001	0 – 11	1.2 (2.6)	0.4
Total Score	0 – 52	15.9 (10.3)	6.3 (6.5)	<0.001	0 – 29	9.6 (9.0)	1.1

*p-value derived from paired t-test.

Figure 1. Overall CPQ_{11-14} scores (mean ± SD) at baseline and at follow-up (1 month after post-restorative treatment). Santa Maria, RS, Brazil, 2016.



BULLET POINTS

- Pediatric dentists should be aware that treating cavitated caries has beneficial effects on the quality of life of adolescents.
- Improvement on quality of life was mostly evident on the oral symptoms and emotional well-being domains.
- This study helps dentists to understand the magnitude of the benefits associated with restorative treatment.

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ANEXO I – QUESTIONÁRIO DE QUALIDADE DE VIDA (CPQ_{11-14})

PERGUNTAS SOBRE PROBLEMAS BUCAIS

1. Nos últimos 3 meses, com que frequência você teve?

	Nunca	1 ou 2 vezes	algumas vezes	frequentemente	todos os dias ou quase todos
1. Dor nos seus dentes, lábios, maxilares ou boca?					
2. Feridas na boca?					
3. Mau hálito?					
4. Restos de alimentos presos dentro ou entre os seus dentes?					

2. Isso aconteceu por causa de seus dentes, lábios, maxilares e boca?Nos últimos 3 meses, com que frequência você:

	Nunca	1 ou 2 vezes	algumas vezes	frequentemente	todos os dias ou quase todos
5. Demorou mais que os outros para terminar sua refeição?					

3. Nos últimos 3 meses, por causa dos seus dentes, lábios, boca e maxilares com que frequência você teve?

	nunca	1 ou 2 vezes	algumas vezes	frequentemente	todos os dias ou quase todos
6. Dificuldade para morder ou mastigar alimentos como maçãs, espiga de milho ou carne?					

7. Dificuldades para dizer algumas palavras?					
8. Dificuldades para beber ou comer alimentos quentes ou frios?					

PERGUNTAS SOBRE SENTIMENTOS E/OU SENSAÇÕES

4. Você já experimentou esse sentimento por causa de seus <u>dentes, lábios, maxilares ou boca</u>? Se você se sentiu desta maneira por <u>outro motivo</u>, responda "nunca".

	nunca	1 ou 2 vezes	algumas vezes	frequentemente	todos os dias ou quase todos
9. Ficou irritado (a) ou frustrado (a)?					
10. Ficou tímido (a), constrangido (a) ou com vergonha?					
11. Ficou chateado?					
12. Ficou preocupado com o que as outras pessoas pensam sobre seus dentes, lábios, boca ou maxilares?					

PERGUNTAS SOBRE SUAS ATIVIDADES EM SEU TEMPO LIVRE E NA COMPANHIA DE OUTRAS PESSOAS

5. Você já teve estas experiências por causa dos seus <u>dentes, lábios, maxilares ou boca</u>? Se for por outro motivo, responda "nunca". Nos últimos 3 meses, com que frequência você:

	nunca	1 ou 2 vezes	algumas vezes	frequentemente	todos os dias ou quase todos
13. Evitou sorrir ou dar risadas quando está com outras crianças?					
14. Discutiu com outras crianças ou pessoas de sua					

família?					
15. Outras crianças lhe aborreceram ou lhe chamaram por apelidos?					
16. Outras crianças fizeram perguntas sobre seus dentes, lábios, maxilares e boca?					

ANEXO II – CARTA DE APROVAÇÃO DO CEP

MINISTÉRIO DA SAÚDE
Conselho Nacional de Saúde
Comissão Nacional de Ética em Pesquisa
(CONEP)

UNIVERSIDADE FEDERAL DE SANTA MARIA
Pró-Reitoria de Pós-Graduação e Pesquisa
Comitê de Ética em Pesquisa - CEP- UFSM
REGISTRO CONEP: 243

CARTA DE APROVAÇÃO

O Comitê de Ética em Pesquisa – UFSM, reconhecido pela Comissão Nacional de Ética em Pesquisa – (CONEP/MS) analisou o protocolo de pesquisa:

Título: Impacto das condições de saúde bucal na qualidade de vida de escolares de 12 anos
Número do processo: 23081.007764/2011-30
CAAE (Certificado de Apresentação para Apreciação Ética): 0127. 0.243.000-11
Pesquisador Responsável: Thiago Machado Ardenghi

