

UNIVERSIDADE FEDERAL DE MINAS GERAIS
Faculdade de Odontologia
Colegiado de Pós-Graduação em Odontologia

Alice Machado Carvalho Santos

QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL DE
CRIANÇAS E ADOLESCENTES COM E SEM CÂNCER

Belo Horizonte
2025

Alice Machado Carvalho Santos

QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL DE CRIANÇAS E ADOLESCENTES COM E SEM CÂNCER

Tese apresentada ao Colegiado de Pós-Graduação em Odontologia da Faculdade de Odontologia da Universidade Federal de Minas Gerais, como requisito parcial à obtenção do grau de Doutor em Odontologia - área de concentração em Odontopediatria.

Orientador: Prof. Dr. Saul Martins Paiva

Coorientador: Prof. Dr. Matheus de França Perazzo

Belo Horizonte
2025

Ficha Catalográfica

S237q Santos, Alice Machado Carvalho .
2025 Qualidade de vida relacionada à saúde bucal de crianças
T e adolescentes com e sem câncer / Alice Machado Carvalho
Santos. -- 2025.

163 f. : il.

Orientador: Saul Martins Paiva.

Coorientador: Matheus de França Perazzo.

Tese (Doutorado) -- Universidade Federal de Minas
Gerais, Faculdade de Odontologia.

1. Crianças. 2. Adolescente. 3. Qualidade de vida. 4.
Saúde bucal. 5. Oncologia . I. Paiva, Saul Martins . II.
Perazzo, Matheus de França . III. Universidade Federal de
Minas Gerais. Faculdade de Odontologia. IV. Título.

BLACK - D047



UNIVERSIDADE FEDERAL DE MINAS GERAIS
COLEGIADO DE PÓS-GRADUAÇÃO EM ODONTOLOGIA

ATA DA DEFESA DE TESE DA ALUNA ALICE MACHADO CARVALHO SANTOS

Realizou-se, no dia 17 de junho de 2025, às 14:00 horas, na Sala 3418 da Faculdade de Odontologia, da Universidade Federal de Minas Gerais, a defesa de tese, intitulada *QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL DE CRIANÇAS E ADOLESCENTES COM E SEM CÂNCER*, apresentada por ALICE MACHADO CARVALHO SANTOS, número de registro 2021697104, graduada no curso de ODONTOLOGIA, como requisito parcial para a obtenção do grau de Doutor em ODONTOLOGIA, à seguinte Comissão Examinadora: Prof. Saul Martins de Paiva - Orientador (Faculdade de Odontologia da UFMG), Prof. Matheus de França Perazzo (Universidade Federal de Goiás - UFG), Profa. Camila Silva Peres Cancela (UFMG), Profa. Maria Luiza da Matta Felisberto Fernandes (UFMG), Profa. Milene Aparecida Torres Saar Martins (PUC-MG), Profa. Natália Cristina Ruy Carneiro (Faculdade Anhanguera).

A Comissão considerou a tese:

☒ (X) Aprovada

☐ () Reprovada

Finalizados os trabalhos, lavrei a presente ata que, lida e aprovada, vai assinada por mim e pelos membros da Comissão.

Belo Horizonte, 17 de junho de 2025.

Prof. Saul Martins de Paiva (Doutor)

Prof. Matheus de França Perazzo (Doutor)

Profa. Camila Silva Peres Cancela (Doutora)

Profa. Maria Luiza da Matta Felisberto Fernandes (Doutora)

Profa. Milene Aparecida Torres Saar Martins (Doutora)

Profa. Natália Cristina Ruy Carneiro (Doutora)



Documento assinado eletronicamente por Saul Martins de Paiva, Professor do Magistério Superior, em 17/06/2025, às 14:56, conforme horário oficial de Brasília, com fundamento no art. 5º do [Decreto nº 10.543, de 13 de novembro de 2020](#).



Documento assinado eletronicamente por Maria Luiza da Matta Felisberto Fernandes, Usuária Externa, em 17/06/2025, às 15:45, conforme horário oficial de Brasília, com fundamento no art. 5º do [Decreto nº 10.543, de 13 de novembro de 2020](#).



Documento assinado eletronicamente por Milene Aparecida Torres Saar Martins, Usuário Externo, em 17/06/2025, às 17:32, conforme horário oficial de Brasília, com fundamento no art. 5º do [Decreto nº 10.543, de 13 de novembro de 2020](#).



Documento assinado eletronicamente por Natália Cristina Ruy Carneiro, Usuária Externa, em 17/06/2025, às 20:23, conforme horário oficial de Brasília, com fundamento no art. 5º do [Decreto nº 10.543, de 13 de novembro de 2020](#).



Documento assinado eletronicamente por Matheus de França Perazzo, Usuário Externo, em 17/06/2025, às 23:11, conforme horário oficial de Brasília, com fundamento no art. 5º do [Decreto nº 10.543, de 13 de novembro de 2020](#).



Documento assinado eletronicamente por Camila Silva Peres Cancela, Professora do Magistério Superior, em 18/06/2025, às 11:32, conforme horário oficial de Brasília, com fundamento no art. 5º do [Decreto nº 10.543, de 13 de novembro de 2020](#).



A autenticidade deste documento pode ser conferida no site https://sei.ufmg.br/sei/controlador_externo.php?acao=documento_conferir&id_orgao_acesso_externo=0, informando o código verificador 4214185 e o código CRC EA40AFC5.

Dedico este trabalho a **Deus**, que esteve, está e sempre estará presente em todos os momentos da minha vida e à minha **mãe**: a maior incentivadora dos meus estudos.

AGRADECIMENTOS

Parafraseando Guimarães Rosa, não é na chegada nem na saída que se dispõe o real, e sim na travessia, em conjunto de todos àqueles que compartilham as glórias e contratempos. Dado isso, tantos agradecimentos:

A **Deus**, por sempre guiar o meu caminho, me iluminar nessa jornada e me fazer acreditar que nada nesta vida é por acaso. Obrigada por colocar pessoas boas no meu caminho, as quais eu também tenho muito o que agradecer.

À minha **mãe**, com quem eu divido todos os passos da minha vida, seu incentivo, seu apoio e o seu amor foram essenciais. Sua força, sabedoria e vontade de viver são inspiradoras. Obrigada por tudo!

À **Profa. Dra. Maria Luiza Felisberto Fernandes**, minha primeira orientadora: Foi com você que tudo começou. Você foi minha orientadora tanto no TCC quanto na iniciação científica, e agora, aqui estamos, eu defendendo minha tese de doutorado. Você abre portas, ilumina caminhos e desperta o melhor de nós. Agradeço pelo incentivo e pela inspiração que você é, tanto como profissional, quanto como ser humano.

Ao **Prof. Dr. Saul Martins de Paiva**, que me acolheu desde o início e acreditou em mim. Se eu fosse escolher uma palavra para te definir, seria sensatez. Você é aquela pessoa que, diante de um problema, sempre traz uma solução, de forma tão leve, que nos faz perceber que, na verdade, o único verdadeiro problema é aquele sem solução. Com suas palavras de apoio e com seu jeito calmo e atencioso, me orientou da melhor maneira possível. Pode ter certeza de que, como professor e orientador, você cumpre seu papel com maestria.

Ao **Prof. Dr. Matheus de França Perazzo**, meu coorientador! Olhe o quanto evoluímos: começamos comigo sendo mestranda, e você colaborador na dissertação, e agora chegamos ao final com sua coorientação no doutorado, já como professor da Universidade Federal de Goiás. Este caminho não poderia ter sido diferente, afinal, a sua dedicação é admirável. Agradeço pela confiança, pela compreensão nos momentos desafiadores e, acima de tudo, pela sua visão crítica e inteligência aguçada, que sempre me desafiou a ir além e a buscar soluções mais profundas.

A todos os professores da pós-graduação em Odontologia da UFMG, pelos ensinamentos e pelo empenho em nos tornar profissionais melhores. Em especial ao corpo docente da disciplina de TCC I, por proporcionar aprendizados valiosos aos seus monitores.

Às membras da banca de qualificação do doutorado, **Mariane Barbosa** e **Tahyna Duda Deps**, pelo cuidado e atenção na leitura crítica deste trabalho. Suas contribuições e sugestões foram valiosas e fundamentais para o aprimoramento da tese.

Aos membros da comissão examinadora da minha defesa, que gentilmente aceitarem o convite para compor a banca de avaliação. Vocês foram escolhidos com muito carinho! Tenho plena confiança na inteligência, no conhecimento, na experiência e na dedicação que tiveram para avaliação crítica deste trabalho.

Ao **colegiado de pós-graduação**, ao **Prof. Mauro Abreu** e **sua equipe**, pela gentileza, atenção e agilidade em resolver as nossas demandas.

À minha equipe de pesquisa, **Anna Vitória** e **Isabel Zanforlin**, como dizem vocês “Professor Saul nunca errou em formar esse trio”. Cada uma com uma personalidade e características diferentes, vivendo desafios diferentes, momentos diferentes, tínhamos um propósito em comum: desenvolver um lindo trabalho que fazia sentido para as nossas vidas! Nossa equipe é um exemplo de parceria, amizade, empatia e leveza. Em meio às lutas do dourado, vocês fizeram meus dias mais felizes. Amo vocês.

Em especial, agradeço à minha dupla, **Anna Vitória**, que me ajudou do início ao fim desse trabalho. Faltam palavras para te descrever, faltam palavras para te agradecer! Menina de personalidade, determinada, justa, forte, mas frágil ao mesmo tempo, você tem um coração que agrada à Deus. Mais uma vez eu digo, não acredito em acasos, nosso encontro e nossa amizade tinham que existir! Obrigada por ser você, obrigada pela ajuda estatística, pelos puxões de orelha, por me escutar, me apoiar, me incentivar. “Ai de mim se não fosse você!” Você mora no meu coração.

A todos os colegas do doutorado, obrigada por estarmos juntos! Em especial a minha amiga, **Ana Clara**, sou imensamente grata pelo seu companheirismo e pela sua amizade. Obrigada pelos momentos que passamos juntas. Tenho certeza que você conquistará coisas grandes, sua inteligência e determinação são de impressionar! Acredite na sua capacidade, você e sua mente são brilhantes!

Aos familiares e amigos, que me escutam, me apoiam e me impulsionam com carinho, incentivo e confiança! Com vocês, a caminhada é mais leve.