Este projeto foi APROVADO em seus aspectos éticos e metodológicos de acordo com as Diretrizes estabelecidas na Resolução 196/96 e complementares do Conselho Nacional de Saúde. Toda e qualquer alteração do Projeto, assim como os eventos adversos graves, deverão ser comunicados imediatamente a este Comitê.
O pesquisador deve apresentar ao CEP:

Agosto / 2012- Relatório final

Os membros do CEP-UFSM não participaram do processo de avaliação dos projetos onde constam como pesquisadores.

DATA DA REUNIÃO DE APROVAÇÃO: 14/06/2011

Santa Maria, 15 de junho de 2011

Félix A. Antunes Soares
Coordenador do Comitê de Ética em Pesquisa-UFSM
Registro CONEP N. 243.

ANEXO III – GUIDELINES *International Journal of Paediatric Dentistry*

1. MANUSCRIPT FORMAT AND STRUCTURE

1.1. Format

Language: The language of publication is English. UK and US spelling are both acceptable but the spelling must be consistent within the manuscript. The journal's preferred choice is UK spelling. Authors for whom English is a second language must have their manuscript professionally edited by an English speaking person before submission to make sure the English is of high quality. It is preferred that manuscript is professionally edited. A list of independent suppliers of editing services can be found at http://authorservices.wiley.com/bauthor/english_language.asp. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

2.2. Structure

The whole manuscript should be double-spaced, paginated, and submitted in correct English. The beginning of each paragraph should be properly marked with an indent.

Original Articles (Research Articles): should normally be divided into: Summary, Introduction, Material and methods, Results, Discussion, Bullet points, Acknowledgements, References, Figure legends, Tables and Figures arranged in this order.

Please include a statement of author contributions, e.g. Author contributions: A.S. and K.J. conceived the ideas; K.J. and R.L.M. collected the data; R.L.M. and P.A.K. analysed the data; and A.S. and K.J. led the writing.

Summary should be structured using the following subheadings: Background, Hypothesis or Aim, Design, Results, and Conclusions.

Introduction should be brief and end with a statement of the aim of the study or hypotheses tested. Describe and cite only the most relevant earlier studies. Avoid presentation of an extensive review of the field.

Material and methods should be clearly described and provide enough detail so that the observations can be critically evaluated and, if necessary repeated. Use section subheadings in a logical order to title each category or method. Use this order also in the results section. Authors should have considered the ethical aspects of their research and should ensure that the project was approved by an appropriate ethical committee, which should be stated. Type of statistical analysis must be described clearly and carefully.

(i) Experimental Subjects: Experimentation involving human subjects will only be published

if such research has been conducted in full accordance with ethical principles, including the World Medical Association Declaration of Helsinki (version 2008) and the additional requirements, if any, of the country where the research has been carried out. Manuscripts must be accompanied by a statement that the experiments were undertaken with the understanding and written consent of each subject and according to the above mentioned principles. A statement regarding the fact that the study has been independently reviewed and approved by an ethical board should also be included. Editors reserve the right to reject papers if there are doubts as to whether appropriate procedures have been used.

(ii) Clinical trials should be reported using the CONSORT guidelines available at www.consort-statement.org. A CONSORT checklist should also be included in the submission material. International Journal of Paediatric Dentistry encourages authors submitting manuscripts reporting from a clinical trial to register the trials in any of the following free, public clinical trials registries:
www.clinicaltrials.gov, http://clinicaltrials.ifpma.org/clinicaltrials/, http://isrctn.org/.
The clinical trial registration number and name of the trial register will then be published with the paper.

(iii) DNA Sequences and Crystallographic Structure Determinations: Papers reporting protein or DNA sequences and crystallographic structure determinations will not be accepted without a Genbank or Brookhaven accession number, respectively. Other supporting data sets must be made available on the publication date from the authors directly.

Results should clearly and concisely report the findings, and division using subheadings is encouraged. Double documentation of data in text, tables or figures is not acceptable. Tables and figures should not include data that can be given in the text in one or two sentences.

Discussion section presents the interpretation of the findings. This is the only proper section for subjective comments and reference to previous literature. Avoid repetition of results, do not use subheadings or reference to tables in the results section.

Bullet Points should include one heading:
*Why this paper is important to paediatric dentists. Please provide maximum 3 bullets per heading.

Review Articles: may be invited by the Editor. Review articles for the International Journal of Paediatric Dentistry should include: a) description of search strategy of relevant literature (search terms and databases), b) inclusion criteria (language, type of studies i.e. randomized controlled trial or other, duration of studies and chosen endpoints, c) evaluation of papers and level of evidence. For examples see: Twetman S, Axelsson S, Dahlgren H et al. Caries-preventive effect of fluoride toothpaste: a systematic review. Acta Odontologica Scandivaica 2003; 61: 347-355. Paulsson L, Bondemark L, Söderfeldt B. A systematic review of the consequences of premature birth on palatal morphology, dental occlusion, tooth-crown dimensions, and tooth maturity and eruption. Angle Orthodontist 2004; 74: 269-279.

Clinical Techniques: This type of publication is best suited to describe significant improvements in clinical practice such as introduction of new technology or practical approaches to recognised clinical challenges. They should conform to highest scientific and clinical practice standards.

Short Communications: Brief scientific articles or short case reports may be submitted, which should be no longer than three pages of double spaced text, and include a maximum of three illustrations. They should contain important, new, definitive information of sufficient significance to warrant publication. They should not be divided into different parts and summaries are not required.

Acknowledgements: Under acknowledgements please specify contributors to the article other than the authors accredited. Please also include specifications of the source of funding for the study and any potential conflict of interests if appropriate. Suppliers of materials should be named and their location (town, state/county, country) included.

Supplementary data

Supporting material that is too lengthy for inclusion in the full text of the manuscript, but would nevertheless benefit the reader, can be made available by the publisher as online-only content, linked to the online manuscript. The material should not be essential to understanding the conclusions of the paper, but should contain data that is additional or complementary and directly relevant to the article content. Such information might include the study protocols, more detailed methods, extended data sets/data analysis, or additional figures (including). All material to be considered as supplementary data must be uploaded as such with the manuscript for peer review. It cannot be altered or replaced after the paper has been accepted for publication. Please indicate clearly the material intended as Supplementary Data upon submission. Also ensure that the Supplementary Data is referred to in the main manuscript. Please label these supplementary figures/tables as S1, S2, S3, etc.

Full details on how to submit supporting information, can be found at http://authorservices.wiley.com/bauthor/suppinfo.asp

1.3. References

A maximum of 30 references should be numbered consecutively in the order in which they appear in the text (Vancouver System). They should be identified in the text by superscripted Arabic numbers and listed at the end of the paper in numerical order. Identify references in text, tables and legends. Check and ensure that all listed references are cited in the text. Non-refereed material and, if possible, non-English publications should be avoided. Congress abstracts, unaccepted papers, unpublished observations, and personal communications may not be placed in the reference list. References to unpublished findings and to personal communication (provided that explicit consent has been given by the sources) may be inserted in parenthesis in the text. Journal and book references should be set out as in the following examples:

1. Kronfol NM. Perspectives on the health care system of the United Arab Emirates. East Mediter Health J. 1999; 5: 149-167.
2. Ministry of Health, Department of Planning. Annual Statistical Report. Abu Dhabi: Ministry of Health, 2001.
3. Al-Mughery AS, Attwood D, Blinkhorn A. Dental health of 5-year-old children in Abu Dhabi, United Arab Emirates. Community Dent Oral Epidemiol 1991; 19: 308-309.
4. Al-Hosani E, Rugg-Gunn A. Combination of low parental educational attainment and high parental income related to high caries experience in preschool children in Abu Dhabi. Community Dent Oral Epidemiol 1998; 26: 31-36.
If more than 6 authors please, cite the three first and then et al. When citing a web site, list the authors and title if known, then the URL and the date it was accessed (in parenthesis). Include among the references papers accepted but not yet published; designate the journal and add (in press). Please ensure that all journal titles are given in abbreviated form.

We recommend the use of a tool such as Reference Manager for reference management and formatting. Reference Manager reference styles can be searched for here: www.refman.com/support/rmstyles.asp.

1.4. Illustrations and Tables

Tables: should be numbered consecutively with Arabic numerals and should have an explanatory title. Each table should be typed on a separate page with regard to the proportion of the printed column/page and contain only horizontal lines.