A **Dra. Camila**, minha médica, um anjo que Deus colocou em minha vida, agradeço por se disponibilizar com prontidão a colaborar com esse trabalho! Agradeço por ter aberto as portas para esta pesquisa e abraçado à nossa causa. Você é um exemplo de ser humano, que fez diferença em minha história de vida e está sempre em minhas orações. Obrigada por tudo!

À **Casa de apoio Aura**, ao **Hospital das Clínicas da UFMG** e ao **Ambulatório Borges da Costa**, onde parte desta pesquisa foi desenvolvida, expresso meus sinceros agradecimentos. Em especial, agradeço ao **Dr. Paulo**, que também fez parte da minha história e esteve à disposição em nos ajudar na coleta de dados. Seu trabalho e carinho com os pacientes são de emocionar! Também não podia deixar de agradecer à **Dra. Priscila**, pela boa vontade, gentileza e atenção com a nossa equipe.

Aos **pacientes e seus familiares**, por terem aceitado de bom grado a participar da nossa pesquisa. Vocês nos deram uma lição de vida. Diante de uma doença, vocês passaram uma imagem de fé, de força, de alegria e esperança, nos fazendo perceber a pequenez dos nossos próprios problemas.

À **Prefeitura de Sete Lagoas** e à **Superintendência Regional de Ensino** pela aprovação da execução do nosso trabalho nas escolas da cidade. Às **diretoras, vice-diretoras, professoras e funcionários das escolas** que participaram desse estudo, agradeço por cederem seus espaços e empenharem para que atingíssemos o número adequado de participantes em nossa amostra. Às **crianças, adolescentes** e aos seus **pais/cuidadores**, que participaram desta pesquisa, meu sincero agradecimento pelas contribuições.

À **Universidade Federal de Minas Gerais (UFMG)**, que me recebeu de braços abertos. É uma honra estudar em uma universidade de referência do nosso país.

Finalmente, à **Coordenação de Aperfeiçoamento de Pessoal no Nível Superior (CAPES)**, pela bolsa de doutorado. No período de bolsista, o apoio financeiro foi essencial para que eu pudesse me dedicar à pesquisa desta tese.

“O que vale na vida não é o ponto de partida e sim a caminhada. Caminhando e semeando, no fim terás o que colher.”

Cora Coralina

RESUMO

Crianças e adolescentes em tratamento oncológico enfrentam diversos desafios, incluindo efeitos adversos que acometem a cavidade bucal e impactam negativamente sua Qualidade de Vida (QV). Este estudo teve como objetivo avaliar a influência do tratamento oncológico, da presença de cárie dentária e de fatores sociodemográficos na QV e na Qualidade de Vida Relacionada à Saúde Bucal (QVRSB) de crianças e adolescentes com e sem diagnóstico de câncer. Trata-se de um estudo transversal com dois grupos: o primeiro composto por 103 crianças e adolescentes em tratamento oncológico, atendidos no Ambulatório Borges da Costa do Hospital das Clínicas da UFMG e acolhidos na Casa de Apoio Aura; o segundo grupo por 50 participantes sem doenças sistêmicas. Os dados foram coletados por meio de questionários estruturados aplicados às mães ou cuidadoras, abrangendo informações sociodemográficas, aspectos do tratamento e cuidados de higiene bucal. A QV foi avaliada por meio da versão brasileira do *PedsQL™ Generic Core Scales*, e a QVRSB pelo *PedsQL™ Oral Health Scale*. Os questionários foram respondidos por mães/cuidadoras de crianças a partir dos 2 anos e por autorrelato das próprias crianças e adolescentes a partir dos 5 anos. Nesses instrumentos, menores escores indicam pior qualidade de vida. Além disso, foi realizado exame clínico para diagnóstico de cárie dentária, utilizando os índices ceo-d e CPO-D, por cirurgiões-dentistas treinadas e calibradas. A amostra foi majoritariamente composta por participantes do sexo masculino (54,4%) e com idade entre 1 e 7 anos (55,3%). Em relação à saúde bucal, 53,4% apresentaram até dois dentes com cárie. Os escores de QV indicaram, segundo o relato das mães, que crianças de 1 a 7 anos tiveram menores médias no domínio “capacidade física” ($73,79 \pm 26,40$). Entre os participantes de 8 a 18 anos, os domínios mais afetados foram “atividade escolar” ($54,98 \pm 31,76$) e “capacidade física” ($66,30 \pm 24,69$). O autorrelato das crianças também refletiu impacto negativo nos mesmos domínios, independentemente da faixa etária. Em relação à QVRSB, os domínios mais comprometidos foram “sensibilidade dentária”, “sangramento gengival” e “dentes escurecidos”, com variações conforme idade e tipo de relato (materno ou autorrelato). Na análise multivariada, entre os participantes com câncer, a presença de experiência de cárie dentária (OR = 5,38; IC 95%: 1,13–25,60) e a idade materna mais elevada (OR = 4,51; IC 95%: 1,91–22,40) foram associadas à pior QVRSB. No grupo sem câncer, nenhuma variável apresentou associação significativa. Em relação à QV geral, crianças e adolescentes entre 8 e 18 anos (OR = 7,12; IC 95%: 11,98–25,51) e aqueles acolhidos em casas de apoio (OR = 4,05; IC 95%: 1,19–3,31) apresentaram escores mais baixos. O relato materno reforçou que o acolhimento institucional esteve associado a maior impacto negativo na QV, em comparação com os participantes que retornavam às suas casas (OR = 9,43; IC 95%: 1,74–50,87). Conclui-se que a presença da experiência de cárie dentária e a idade materna elevada influenciam negativamente a QVRSB, enquanto a QV geral é especialmente comprometida entre crianças mais velhas e aquelas acolhidas em instituições de apoio.

Palavras-chave: criança; adolescente; qualidade de vida; saúde bucal; tratamento oncológico; autorrelato; relato proxy.

ABSTRACT

Quality of life related to oral health of children and adolescents with and without cancer

Children and adolescents undergoing cancer treatment face several challenges, including adverse effects that affect the oral cavity and negatively impact their Quality of Life (QoL). This study aimed to evaluate the influence of cancer treatment, presence of dental caries and sociodemographic factors on the QoL and Oral Health-Related Quality of Life (OHRQoL) of children and adolescents with and without a diagnosis of cancer. This is a cross-sectional study with two groups: the first group comprised 103 children and adolescents undergoing cancer treatment, treated at the Borges da Costa Outpatient Clinic of the Hospital das Clínicas of UFMG and welcomed at the Aura Support Home; the second group comprised 50 participants without systemic diseases. Data were collected through structured questionnaires administered to mothers or caregivers, covering sociodemographic information, aspects of treatment, and oral hygiene care. QoL was assessed using the Brazilian version of the PedsQL™ Generic Core Scales, and OHRQoL was assessed using the PedsQL™ Oral Health Scale. The questionnaires were answered by mothers/caregivers of children aged 2 years and older, and by self-reporting by the children and adolescents aged 5 years and older. In these instruments, lower scores indicate worse quality of life. In addition, a clinical examination for diagnosis of dental caries was performed using the ceo-d and CPO-D indexes by trained and calibrated dental surgeons. The sample was mostly composed of male participants (54.4%) and aged between 1 and 7 years (55.3%). Regarding oral health, 53.4% had up to two teeth with caries. The QoL scores indicated, according to the mothers' reports, that children aged 1 to 7 years had lower averages in the "physical capacity" domain (73.79 ± 26.40). Among participants aged 8 to 18 years, the most affected domains were "school activity" (54.98 ± 31.76) and "physical capacity" (66.30 ± 24.69). Children's self-report also reflected a negative impact on the same domains, regardless of age group. Regarding OHRQoL, the most affected domains were "tooth sensitivity", "bleeding gums" and "darkened teeth", with variations according to age and type of report (maternal or self-report). In the multivariate analysis, among participants with cancer, the presence of dental caries experience (OR = 5.38; 95% CI: 1.13–25.60) and older maternal age (OR = 4.51; 95% CI: 1.91–22.40) were associated with worse OHRQoL. In the group without cancer, no variable showed a significant association. Regarding overall QoL, children and adolescents aged 8 to 18 years (OR = 7.12; 95% CI: 11.98–25.51) and those placed in support homes (OR = 4.05; 95% CI: 1.19–3.31) had lower scores. Maternal reports reinforced that institutional care was associated with a greater negative impact on QoL, compared to participants who returned to their homes (OR = 9.43; 95% CI: 1.74–50.87). It is concluded that the presence of dental caries experience and advanced maternal age negatively influence OHRQoL, while overall QoL is especially compromised among older children and those placed in support institutions.

Keywords: child; adolescent; quality of life; oral health; cancer treatment; self-report; proxy report.

LISTA DE ILUSTRAÇÕES

Quadro 1 – Definição e categorização das variáveis independentes do artigo I.....	26
Quadro 2 – Definição e categorização das variáveis independentes do artigo II.....	27

LISTA DE TABELAS

Tabelas artigo:

Artigo 1

Table 1 - Bivariate analysis of sociodemographic characteristics and clinical oral health indicators in groups with and without leukemia (n = 100).....	45
Table 2 - Mean scores on PedsQL™-OH domains. Difference between parents and children in how oral health-related quality of life was estimated.....	46
Table 3 - Logistic regression of associations between independent variables and oral health-related quality of life of children/adolescents with leukemia (n = 50).....	47
Table 4 - Logistic regression of associations between independent variables and oral health-related quality of life of children/adolescents without leukemia (n = 50)	48

Artigo 2

Table 1 - Sample characterization (n=103).....	66
Table 2 - Description of the average of the PedsQL4.0 domains. Difference between parents and children in the way they estimated quality of life(n=103).....	68
Table 3 - Logistic regression for the association of child characteristics, clinical status of the disease and the impact on overall quality of life (n=103).....	69
Table 4 - Logistic regression for the association of child/adolescent characteristics, clinical status of the disease and the impact on overall quality of life, according to proxy report (n = 103).....	72

LISTA DE ABREVIATURAS E SIGLAS

CAAE	Certificado de Apresentação de Apreciação Ética
Ceo-d	Dentes decíduos: Cariados, Extração Indicada e Obturados
COEP	Comitê de Ética em Pesquisa em Seres Humanos
CPO-D	Dentes Permanentes: Cariados, Perdidos e Obturados
EPI	Equipamento de Proteção Individual
LLA	Leucemia Linfóide Aguda
PedsQL™-OH	<i>Pediatric Quality of Life Inventory™ Oral Health Scale</i>
QV	Qualidade de Vida
QVRSB	Qualidade de Vida Relacionada à Saúde Bucal
TALE	Termo de Assentimento Livre e Esclarecido
TCLE	Termo de Consentimento Livre e Esclarecido
SPSS	<i>Statistical Package for Social Sciences</i>
UFMG	Universidade Federal de Minas Gerais

SUMÁRIO

1 CONSIDERAÇÕES INICIAIS.....	17
2 OBJETIVOS.....	19
2.1 Objetivo geral.....	19
2.2 Objetivos específicos.....	19
2.2.1 Objetivos específicos artigo I.....	19
2.2.2 Objetivos específicos artigo II.....	19
3 METODOLOGIA EXPANDIDA.....	21
3.1 Desenhos de estudo.....	21
3.1.1 Desenho de estudo do artigo I.....	21
3.1.2 Desenho de estudo do artigo II.....	21
3.2 Áreas do estudo.....	21
3.2.1 Áreas do estudo do artigo I.....	21
3.2.2 Áreas do estudo do artigo II.....	22
3.3 Populações do estudo.....	22
3.3.1 População do estudo do artigo I.....	22
3.3.2 População do estudo do artigo II.....	22
3.4 Critérios de elegibilidade.....	23
3.4.1 Critérios de elegibilidade do artigo I.....	23
3.4.2 Critérios de elegibilidade do artigo II.....	24
3.5 Elenco de variáveis.....	24
3.6 Calibração dos examinadores.....	28
3.7 Estudo piloto.....	28
3.8 Coleta dos dados/aspectos éticos.....	28
3.9 Análise dos dados.....	30
4 ARTIGOS	32
Artigo I.....	32
Artigo II.....	54

5 CONSIDERAÇÕES FINAIS	79
REFERÊNCIAS.....	80
APÊNDICE A – Aprovação Superintendência Regional de Ensino.....	84
APÊNDICE B – Aprovação Secretaria Municipal de Educação de Sete Lagoas..	85
APÊNDICE C – Aprovação das escolas.....	86
APÊNDICE D – Carta de apresentação do estudo e termo de consentimento livre e esclarecido para pais/cuidadores das crianças e adolescentes de 1 a 17 anos.....	88
APÊNDICE E – Carta de apresentação do estudo e termo de assentimento livre e esclarecido para crianças de 5-7 anos.....	92
APÊNDICE F – Carta de apresentação do estudo e termo de assentimento livre e esclarecido para crianças de 8-12 anos.....	95
APÊNDICE G – Carta de apresentação do estudo e termo de assentimento livre e esclarecido para adolescentes de 13-18 anos.....	98
APÊNDICE H – Questionário de características individuais, sociodemográficas, socioeconômicas e sobre saúde geral e saúde bucal.....	101
APÊNDICE I – Termo de autorização para utilização de imagem para fins acadêmicos.....	104
APÊNDICE J – Termo de autorização para utilização de imagem para fins acadêmicos.....	105
APÊNDICE K – Exame clínico bucal.....	106
ANEXO A – Aprovação do Comitê de Ética em Pesquisa.....	107
ANEXO B – Aprovação Ambulatório Borges da Costa.....	112
ANEXO C – Aprovação AURA – Casa de Apoio a Crianças e Adolescentes com Câncer e Transplantados.....	113
ANEXO D – Autorização para uso dos questionários PedsQL.....	115
ANEXO E – Termos gerais do contrato de licença do usuário para uso dos questionários PedsQL.....	115
ANEXO F – Instrução aos autores da revista científica Oral Diseases.....	116

ANEXO G – Instrução aos autores da revista científica Clinical Oral	
Investigations.....	129
PERSPECTIVAS FUTURAS.....	153
ATIVIDADES DESENVOLVIDAS DURANTE O CURSO DE DOUTORADO.....	154

1 CONSIDERAÇÕES INICIAIS

O câncer pediátrico é um importante problema de saúde pública no Brasil, representando 8% do total de óbitos na infância (Santos *et al.*, 2023). Dentre os tipos de câncer mais prevalentes na infância, as leucemias — neoplasias hematológicas malignas decorrentes da multiplicação de um clone de células hematopoiéticas da medula óssea — destacam-se por sua frequência e gravidade (Seth; Singh, 2015; Siegel *et al.*, 2023). Essa condição pode ser classificada com base em sua origem celular (mieloide ou linfoide) e comportamento clínico (aguda ou crônica), sendo a Leucemia Linfoide Aguda (LLA) o tipo mais comum diagnosticado na infância (Neto *et al.*, 2023; Kaplan, 2019; Seth; Singh, 2015; Terwilliger, Abdul-Hay, 2017). Trata-se do câncer mais comum na população pediátrica, correspondendo a aproximadamente um terço de todos os casos, sendo sua etiologia ainda indefinida (Cui; Yan, 2024; Faria *et al.*, 2014; Seth; Singh, 2015).

O tratamento é geralmente realizado através de quimioterapia, que, embora eficaz, está associada a diversos efeitos adversos, tanto sistêmicos quanto orais (National Cancer Institute, 2024; Raghubar *et al.*, 2022). Entre os efeitos colaterais mais comuns estão fadiga, náuseas, distúrbios do sono, dor e sintomas depressivos (Rodgers *et al.*, 2019). Em relação à saúde bucal, complicações como mucosite, úlceras, candidíase e cárie dentária são recorrentes e afetam de forma significativa o bem-estar do paciente (Juárez-López *et al.*, 2018; Raghubar *et al.*, 2022; Wang *et al.*, 2021). Essas manifestações podem interferir diretamente na alimentação, na fala, no sono e nas interações sociais, além de aumentarem o risco de infecções e, em casos mais graves, levarem à interrupção do tratamento oncológico (Kilic *et al.*, 2023).

Diante da complexidade do tratamento e da multiplicidade de sintomas, a avaliação da Qualidade de Vida (QV) de crianças e adolescentes com câncer tornou-se um foco importante de estudos recentes (Choo *et al.*, 2019; Nagarajan *et al.*, 2019; Nunes *et al.*, 2019; Sun *et al.*, 2023). A QV é um conceito multidimensional que abrange a percepção do indivíduo sobre sua condição de vida em relação a seus objetivos, valores e expectativas, e em crianças oncológicas pode ser drasticamente afetada pelas mudanças abruptas na rotina, pelas limitações físicas e emocionais e

pelas complicações decorrentes do tratamento (Ferrans, 1996; Nelly *et al.*, 2022; Wu *et al.*, 2024).

Especificamente, a Qualidade de Vida Relacionada à Saúde Bucal (QVRSB) desta população surge como um aspecto relevante, mas ainda pouco explorado na literatura. A QVRSB refere-se ao impacto da saúde ou doença bucal no funcionamento diário, bem-estar e qualidade de vida de um indivíduo (Goursand *et al.*, 2009). Estudos recentes indicam que a saúde bucal de pacientes oncológicos pediátricos influencia diretamente sua recuperação, adesão ao tratamento e percepção de bem-estar (Choo *et al.*, 2019; Rodgers *et al.*, 2019; Sun *et al.*, 2023). Crianças e adolescentes com leucemia tendem a apresentar piores índices de QVRSB quando comparados a seus pares saudáveis, como demonstrado em estudos comparativos (Kilic *et al.*, 2023). Complicações bucais não apenas comprometem o estado nutricional e a higiene oral, mas também agravam o sofrimento emocional e social (Barbosa; Ribeiro; Caldo-Teixeira, 2010; Coça *et al.*, 2019).

A compreensão da interrelação entre saúde bucal e saúde geral é essencial, sobretudo em contextos de vulnerabilidade como em casos de tratamento oncológico infantil. Além disso, fatores sociodemográficos — como renda, escolaridade dos pais e acesso aos serviços de saúde — também influenciam a QV geral e relacionada à saúde bucal e podem acentuar desigualdades no cuidado e nos desfechos clínicos (Doubova *et al.*, 2020; Silva *et al.*, 2023). Considerar essas variáveis é fundamental para a formulação de políticas públicas mais eficazes e de programas de saúde bucal integrados ao tratamento oncológico.

Portanto, este estudo teve como objetivo avaliar o impacto das condições bucais e dos aspectos sociodemográficos na qualidade de vida geral e relacionada à saúde bucal de crianças e adolescentes com câncer e comparar com crianças e adolescentes sem câncer. A partir da identificação das áreas mais afetadas, espera-se propor intervenções específicas que contribuam para a melhoria da saúde bucal e da qualidade de vida desses pacientes, promovendo um cuidado mais integral, humanizado e centrado nas reais necessidades da população pediátrica oncológica.

2 OBJETIVOS

2.1 Objetivo geral

- Avaliar o impacto das condições bucais e dos aspectos sociodemográficos na QV e na QVRSB de crianças e adolescentes com e sem câncer.

2.2 Objetivos específicos

2.2.1 Objetivos específicos artigo I

- Avaliar o impacto da presença de cárie dentária e de aspectos sociodemográficos na QVRSB de crianças e adolescentes com e sem leucemia.
- Avaliar as condições bucais dos pacientes infantis com leucemia que realizavam tratamento no Ambulatório Borges da Costa;
- Avaliar as condições bucais de crianças e adolescentes sem leucemia matriculados em escolas do município de Sete Lagoas -MG;
- Levantar o perfil sociodemográfico dos pacientes infantis com leucemia que realizavam tratamento no Ambulatório Borges da Costa;
- Levantar o perfil sociodemográfico de crianças e adolescentes sem leucemia matriculados em escolas do município de Sete Lagoas -MG.

2.2.2 Objetivos específicos artigo II

- Investigar o impacto do tratamento oncológico e da presença de cárie dentária na QV de crianças e adolescentes, utilizando a autopercepção e a percepção materna.
- Avaliar as condições bucais dos pacientes infantis com câncer que realizavam tratamento no Ambulatório Borges da Costa;
- Avaliar as condições bucais dos pacientes infantis com câncer acolhidos na casa de apoio Aura.

- Levantar o perfil sociodemográfico dos pacientes infantis com câncer que realizavam tratamento no Ambulatório Borges da Costa;
- Levantar o perfil sociodemográfico de crianças e adolescentes com câncer acolhidos na casa de apoio Aura.

3 METODOLOGIA EXPANDIDA

3.1 Desenhos de estudo

3.1.1 Desenho de estudo do artigo I

Trata-se de um estudo transversal comparativo entre dois grupos, com e sem leucemia. Os grupos de estudo foram constituídos em função da presença ou não da doença.