Figures and illustrations: All figures should be submitted electronically with the manuscript via ScholarOne Manuscripts (formerly known as Manuscript Central). Each figure should have a legend and all legends should be typed together on a separate sheet and numbered accordingly with Arabic numerals. Avoid 3-D bar charts.

Preparation of Electronic Figures for Publication: Although low quality images are adequate for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit EPS (lineart) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented programmes. Scans (TIFF only) should have a resolution of 300 dpi (halftone) or 600 to 1200 dpi (line drawings) in relation to the reproduction size (see below). EPS files should be saved with fonts embedded (and with a TIFF preview if possible).

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Further information can be obtained at Wiley-Blackwell's guidelines for figures: http://authorservices.wiley.com/bauthor/illustration.asp.

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APÊNDICE I – QUESTIONÁRIO SOCIOECONÔMICO

Muito obrigado por participar desta pesquisa! Estas perguntas são muito importantes para melhor conhecer a saúde de seu filho. Por favor, tente responder todas as perguntas! Qualquer dúvida, entre em contato conosco pelos telefones: Fernanda – 99915409 (vivo); Guilherme- 99351484(vivo); Joana – 91048282(claro); Simone(oi).

1) Nome do adolescente: _____

2) Telefone:_____

3) Sexo: F ( ) M ( )

4) Você considera seu filho da raça:

( ) branca ( ) negra ( ) mulato ( )outro (oriental, índio)

5) No mês passado, quanto receberam em Reais, juntas, todas as pessoas que moram nesta casa (salário, bolsa família, pensão, aposentadoria e outros rendimentos)?_____

7) Quantos cômodos tem a casa? _____

8) Quantas pessoas, incluindo o Sr(a), moram na casa?_____

9) A mãe estudou até: ( )não estudou; ( )1º grau incompleto; ( )1º grau completo;

( )2º grau incompleto; ( )2º grau completo; ( )3º grau incompleto; ( )3º grau completo

10) O pai estudou até: ( )não estudou; ( )1º grau incompleto; ( )1º grau completo;

( )2º grau incompleto; ( )2º grau completo; ( )3º grau incompleto; ( )3º grau completo

11) Seu filho procurou dentista nos últimos 6 meses? S ( ) N ( )

12) Quando foi a última visita ao dentista?:( ) até 3 meses ( ) 3 a 6 meses

( ) 6 meses a 1 ano ( ) mais que 1 ano;

13) Motivo da última consulta:

( ) dor de dente;

( ) dor na boca

( ) batidas e quedas

( ) exame e rotina

( ) outros:_____

14) Tipo de serviço que você levou seu filho na última consulta:

( )dentista particular

( ) dentista público (posto de saúde, faculdade, escola)

15. Você diria que a saúde dos dentes, lábios, maxilares e boca do seu filho é:

( ) Excelente **( )** Muito boa **( )** Boa **( )** Regular **( )** Ruim

Perguntas sobre espiritualidade

6. Com que frequência você vai a uma igreja, templo ou outro encontro religioso.
   a) Mais do que uma vez por semana
   b) Uma vez por semana
   c) Duas ou três vezes por mês
   d) Algumas vezes por ano
   e) Uma vez por ano ou menos
   f) Nunca

7. Com que frequência você dedica o seu tempo a atividades religiosas individuais, como preces, rezas, meditações, leitura da bíblia ou de outros textos religiosos.
   a) Mais do que uma vez ao dia
   b) Diariamente
   c) Duas ou mais vezes por semana
   d) Uma vez por semana
   e) Poucas vezes por mês
   f) Raramente ou nunca

A seção seguinte contém frases a respeito de crenças ou experiências religiosas. Por favor, anote o quanto cada frase se aplica a você

8. Em minha vida, eu sinto a presença de Deus (ou do Espírito Santo)
   a) Totalmente verdade para mim

b) Em geral é verdade
c) Não estou certo
d) Em geral não é verdade
e) Não é verdade

9. As minhas crenças religiosas estão realmente por trás de toda a minha maneira de viver.
a) Totalmente verdade para mim
b) Em geral é verdade
c) Não estou certo
d) Em geral não é verdade
e) Não é verdade