3.1.2 Desenho de estudo do artigo II

Foi desenvolvido um estudo quantitativo do tipo observacional transversal com crianças/adolescentes que estavam em tratamento oncológico.

3.2 Áreas do estudo

3.2.1 Áreas do estudo do artigo I

O estudo foi desenvolvido com dois grupos em locais distintos, durante o período de 2021 a 2022. O primeiro grupo consistiu em pacientes com leucemia atendidos no Ambulatório Borges da Costa, localizado na unidade de Hematologia e Oncologia do Hospital das Clínicas da Universidade Federal de Minas Gerais (UFMG), que é um hospital de referência no tratamento dessa doença (Simal & Parisotto, 2011). O Ambulatório Borges da Costa é reconhecido como uma referência estadual no tratamento de leucemia e outras doenças oncológicas em Minas Gerais, oferecendo serviços especializados e sendo também uma opção para pacientes de outros estados que buscam atendimento especializado.

O segundo grupo foi formado por crianças e adolescentes sem leucemia, avaliados em duas escolas públicas do município de Sete Lagoas, sendo a escolha dessas instituições definida por conveniência, configurando uma amostra por conveniência. A escolha do município se justifica pela presença significativa de pacientes com leucemia que residem no interior do estado, tornando Sete Lagoas um local estratégico para a coleta de dados, dado sua proximidade com Belo Horizonte, localizado a aproximadamente 72 quilômetros de distância, com uma população estimada de 227.397 pessoas, sendo o município mais populoso da microrregião,

segundo o Instituto Brasileiro de Geografia e Estatística – IBG (Brasil, 2020). A cidade apresenta um Índice de Desenvolvimento Humano (IDH) de 0,740, indicando um IDH médio (Brasil, 2010).

3.2.2 Áreas do estudo do artigo II

O estudo II também foi desenvolvido no Ambulatório Borges da Costa, mantendo a continuidade do vínculo com o Hospital das Clínicas da UFMG, além de incluir como novo cenário a Casa de Apoio Aura. Localizada em Belo Horizonte, a Casa de Apoio Aura é uma instituição sem fins lucrativos que oferece suporte a crianças e adolescentes em tratamento oncológico, assim como a seus acompanhantes, provenientes do interior de Minas Gerais e de outros estados. A instituição disponibiliza hospedagem, alimentação, transporte e apoio psicossocial, buscando garantir boas condições de permanência na capital durante o tratamento.

3.3 Populações do estudo

3.3.1 População do estudo do artigo I

O hospital recebe, em média, 20 novos pacientes por ano, e o tratamento para leucemia dura cerca de 3 anos. Assim, a quantidade média de crianças e adolescentes em tratamento simultaneamente é de 60, resultado da soma de 20 pacientes por ano durante três anos. Para controlar as variáveis de confusão, o grupo sem leucemia foi constituído por crianças e adolescentes de ambos os sexos e na mesma faixa etária.

3.3.2 População do estudo do artigo II

A população do estudo II foi composta por 103 crianças e adolescentes, número superior ao do artigo I. Esse aumento se deve à ampliação do local de coleta de dados, que passou a incluir, além do Ambulatório Borges da Costa, a Casa de Apoio Aura. A inclusão da Casa de Apoio possibilitou o acesso a um número maior de pacientes em tratamento oncológico, que estavam em tratamento para outros tipos de câncer, não só leucemia, em diversos hospitais da cidade, especialmente aqueles provenientes do interior do estado que permanecem na capital durante o tratamento.

3.4 Critérios de elegibilidade

3.4.1 Critérios de elegibilidade artigo I

3.4.1.1 Critérios de inclusão

Grupo com leucemia:

- Criança/adolescente de 2 a 17 anos de idade, de ambos os sexos que realizavam tratamento de leucemia no Ambulatório Borges da Costa na Unidade de Hematologia e Oncologia do Hospital das Clínicas da UFMG.

Grupo sem leucemia:

- Crianças/adolescentes sem leucemia de 2 a 17 anos de idade, de ambos os sexos matriculadas em escolas do município de Sete Lagoas – MG. Esse grupo foi pareado com o grupo com leucemia por sexo e idade.

3.4.1.2 Critérios de exclusão

Grupo com leucemia:

- Crianças/adolescentes que apresentassem outras doenças ou síndromes, concomitantes à leucemia;
- Crianças/adolescentes que estivessem em tratamento odontológico reabilitador;
- Crianças/adolescentes com algum problema de saúde agudo no dia da pesquisa;
- Crianças/adolescentes que apresentassem deficiência intelectual ou dificuldades cognitivas, relatadas pelas mães/cuidadoras;

Grupo sem leucemia:

- Crianças/adolescentes que apresentassem alguma doença sistêmica ou alguma síndrome;
- Crianças/adolescentes que estivessem em tratamento odontológico;

- Crianças/adolescentes com algum problema de saúde agudo no dia da pesquisa;
- Crianças/adolescentes que apresentassem deficiência intelectual ou dificuldades cognitivas, relatadas pelas mães/cuidadoras ou professores (as);

3.4.2 Critérios de elegibilidade artigo II

3.4.2.1 Critérios de inclusão

- Crianças/adolescentes de 1 a 18 anos de idade, de ambos os sexos que estavam em tratamento oncológico no Ambulatório Borges da Costa na Unidade de Hematologia e Oncologia do Hospital das Clínicas da UFMG e que estavam acolhidos na Casa de apoio Aura.

3.4.2.2 Critérios de exclusão

- Crianças/adolescentes que apresentassem outra doença sistêmica ou alguma síndrome;
- Crianças/adolescentes que estivessem em tratamento odontológico reabilitador;
- Crianças/adolescentes com algum problema de saúde agudo no dia da pesquisa;
- Crianças/adolescentes que apresentassem deficiência intelectual ou dificuldades cognitivas, relatadas pelas mães/cuidadoras;

3.5 Elenco de variáveis

3.5.1 Variáveis dependentes

1. Qualidade de Vida

A QV de crianças e adolescentes foi avaliada por meio do instrumento genérico Pediatric Quality of Life Inventory – PedsQL™ 4.0, versão brasileira, aplicado tanto às crianças/adolescentes quanto às mães/cuidadoras. O questionário,

originalmente desenvolvido por Varni *et al.* (2001) e validado no Brasil por Klatchoian *et al.* (2008), é amplamente utilizado para medir a percepção de qualidade de vida em populações pediátricas, com e sem condições crônicas de saúde. O PedsQL™ 4.0 é composto por 23 itens distribuídos em quatro domínios: funcionamento físico, emocional, social e escolar. O instrumento apresenta versões paralelas de autorrelato (crianças e adolescentes) e relato *proxy* (pais ou responsáveis), adequadas para diferentes faixas etárias: 5 a 7, 8 a 12 e 13 a 18 anos, no caso do autorrelato, e de 2 a 4, 5 a 7, 8 a 12 e 13 a 18 anos para o relato *proxy*. Cada item é respondido em uma escala de 5 pontos, onde 0 significa "nunca é um problema" e 4 significa "quase sempre é um problema". Os escores são invertidos e transformados em uma escala de 0 a 100 (0 = 100, 1 = 75, 2 = 50, 3 = 25, 4 = 0), sendo que escores mais altos indicam melhor qualidade de vida relacionada à saúde. A escolha do PedsQL™ 4.0 se justifica por ser um instrumento validado, confiável e específico para a população pediátrica. A aplicação do questionário em ambas as perspectivas — da criança/adolescente e de seu cuidador — oferece uma visão mais abrangente sobre o impacto da condição de saúde na qualidade de vida, permitindo identificar divergências de percepção entre pacientes e seus cuidadores e orientando abordagens de cuidado mais sensíveis às necessidades do núcleo familiar.

2. Qualidade de vida relacionada à saúde bucal

A influência das condições bucais sobre a QV de crianças e adolescentes foi avaliada pela versão brasileira do instrumento PedsQL™-OH aplicada em ambos os grupos.

A Escala de Saúde Oral é constituída por cinco itens e possui duas versões paralelos para o autorrelato infantil e para o relato *proxy*. O autorrelato é adequado para crianças e adolescentes nas faixas etárias de 5 a 7, 8 a 12 e 13 a 18 anos. Enquanto o relato *proxy* compreende as idades de 2 a 4, 5 a 7, 8 a 12 e 13 a 18 anos. Uma escala de resposta de 5 pontos é utilizada sendo que o número 0 representa a resposta: nunca é um problema; o número 1 representa a resposta: quase nunca é um problema; O número 2: às vezes é um problema; O número 3: geralmente é um problema; e o número 4: quase sempre é um problema. Os escores dos itens são invertidos e transformados linearmente em uma escala de 0 a 100 (0 =

100, 1 = 75, 2 = 50, 3 = 25, 4 = 0), de modo que escores mais altos indicam melhor QVRSB (Bendo *et al.*, 2012; Steele, Steele, Varni, 2009).

Este instrumento foi escolhido em virtude de ter sido desenvolvido especificamente para esta faixa etária e já ter sido validado para uso em crianças e adolescentes no Brasil. Além disso, o questionário possibilita medir o impacto da saúde bucal nos domínios da saúde geral, diferente de outros questionários de QVRSB encontrados na literatura (BENDO *et al.*, 2012). Ademais, ao abordar questões específicas como dor, sensibilidade, condições gengivais e a cor dos dentes, o PedsQL™-OH proporciona dados valiosos que podem orientar intervenções clínicas focadas na melhoria da saúde bucal.

3.5.2 Variáveis independentes:

No quadro 1 são encontradas as variáveis independentes do artigo I. No quadro 2 são encontradas as variáveis independentes do artigo II. As variáveis foram categorizadas a partir da média, sendo que os valores acima da média foram agrupados em uma categoria e os valores abaixo da média em outra.

Quadro 1 - Definição e categorização das variáveis independentes do artigo I

TIPO DE VARIÁVEL	DEFINIÇÃO DA VARIÁVEL	CATEGORIZAÇÃO
Sexo	Sexo do participante	0. Masculino 1. Feminino
Idade	Idade do participante	0. 2-7 anos 1. 8-17 anos
Idade da mãe da criança/adolescente	Idade em anos	0. Até 36 anos 1. Mais de 36 anos
Renda Familiar mensal	Renda arrecadada por todos os membros da família durante o mês	0. Menor ou igual a 2 salários mínimos 1. Maior que 2 salários mínimos
Pais separados	Relato do respondente se a criança/adolescente vive com o pai e a mãe na mesma casa	0. Sim 1. Não
Presença de cárie dentária	Presença de experiência de cárie dentária avaliada pelo	0. Ausente 1. Presente

índice ceod/CPOD (OMS, 2013)

Elaborado pela a autora, 2025, p. 27

Para as crianças do grupo com leucemia, a presença da doença foi avaliada pelo prontuário médico que confirmava a doença. Já para os participantes sem leucemia, a ausência da doença foi confirmada pela própria criança/adolescente ou por seus pais/cuidadores.

Quadro 2 - Definição e categorização das variáveis independentes do artigo II

VARIÁVEL	DEFINIÇÃO DA VARIÁVEL	CATEGORIZAÇÃO
Sexo	Sexo da criança/adolescente	0: Masculino 1: Feminino
Idade	Idade da criança/adolescente	0: 1 a 7 1: 8 a 18
Estuda	A criança estuda	0: sim 1: não
Idade da mãe/responsáveis	Idade da mãe/responsáveis em anos	0: Até 8 anos de estudo 1: Mais de 8 anos de estudo
Nível de escolaridade das mãe/responsáveis	Anos de estudo das mãe/responsáveis	0: $\leq$ 8 anos de estudo 1: $>$ 8 anos de estudo
Local da pesquisa	Local onde foi realizada a pesquisa	0: Hospital 1: Casa de Apoio
Onde a família mora	Em que local a família mora?	0: Belo Horizonte 1: Outra Cidade
Diagnóstico da patologia	Qual tipo da neoplasia	0: Câncer hematológico e linfático 1: Outro tipo de câncer
Tratamento	Tipo de tratamento	0: Quimioterapia 1: Outro
Higiene dos dentes	Quantas vezes escova os dentes?	0: Até 2 vezes 1: Mais de 2 vezes
Dentes cariados	Quantidade de dentes cariados?	0: Até 2 dentes 1: Mais de 2 dentes

Elaborado pela autora, 2025, p. 27

3.6 Calibração dos examinadores

Para garantir a padronização dos critérios de diagnóstico para cárie dentária, tornou-se fundamental que as três examinadoras envolvidas no estudo participassem de um treinamento antes do início da coleta de dados, como a calibração dos examinadores (Peres; Traebert; Marcene, 2001).

A calibração foi realizada em duas etapas: treinamento teórico e calibração prática. Na etapa teórica, as examinadoras utilizaram fotografias de dentes com cárie dentária para discutir e uniformizar os critérios de diagnóstico. Esta fase contou com o auxílio de um especialista considerado padrão-ouro em diagnóstico de cárie dentária. Além disso, os examinadores leram e releam os questionários de entrevista para se familiarizarem com as questões.

Após o treinamento teórico, os pesquisadores responderam a um teste com imagens para diagnosticar cárie dentária. Quatorze dias depois, foi realizado um reteste para avaliar a consistência intraexaminador. O teste Kappa foi utilizado para a verificação da concordância inter e intraexaminadores, resultando em kappa = 0,92 (CPO-D/ceo-d - intraexaminador), kappa = 0,79 (CPO-D/ceo-d – interexaminador). De acordo com Siegel e Castellan (1988), valores de kappa entre 0,61 e 0,80 indicam boa concordância, enquanto valores superiores a 0,80 indicam ótima concordância.

3.7 Estudo piloto

O estudo piloto teve como objetivo avaliar o método de coleta de dados e a adequação dos instrumentos utilizados. Foi realizado com 10% da amostra inicial, composta por pacientes em tratamento no ambulatório, com o objetivo de testar a viabilidade dos exames clínicos e a aplicação dos questionários. Como não foram identificadas necessidades de ajustes para o estudo principal, os participantes do estudo piloto foram incluídos na amostra final.

3.8 Coleta de dados/ Aspectos éticos

Previamente à coleta de dados, o estudo foi submetido e aprovado pelo Comitê de Ética em Pesquisa em Seres Humanos (COEP) da Universidade Federal de Minas Gerais (UFMG), sob o Certificado de Apresentação de Apreciação Ética

(CAAE) 67189617.2.1001.5149 (ANEXO A). Além disso, recebeu autorização para ser executado no Ambulatório Borges da Costa (ANEXO B) e na Casa de Apoio Aura (ANEXO C). Foi aprovado pela Superintendência Regional de Ensino (APÊNDICE A) e Secretaria Municipal de Educação de Sete Lagoas (APÊNDICE B), onde a coleta de dados do grupo comparativo foi realizada. Os diretores das escolas participantes permitiram a realização da pesquisa em suas dependências (APÊNDICE C).

Um sorteio aleatório dos alunos das escolas participantes foi realizado para selecionar os que seriam convidados a participar do estudo. Uma carta de apresentação do estudo, juntamente com os termos de consentimento livre e esclarecidos (TCLE), foram enviados às mães/responsáveis legais pelas crianças e adolescentes selecionados, explicando os objetivos do estudo e solicitando a autorização para a participação (APÊNDICE D). Os pais/cuidadores dos pacientes do ambulatório Borges da Costa e da casa de Apoio Aura assinaram pessoalmente os termos de consentimento. As crianças e adolescentes também receberam um termo de assentimento livre e esclarecido (TALE) (APÊNDICES E, F, G). Foi assegurado aos participantes o direito a desistir a qualquer momento de participar do estudo. Dados individuais, socioeconômicos, sociodemográficos e relacionados à saúde geral e saúde bucal também foram coletados (APÊNDICE H).

Além dos termos de consentimento e assentimento, também foi necessário coletar a assinatura dos participantes em um termo de autorização para uso de imagens, caso fosse necessário a realização de fotografias da cavidade bucal das crianças/adolescentes (APÊNDICES I E J).

Esta pesquisa ofereceu riscos mínimos aos indivíduos, como: riscos de constrangimento e incômodo ao se responder questionários com indagações pessoais como vergonha, tristeza, cansaço, preocupação com discriminação de raça, sexo, riqueza, opinião ou preocupação por não entender alguma pergunta. Assim, foi assegurado o direito da autonomia em não responder a qualquer questionamento que faça o participante se sentir inferiorizado ou coagido.

3.8.1 Exame clínico

Para se detectar as condições de saúde bucal, foi realizado o exame clínico (APÊNDICE K) com as crianças e adolescentes. Nos três locais de pesquisa, os exames foram conduzidos em salas reservadas, sob luz artificial. Os participantes

sentaram-se em cadeiras de frente para o examinador, que utilizou um espelho clínico para a avaliação.

Os examinadores estavam paramentados com o equipamento de proteção individual (EPI), incluindo luvas descartáveis, máscara, avental, gorro e óculos de proteção, garantindo a segurança e higiene durante o exame clínico. Esses materiais foram custeados por meio de bolsas de estudos concedidas às pesquisadoras.

3.8.2 Aplicação dos questionários de qualidade de vida

O instrumento PedsQL foi desenvolvido para fornecerem autorrelato e um heterorrelato (relato dos pais), com isso, foi aplicado para as crianças/adolescentes e seus pais/cuidadores. O questionário foi aplicado em formato de entrevista para os participantes do grupo com câncer. Para os participantes do grupo sem leucemia, apenas as crianças e adolescentes responderam o questionário em formato de entrevista, uma vez que as mães desses indivíduos não estavam presentes no momento da coleta de dados. O questionário destinado às mães foi enviado para que pudesse ser respondido em casa.

Para a aplicação do questionário foi concebida uma autorização do grupo do PedsQL através do site <http://www.pedsq.org/conditions.html> (ANEXOS D e E).

3.9 Análise de dados

A organização e análise dos dados foram realizadas por meio do software *Statistical Package for the Social Sciences* (SPSS for Windows, versão 21.0, IBM Inc., Armonk, NY, USA). Para a caracterização da amostra, utilizou-se a distribuição de frequência das variáveis. Foram calculadas as médias dos escores totais e dos domínios do instrumento PedsQL™ 4.0 aplicados a pacientes com câncer.

Adicionalmente, foram comparadas as médias dos escores totais e dos domínios do PedsQL™-OH entre dois grupos: (1) crianças/adolescentes com leucemia e suas respectivas mães/cuidadoras, e (2) crianças/adolescentes sem leucemia e suas mães/cuidadoras.

Para a categorização do impacto na QV e na QVRSB, utilizou-se como ponto de corte a média dos escores obtidos. Participantes com escores acima da média foram classificados como apresentando menor impacto na qualidade de vida.

A análise de regressão logística foi conduzida para investigar associações entre a QV e as variáveis independentes, bem como entre a QVRSB e as variáveis independentes. As variáveis com $p < 0,20$ nas análises multivariadas ajustadas foram mantidas no modelo final de regressão.

4 ARTIGOS

A partir dos resultados desta tese, foram elaborados dois artigos científicos, detalhados nos tópicos 4.1 e 4.2.

4.1 ARTIGO I

O manuscrito I foi elaborado seguindo as normas de publicação do periódico *Oral Diseases* (ANEXO F), que possui fator de impacto 2.9.

Oral health-related quality of life of children and adolescents with and without leukemia: a comparative study

Alice Machado Carvalho Santos¹, Anna Vitória Mendes Viana Silva², Isabel Zanforlin Freitas³, Camila Silva Peres Cancela⁴, Matheus França Perazzo⁵, Saul Martins Paiva⁶

1. E-mail: alicemachado_santos@hotmail.com
Department of Pediatric Dentistry, School of Dentistry, Federal University of Minas Gerais (UFMG), Belo Horizonte, MG, Brazil.
2. E-mail: annavitoriaavitoriamendes@gmail.com
Department of Pediatric Dentistry, School of Dentistry, Federal University of Minas Gerais (UFMG), Belo Horizonte, MG, Brazil.
3. E-mail: isabelzanforlin89@gmail.com
Department of Pediatric Dentistry, School of Dentistry, Federal University of Minas Gerais (UFMG), Belo Horizonte, MG, Brazil.
4. E-mail: camilacancela@me.com
Department of Pediatrics, Federal University of Minas Gerais (UFMG), Belo Horizonte, MG, Brazil.
5. E-mail: m.f.perazzo@outlook.com
Department of Dentistry, School of Dentistry, Federal University of Goiás (UFG), Goiânia, GO, Brazil.
6. E-mail: smpaiva@uol.com.br
Department of Pediatric Dentistry, School of Dentistry, Federal University of Minas Gerais (UFMG), Belo Horizonte, MG, Brazil.