10. Eu me esforço muito para viver a minha religião em todos os aspectos da vida
a) Totalmente verdade para mim
b) Em geral é verdade
c) Não estou certo
d) Em geral não é verdade
e) Não é verdade

APÊNDICE II – TERMO DE CONSENTIMENTO LIVRE E ESCLARECIDO

Termo de Consentimento Livre e Esclarecido

Este termo tem como objetivo informar, esclarecer e pedir a sua autorização para a participação de seu/sua filho(a) na pesquisa intitulada **"IMPACTO DAS CONDIÇÕES DE SAÚDE BUCAL NA QUALIDADE DE VIDA DE ESCOLARES DE 12 ANOS**" a ser desenvolvida pelos Cirurgiões-dentistas Fernanda Tomazoni, Guilherme Nascimento da Rosa, Joana Del Fabro e Simone Tuchtenhagen e pelo professor Dr. Thiago Machado Ardenghi. Esta pesquisa tem como objetivo avaliar o impacto de condições de saúde bucal e fatores socioeconômicos na qualidade de vida escolares de 12 anos.

A pesquisa será desenvolvida na própria escola do seu filho, durante um intervalo de aula. Um mestrando do programa de pós-graduação do curso de odontologia da Universidade Federal De Santa Maria irá realizar um exame na boca de seu/sua filho (a), para verificar as condições de saúde bucal dele (a). Após o exame, seu (sua) filho (a) também responderá a uma entrevista realizada pelos alunos onde ele(a) irá responder como é sua mastigação, fala, alimentação, sua satisfação com o sorriso, entre outros.

Além disso, em anexo, está sendo enviado um questionário para que o senhor (a) responda, com perguntas sobre suas condições socioeconômicas, características da moradia, renda familiar e hábitos de higiene e comunidade onde o adolescente vive.

O adolescente ou o Sr./Sra. não receberão nenhum benefício direto com a pesquisa. Entretanto, indiretamente, a sua participação contribuirá para melhor entendimento científico a respeito do tema pesquisado.

Como esta pesquisa se trata apenas de um exame odontológico, não existe nenhum risco previsto pela participação de seu/sua filho (a), entretanto, ele (a) poderá ficar cansado (a) ao responder o questionário e durante os exames clínicos. Como benefício, o Sr. (Sra.) será informado e orientado a procurar assistência odontológica caso seja observado algum problema durante o exame do (a) seu/sua filho (a). Cabe repetir que o (a) Sr. (Sra.) será orientado a procurar um atendimento, não sendo de responsabilidade desta pesquisa dar garantia de que este atendimento seja realizado caso seja encontrado algum problema no seu filho. Não haverá qualquer custo para fazer parte deste estudo. O adolescente ou o Sr./Sra. não receberão qualquer remuneração por essa participação.

Todos os dados de identificação de seu/sua filho (a) serão mantidos em sigilo. O seu/sua filho (a) poderá se recusar participar da pesquisa a qualquer momento sem que haja qualquer problema. Para esclarecer qualquer dúvida, o (a) senhor (a) poderá falar com o pesquisador pelo telefone escrito no final deste documento.

Eu, _____, acredito ter sido suficientemente informado a respeito das informações que li ou que foram lidas para mim. 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. Ficou claro também que minha participação é isenta de despesas. 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.

Eu, _____, RG_____, declaro que fui devidamente esclarecido (a), e estou de acordo com os termos acima expostos, autorizando a participação de meu/minha filho (a) _____ _____ nesta pesquisa.

Santa Maria, RS, ____ de _____ de 201__.

_____ _____

Assinatura do responsável Assentimento do adolescente

_____

Pesquisador

Qualquer esclarecimento entre em contato com:

Comitê de Ética em Pesquisa da UFSM:

Comitê de Ética em Pesquisa - UFSM - Av. Roraima, 1000 – Prédio da Reitoria -7º andar - Campus Universitário. 97105-900 – Santa Maria – RS. Tel: 0xx553220-9362

e-mail: comiteeticapesquisa@mail.ufsm.br

Prof. Thiago Machado Ardenghi (pesquisador responsável)

Rua Cel. Niederauer, 917, ap.: 208, Santa Maria/RS

Fone: 55-9998-9694

e-mail: thiardenghi@smail.ufsm.br

Clínica de Odontopediatria UFSM

Fone: 32209266 (falar com Fernanda, Guilherme, Joana ou Simone)