CORRESPONDING AUTHOR

Alice Machado Carvalho Santos

Department of Pediatric Dentistry, School of Dentistry, Federal University of Minas Gerais (UFMG), Belo Horizonte, MG, Brazil.

Prof. Moacir Gomes de Freitas, 688, Belo Horizonte, MG, Brazil.

E-mail: alicemachado_santos@hotmail.com

AUTHOR CONTRIBUTIONS

AMCS Conceptualization, Investigation, Writing - Original draft, Writing - Review and editing.

AVMVS Conceptualization, Investigation, Writing - Original draft, Writing - Review and editing.

IZF Conceptualization, Investigation, Writing - Original draft, Writing - Review and editing.

CSPC Conceptualization, Writing - Original draft, Writing - Review.

MFP Conceptualization, Writing - Review and editing, Project supervision and administration.

SMP Conceptualization, Writing - Review and editing, Project supervision and administration

FINANCIAL SUPPORT

This study was funded by the National Council for Scientific and Technological Development (CNPq) (Projects: INCT Oral Health and Dentistry 406840/2022-9 and 130103/2021-7) and the Coordination for the Advancement of Higher Education Personnel (CAPES) – Funding Code 001.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the research, authorship, and/or publication of this article.

ACKNOWLEDGMENTS

The authors would like to thank the Brazilian funding agencies that contributed to the financing of the study: the National Council for Scientific and Technological Development (CNPq) and the Coordination for the Advancement of Higher Education Personnel (CAPES).

ETHICAL ASPECTS

The study received approval from the Human Research Ethics Committee of the Federal University of Minas Gerais (CAAE 67189617.2.1001.5149) and the Borges da Costa Outpatient Clinic of the hospital affiliated with the Federal University of Minas Gerais. Data collection for the comparative group was also authorized by the Regional Superintendence of Education and the Municipal Department of Education of the municipality of Sete Lagoas, Brazil. All participants and their guardians received clarifications with regards to the objectives, risks, and benefits of the study, and signed informed consent/assent forms, ensuring transparency and adherence to ethical standards.

ABSTRACT

Objective: To investigate the impact of oral conditions and sociodemographic characteristics on the oral health-related quality of life (OHRQoL) of children and adolescents with and without leukemia. **Methods:** A comparative cross-sectional study was conducted. The leukemia group consisted of 50 patients of both sexes two to 17 years of age undergoing treatment at a referral hospital in the city of Belo Horizonte, Brazil, along with their parents or caregivers. The comparative group was composed of 50 healthy children and adolescents matched for sex and age. OHRQoL was assessed using the Brazilian version of the Pediatric Quality of Life Inventory™ Oral Health Scale (PedsQL™-OH). Sociodemographic and health data were collected through questionnaires, completed by the participants' parents or caregivers. Three researchers performed oral examinations for the diagnosis of dental caries experience using the dmft/DMFT index. Data analysis was performed using SPSS version 21.0, with normality tests, bivariate analysis, and both adjusted and unadjusted binary logistic regression ($\alpha=5\%$). **Results:** Most participants were male (56%) and between two and seven years of age. Lower scores on the PedsQL™-OH were found in the domains of tooth sensitivity and gum bleeding for ages 2-7 years and tooth sensitivity for ages 8-17 years. In the final model, a negative impact on OHRQoL in the leukemia group was 4.51 times more likely among those participants whose mothers were older (OR = 4.51; 95% CI: 0.91-22.40) and 5.38 times more likely among those with caries experience (OR = 5.38; 95% CI: 1.13-25.60). In the group of children and adolescents without leukemia, none of the variables analyzed were significantly associated with OHRQoL. **Conclusion:** Mother's age and dental caries experience exerted a negative impact on OHRQoL in the group of children and adolescents with leukemia, but not the group without leukemia.

Keywords: leukemia – child – adolescent – quality of life – oral health – cross-sectional studies.

INTRODUCTION

Leukemias are the most common malignant neoplasms diagnosed in childhood (Cui & Yan, 2019), with acute lymphoblastic leukemia (ALL) accounting for more than 70% of cases (Terwilliger & Abdul-Hay, 2017; de Souza Neto *et al.*, 2023). In the United States, the annual incidence of ALL is approximately 40 cases per million individuals between 0 to 14 years of age and 21 cases per million individuals between 15 and 19 years of age (National Cancer Institute, 2024). The incidence varies in Brazil, but ALL is estimated to affect approximately three to five per 100,000 children annually. Most cases are diagnosed between two and five years of age (National Cancer Institute, 2020). Treatment for ALL is primarily chemotherapy, which, despite its high cure rate, has various side effects, including oral manifestations, such as mucositis, ulcers, gingivitis, and an increased risk of developing dental caries (Juaréz-López *et al.*, 2018; Devi & Allenidekania, 2019; Wang *et al.*, 2021; Kilic *et al.*, 2023; Soares *et al.*, 2023).

Although many studies have investigated health-related quality of life in patients with ALL (Choo *et al.*, 2019; Nagarajan *et al.*, 2019; Nunes *et al.*, 2019; Sun *et al.*, 2023), oral health-related quality of life (OHRQoL) has been underexplored in this population. This is due to the predominant focus on the systemic effects of the disease and treatment, such as pain and fatigue, whereas oral complications, such as mucositis (Raghubar *et al.*, 2022), ulcers (Rodgers *et al.*, 2019), gingivitis (Devi *et al.*, 2019), candidiasis (Juárez-López *et al.*, 2018), and a greater risk of dental caries (Wang *et al.*, 2021), are often overlooked, despite the significant impact on quality of life (Kilic *et al.*, 2023). The lack of specific dental protocols and the difficulty in measuring subjective characteristics of oral health contribute to this gap. Thus, the role of the dentist is crucial in managing such complications through prevention as well as the early diagnosis and treatment of oral conditions, which can improve the patient's quality of life. It is therefore essential to investigate OHRQoL in this population (Morais *et al.*, 2014) to identify specific needs and provide more appropriate care during oncological treatment.

Comparing OHRQoL between children/adolescents with and without leukemia is essential to understanding the specific needs of each group (Attaran *et al.*, 2023). Therefore, this study aimed to assess oral health–related quality of life and its associations with sociodemographic characteristics in children and adolescents with

ALL, comparing the results to those of a matched group without the disease. The importance of this study resides in the assessment of the impact of oral conditions on the quality of life of patients with leukemia. From a clinical standpoint, the results can guide more appropriate dental practices, enabling the development of personalized prevention and treatment strategies to improve oral health and the overall well-being of children and adolescents undergoing treatment.

MATERIALS AND METHODS

Ethical Aspects

This study received approval from the Human Research Ethics Committee of the Federal University of Minas Gerais (certificate number: 67189617.2.1001.5149) and the Borges da Costa Outpatient Clinic, which is part of the university hospital complex. Data collection for the comparative group received authorization from the Regional Superintendence of Education and the Municipal Department of Education of the municipality of Sete Lagoas in the state of Minas Gerais, Brazil. All participants and their guardians received clarifications regarding the objectives, risks, and benefits of the study, and signed the informed consent/assent forms, ensuring transparency and compliance with ethical standards.

Study Design and Sample Characteristics

A comparative cross-sectional study was conducted in the years 2021 and 2022 at the Borges da Costa Outpatient Clinic within the Hematology and Oncology Unit of the university hospital and at two public schools in the municipality of Sete Lagoas, MG, Brazil. The leukemia group consisted of children and adolescents two to 17 years of age. The comparative group was composed of healthy individuals matched to the leukemia group for sex and age randomly selected from the two schools. Children and adolescents with systemic conditions and those undergoing dental treatment were excluded.

Data Collection

A pilot study was conducted with six patients to determine the logistics of administering the questionnaires and clinical exams. As no adjustments were deemed necessary, these participants were included in the final sample. Data collection occurred in the second semester of 2021 and throughout 2022. Three previously

trained and calibrated researchers administered the questionnaire addressing sociodemographic characteristics and conducted clinical examinations in reserved rooms using the dmft/DMFT index (WHO, 2013) for the diagnosis of dental caries experience. Inter- and intra-examiner agreement was determined using the Kappa test ($K = 0.79$ and $K = 0.92$, respectively). According to Siegel and Castellan (1988), these coefficients indicate good to excellent agreement.

Assessment of OHRQoL

The Brazilian version of the PedsQL™-OH, which has been validated and adapted for use in Brazil (Bendo *et al.*, 2012), was used to assess the OHRQoL of the participants. The instrument was administered to the children/adolescents and their mothers/caregivers, constituting self-reports and proxy reports. In the ALL group, the questionnaires were administered in interview form to both the mother/caregiver and the child/adolescent. In the group without ALL, the children/adolescents answered the questionnaire during interviews, whereas the mothers/caregivers self-administered the questionnaire and sent their answers to the school. The scale is adapted for different age groups: 5-7, 8-12, and 13-18 years. For children aged 2-4 years, only parental reports are considered. The PedsQL™-OH addresses five items: tooth pain, sensitivity, dark teeth, gum pain, and bleeding when brushing. The answers were transformed into a scale from 0 to 100, with higher scores indicating better OHRQoL.

Data Analysis

Data organization and statistical analysis were performed using the Statistical Package for the Social Sciences (SPSS for Windows, version 21.0, IBM Inc., Armonk, NY, USA). Descriptive statistics were performed for the characterization of the sample considering the distribution frequency of the variables. The normality of the distribution of quantitative variables in the study groups was then tested using the Shapiro-Wilk test. Normality was also assessed through the graphical interpretation of the histogram. For bivariate analyses, the chi-square test and Fisher's exact test were employed to investigate the association between independent variables and the dependent variable (OHRQoL) in the two study groups.

Appropriate tests were used for the comparison of mean scores on the total PedsQL™-OH and its domains between the leukemia and non-leukemia groups. The

cutoff point for the determination of high or low impact on OHRQoL was based on the average PedsQL™-OH score. Binary logistic regression analysis was employed using the backward stepwise method to test associations between OHRQoL and the independent variables (p-value <0.20). Variables with a p-value <0.05 were retained in the final regression model, indicating a statistically significant association with the outcome.

RESULTS

A total of 100 children and adolescents participated in the present study – 50 in the leukemia group and 50 in the group without leukemia. Table 1 displays the sociodemographic characteristics of the participants. Most were male (56%) and between two and seven years of age (54%). The mean score on the PedsQL™-OH was 86.28.

(Table 1)

Table 2 displays the PedsQL™-OH scores. The lowest scores were found in the domains of tooth sensitivity (85; standard deviation [SD]: 29.58) and gum bleeding (36; SD: 100) among children 2-7 years of age, and tooth sensitivity among individuals 8-17 years of age (68.48; SD: 28.42).

(Table 2)

In the leukemia group, OHRQoL was significantly associated with the mother's age (OR: 4.51; 95% CI: 1.91-22.40) and the presence of dental caries (OR: 5.38; 95% CI: 1.13-25.60) (Table 3).

(Table 3)

In the group without leukemia, none of the sociodemographic variables, such as mother's age, income, parental separation, and dental caries, were significantly associated with OHRQoL (Table 4).

(Table 4)

DISCUSSION

An analysis of the effects of chemotherapy on the oral health of children and adolescents with leukemia reveals a complex scenario, which this study sought to explore by investigating OHRQoL in this population and comparing the results to a group of children/adolescents without the disease. The findings indicated differences in the associations between sociodemographic variables and OHRQoL among children and adolescents with and without leukemia. In the leukemia group, significant associations were found between OHRQoL and both mother's age and dental caries experience, whereas such associations were not found in the group without leukemia.

Although the literature recognizes the challenges that these patients face in terms of physical health and overall well-being, the determination of OHRQoL in this specific group requires a more detailed comparative analysis between children with and without ALL (Sun *et al.*, 2023). Our study provides a comprehensive understanding of factors influencing the oral health and quality of life of these patients through a comparative analysis of OHRQoL between children with and without ALL.

Although the exact cause of ALL is unknown, it is widely recognized that the disease is influenced by genetic and environmental factors. Studies have revealed that age, sex, and geographic region exert a significant influence on the incidence and prevalence of ALL. The population of children and adolescents with ALL in this study was predominantly composed of boys. This higher incidence in boys may be attributed to biological factors that are still under investigation (Miranda-Filho *et al.*, 2018; Cui & Yan, 2019).

One variable associated with the outcome of this study was the age of the mother/caregiver. Children and adolescents with leukemia whose mothers/caregivers were older had worse OHRQoL. It is possible that, in the context of childhood cancer, older mothers, despite their experience, are more overburdened with other responsibilities, which may hinder the intensive monitoring necessary to maintain the child's oral health. In addition, factors such as socioeconomic conditions or less involvement with updated preventive practices may also contribute to this result (Moghaddam *et al.*, 2020). These data reinforce the importance of considering not only

maternal age, but also the family context and resources available for oral health care during cancer treatment.

Most children and adolescents with leukemia did not have dental caries. This result can be explained by the dental care provided to cancer patients in the oncology outpatient clinic both before and during treatment with chemotherapy with the aim of preventing serious oral problems. However, the presence of dental caries was significantly associated with OHRQoL. This finding reflects the importance of oral health to the quality of life of this population, as oncological treatment can increase vulnerability to dental caries due to side effects such as xerostomia (dry mouth) and dietary changes (Wang *et al.*, 2021; Falahinia *et al.*, 2023). The presence of caries can result in pain, discomfort, and psychological impact, contributing to a poorer perception of oral health, which directly influences OHRQoL (Bendo *et al.*, 2012). Oral health care for this population is of the utmost importance, as factors such as dental caries and poor oral hygiene can aggravate the effects of oncological therapy on oral tissues (Kilic *et al.*, 2023). Although most children and adolescents with leukemia did not have dental caries, the significant association between caries and OHRQoL is in agreement with data from other studies highlighting the relationship between the presence of dental caries and poorer oral health-related quality of life (Martins-Júnior *et al.*, 2013; Singh *et al.*, 2020). This finding underscores the importance of considering the epidemiological context when assessing the influence of oral health conditions on quality of life.

In the group without leukemia, most children and adolescents did not have dental caries, which may be justified by the higher family income in this group, as dental caries is more concentrated in financially disadvantaged groups (Schwendicke *et al.*, 2015). However, no association was found between the presence of caries and OHRQoL in this group. This finding is consistent with data from previous studies, which state that the relationship between dental caries and OHRQoL tends to be less pronounced in populations with low rates of caries (Alanzi *et al.*, 2023).

Although family income was considered in this study, it was not directly associated with the OHRQoL of the participants. However, when comparing the groups with and without leukemia, a significant difference in family income was found. Most participants with leukemia had an income less than two times the Brazilian monthly

minimum wage (US\$ 646.94), which may be explained by the context of care in public hospitals, where treatment is provided free of cost, but also by the situation of many mothers or caregivers having to leave their jobs or relocate to other cities in order to accompany their child's treatment, which results in a reduction in financial resources (Rahman *et al.*, 2023). On the other hand, the group without leukemia, despite attending public schools, had a family income higher than two times of the monthly minimum wage, which is within the average monthly income range in the country (BRAZIL, 2023). Despite the lack of a direct association with OHRQoL, this difference in income between groups suggests that the higher income in the group without leukemia may provide a more robust support network and better conditions for maintaining oral health even in contexts of social vulnerability. Thus, despite not being directly associated with OHRQoL, income may indirectly influence access to care and the quality of life of children, especially in the context of serious diseases, such as leukemia (Piovesan *et al.*, 2010).

Some studies have indicated that children and adolescents with separated parents experience a high impact on quality of life (Sung *et al.*, 2011). However, no such association was found in the present investigation. A possible explanation for this finding is that the support of parents during treatment plays an important role in the quality of life of children and adolescents, regardless of whether their parents live together or not (Eiser *et al.*, 2005). By ensuring a caregiving environment and emotional security, this support may diminish the potential negative effects of parental separation.

In the group of children and adolescents without leukemia, none of the sociodemographic variables investigated were significantly associated with OHRQoL. This suggests that other factors not investigated in this group, such as access to preventive dental care or the presence of other health conditions, may exert an impact on oral health. Additionally, the lack of a significant association between OHRQoL and sociodemographic variables in the group without leukemia may reflect a more stable level of oral health in this group, as these children and adolescents belonged to a higher income group and did not experience the complications associated with oncological treatment.

Significant perceptual discrepancies were found in the oral health domains, such as tooth sensitivity and gum bleeding, further emphasizing the significant differences in OHRQoL between children with and without ALL, as evidenced by the PedsQL™-OH questionnaire. Children with ALL two to seven years of age had lower scores in these aspects compared to the group without the disease. These results are in agreement with data described in the literature, which highlights common oral complications resulting from chemotherapy, such as tooth sensitivity and gum issues (Kilic *et al.*, 2023). These findings not only confirm the oral problems faced by this population but also underscore the need for specific interventions aimed at managing oral health during chemotherapy in order to improve the OHRQoL of these children and adolescents.

The analysis of these differences is crucial, as it provides valuable clinical insights by enabling a direct comparison between children and adolescents with and without ALL, highlighting how mother's age and the presence of dental caries can influence oral health and OHRQoL in these patients. Most participants with ALL had a low family income, which can be attributed to the financial costs and lifestyle changes imposed by treatment. The differences in oral health domains between the groups demonstrate the importance of targeted interventions. These findings underscore the need to develop strategies aimed not only at improving oral health during chemotherapy but also at providing essential support to caregivers, who play a key role in the patients' quality of life.

Although the data revealed significant associations, other factors, such as the intensity of oncological treatment, dental follow-up, and socioeconomic status, may also influence the OHRQoL of children with leukemia. Furthermore, the number of participants in both samples was relatively small due to the low prevalence of childhood cancer and the difficulty in accessing this specific population. This limitation is compounded by the challenge of establishing accurate confidence intervals, given Brazil's significant cultural diversity, which limits the generalization of the findings. Further studies conducted in different contexts and with larger samples are needed to complement and expand upon the findings of this study. Longitudinal designs are particularly desirable to gain a better understanding of the dynamics over time. Despite these limitations, this study is significant and valid, as it provides an important analysis and reflection on OHRQoL in children and adolescents with ALL, who constitute a

group that remains underexplored in the literature. The findings underscore the need for more comprehensive, detailed research for a better understanding of the challenges that these children and adolescents face and to enable more effective intervention strategies.

It is crucial for healthcare professionals to remain attentive to these factors and adopt targeted strategies to improve oral health and, consequently, the quality of life of the patients. Care should extend beyond dental treatment, incorporating social and psychological support to ensure comprehensive care that addresses all needs of patients with leukemia.

Conclusion

In the present study, the OHRQoL of children and adolescents with leukemia was significantly associated with the presence of dental caries and mother's age. In contrast, these factors were not as relevant in the group without ALL. This difference highlights the complexity of factors that affect the oral health of children undergoing oncological treatment, which calls for a holistic, multidisciplinary approach in clinical practice.

TABLES

Table 1: Bivariate analysis of sociodemographic characteristics and clinical oral health indicators in groups with and without leukemia (n = 100).

Variables	With Leukemia n (%)	Without Leukemia n (%)	Total	p -value
Sex				
Female	22 (44)	22 (44)	44 (44)	1.000*
Male	28 (56)	28 (56)	56 (56)	
Age				
2-7 years	27 (54)	27 (54)	54 (54)	1.000*
8-17 years	23 (46)	23 (46)	46 (46)	
Mother's Age				
Up to 36 years	29 (58)	22 (44)	51 (51)	0.225*
Over 36 years	21 (42)	28 (56)	49 (49)	
Income				
≤ 2 x monthly min. wage	49 (98)	22 (44)	71 (71)	0.000**
> 2 x monthly min. wage	1 (2)	28 (56)	29 (29)	
Parents Separated				
Yes	30 (60)	39 (78)	69 (69)	0.52*
No	20 (40)	11 (22)	31 (31)	
Dental Caries experience				
Absent	37 (74)	35 (70)	72 (72)	1.000*
Present	13 (26)	15 (30)	28 (28)	
PedsQL™-OH				
Less than 86.28	10 (20)	20 (40)	30 (30)	0.029*
Greater than 86.28	40 (80)	30 (60)	70 (70)	

*chi-square test (p <0.05); **Fisher's Exact Test (p <0.05)

Table 2: Mean scores on PedsQL™-OH domains. Difference between parents and children in how OHRQoL was estimated.

PedsQL™-OH	Children 2-7 years old with leukemia	Children 2-7 years old without leukemia	Mothers of children 2-7 years old with leukemia	Mothers of children 2-7 years old without leukemia	Children 8- 17 years old with leukemia	Children 8- 17 years old without leukemia	Mothers of children 8- 17 years old with leukemia	Mothers of children 8- 17 years old without leukemia
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Tooth pain	93.33 (17.59)	69.64 (32.78)	91.96 (21.57)	89.81 (21.09)	89.77 (23.97)	89.13 (16.55)	94.32 (13.21)	96.74 (11.44)
Tooth sensitivity	85 (29.58)	69.64 (28.03)	88.39 (28.44)	87.96 (24.38)	80.68 (34.44)	68.48 (28.42)	92.05 (19.49)	79.35 (24.06)
Dark teeth	96.67 (12.91)	87.50 (25.47)	91.07 (23.78)	87.04 (25.35)	78.55 (27.42)	84.78 (24.70)	78.41 (32.08)	77.17 (30.06)
Gum pain	93.33 (25.82)	80.36 (28.04)	82.14 (30.32)	87.04 (25.35)	93.18 (19.18)	91.30 (19.37)	94.32 (18.79)	93.48 (17.21)
Bleeding when brushing	96.67 (12.91)	36 (100)	93.75 (16.13)	98.15 (6.67)	85.23 (25.18)	93.30 (19.37)	94.32 (13.21)	95.65 (9.68)
Total score	93 (10.98)	81.43 (15.37)	90.36 (16.60)	97.22 (8.6)	85.68 (14.41)	85.43 (12.78)	90.68 (12.84)	87.83 (11.85)

Table 3 - Logistic regression of associations between independent variables and OHRQoL of children/adolescents with leukemia (n = 50).

PedsQL 3.0 Oral Health						
Mean (86.28)						
Variable	Greater >86.28 n (%)	Lower <86.28 n (%)	Unadjusted OR (95% CI)	p-value	Adjusted OR	p-value
Mother's Age						
Up to 36 years	25 (50.0)	3 (6.0)	1	0.063	1	0.065
Over 36 years	15 (30.0)	7 (14.0)	4.16 (0.92 – 18.71)		4.51 (0.91 – 22.40)	
Income						
>2 x monthly min. wage US\$ 646.94	8 (16.0)	1 (2.0)	1	0.471	-	-
≤ 2 x monthly min. wage US\$ 646.94	32 (64.0)	9 (18.0)	0.44 (0.04 – 4.03)			
Parents Separated						
Yes	23 (46.0)	7 (14.0)	1	0.474	-	-
No	17 (34.0)	3 (6.0)	0.58 (0.13-2.57)			
Dental Caries						
Absent	31 (62.0)	4 (8.0)	1	0.028	1	0.034
Present	9 (18.0)	6 (12.0)	5.16 (1.19 -22.39)		5.38 (1.13-25.60)	

Table 4 - Logistic regression of associations between independent variables and OHRQoL of children/adolescents without leukemia (n = 50).

PedsQL 3.0 Oral Health Mean (86.28)						
Variable	High >86.28 n (%)	Low <86.28 n (%)	Unadjusted OR (95% CI)	p-value	Adjusted OR	p-value
Mother's Age						
Up to 36 years	14 (28.0)	9 (18.0)	1	0.568	-	-
Over 36 years	15 (30.0)	12 (24.0)	4.00 (0.44 – 4.43)			
Income						
> 2 x monthly min. wage	15 (30.0)	7 (14.0)	1	0.298	-	-
≤ 2 x monthly min. wage	15 (30.0)	13 (26.0)	1.85 (0.57 – 5.95)			
Parents Separated						
Yes	24 (48.0)	14 (28.0)	1	0.676	-	-
No	6 (12.0)	6 (12.0)	0.750 (0.19 - 2.89)			
Dental Caries experience						
Absent	22 (44.0)	13 (26.0)	1	0.530	-	-
Present	8 (16.0)	7 (14.0)	1.48 (0.43 -5.03)			

REFERENCES

1. Alanzi, A., Husain, F., Husain, H., Hanif, A., & Baskaradoss, JK. (2023). Does the severity of untreated dental caries of preschool children influence the oral health-related quality of life? *BMC oral health*, 23(1), 552. <https://doi.org/10.1186/s12903-023-03274-7>
2. Attaran, N., Sharma, A., Morris, M., Dudubo, O., & Macdonald, ME. (2023). What are the impacts of oral complications from cancer therapy on the quality of life of children? A protocol to update a scoping review. *Plos one*, 18(11), e0290364. <https://doi.org/10.1371/journal.pone.0290364>
3. Bendo, CB, Paiva, SM, Viegas, CM, Vale, MP, & Varni, JW. (2012). The PedsQL™ oral health scale: feasibility, reliability and validity of the Brazilian portuguese version. *Health and quality of life outcomes*, 10, 42. <https://doi.org/10.1186/1477-7525-10-42>
4. BRAZIL. (2023). Demographic census 2020: Cities and States. Retrieved from www.ibge.gov.br. Accessed in February 2023.
5. Choo, CC, Chew, PKH, Tan, P, Choo, JQ, Choo, AMH, Ho, RC., & Quah, TC. (2019). Health-related quality of life in pediatric patients with leukemia in Singapore: a cross-sectional pilot study. *International journal of environmental research and public health*, 16(12), 2069. <https://doi.org/10.3390/ijerph16122069>
6. Cui, Y., & Yan, Y. (2019). The global burden of childhood and adolescent leukaemia and attributable risk factors: An analysis of the global burden of disease study 2019. *Journal of global health*, 14, 04045. <https://doi.org/10.7189/jogh.14.04045>
7. de Souza Neto, RD, Brito, MLP, do Nascimento, MMX, Neto, OCS, Macedo, LFR, & de Lima Rodrigues, A. (2023). Childhood leukemia: Brazilian reality in children under fifteen years. *Journal of pediatric nursing*, 69, 116-117. <https://doi.org/10.1016/j.pedn.2022.12.029>
8. Devi, KS, & Allenidekania, A. (2019). The relationship of oral care practice at home with mucositis incidence in children with acute lymphoblastic leukemia. *Comprehensive child and adolescent nursing*, 42(sup1), 56-64. <https://doi.org/10.1080/24694193.2019.1577926>

9. Dos Santos de Oliveira, J., da Silva Gasque, KC, Pereira, AA, Fernandes, LA, Honório, HM, de Sousa Gomes, H., de Lima, DC. (2023). Impact of parental attributes on the oral health-related quality of life of Brazilian preschool children. *European archives of paediatric dentistry*, 24(5), 631-641. <https://doi.org/10.1007/s40368-023-00828-9>
10. Eiser, C., Eiser, JR., & Stride, CB. (2005). Quality of life in children newly diagnosed with cancer and their mothers. *Health and quality of life outcomes*, 3, 29. <https://doi.org/10.1186/1477-7525-3-29>
11. Falahinia, N., Razeghi, S., Shamshiri, AR, Firoozi, M., & Mohebbi, SZ. (2023). The effectiveness of motivational interviewing on the oral health of leukemic children and oral health care knowledge, attitude and practice of their mothers: a hospital-based intervention. *BMC pediatrics*, 23(1), 261. <https://doi.org/10.1186/s12887-023-04078-y>
12. Juárez-López, MLA, Solano-Silva, MN, Frago-Ríos, R., & Murrieta-Pruneda, F. (2018). Oral diseases in children with acute lymphoblastic leukemia with chemotherapy treatment. *Revista médica del instituto mexicano del seguro social*, 56(2), 132-135. PMID: 29901909
13. Kilic, M., Gunen Yilmaz, S., & Kockopru, ZM. (2023). Evaluation of oral health-related quality of life in children with acute lymphocytic leukemia/acute myelocytic leukemia: A cross-sectional study. *Oral diseases*. <https://doi.org/10.1111/odi.14614>
14. Martins-Júnior, PA, Vieira-Andrade, RG, Corrêa-Faria, P., Oliveira-Ferreira, F., Marques, LS, & Ramos-Jorge, ML. (2013). Impact of early childhood caries on the oral health-related quality of life of preschool children and their parents. *Caries research*, 47(3), 211-218. <https://doi.org/10.1159/000345534>
15. Miranda-Filho, A., Piñeros, M., Ferlay, J., Soerjomataram, I., Monnereau, A., & Bray, F. (2018). Epidemiological patterns of leukaemia in 184 countries: a population-based study. *Lancet haematology*, 5(1), e14-e24. [https://doi.org/10.1016/s2352-3026\(17\)30232-6](https://doi.org/10.1016/s2352-3026(17)30232-6)
16. Moghaddam, LF, Vettore, MV, Bayani, A., Bayat, AH, Ahounbar, E., Hemmat, M., ... & Fakhri, Y. (2020). The association of oral health status, demographic characteristics and socioeconomic determinants with Oral health-related quality

- of life among children: a systematic review and Meta-analysis. BMC pediatrics, 20(1), 489. <https://doi.org/10.1186/s12887-020-02371-8>
17. Morais, EF, Lira, JA, Macedo, RA., Santos, KS., Elias, CT., & Morais, Mde, L. (2014). Oral manifestations resulting from chemotherapy in children with acute lymphoblastic leukemia. Brazilian journal of otorhinolaryngology, 80(1), 78-85. <https://doi.org/10.5935/1808-8694.20140015>
 18. Nagarajan, R., Gerbing, R., Alonzo, T., Johnston, DL, Aplenc, R., Kolb, EA, Meshinchi, S., Barakat, LP, & Sung, L. (2019). Quality of life in pediatric acute myeloid leukemia: Report from the children's oncology group. Cancer medicine, 8(9), 4454-4464. <https://doi.org/10.1002/cam4.2337>
 19. National Cancer Institute. (2020). Estimate 2020: Cancer incidence in Brazil. Rio de Janeiro: INCA. Retrieved from <https://www.inca.gov.br/>
 20. National Cancer Institute. (2024). Acute lymphoblastic leukemia treatment (PDQ®)—Health professional version. Retrived from https://www.cancer.gov/types/leukemia/hp/adult-all-treatment-pdq#_81. Acessed in July 2024
 21. Nunes, MDR, Nascimento, LC., Fernandes, AM., Batalha, L., De Campos, C., Gonçalves, A., et al. (2019). Pain, sleep patterns and health-related quality of life in paediatric patients with cancer. European journal of cancer care (Engl), 28(4), e13029. <https://doi.org/10.1111/ecc.13029>
 22. Piovesan, C., Antunes, JL, Guedes, RS, & Ardenghi, TM. (2010). Impact of socioeconomic and clinical factors on child oral health-related quality of life (COHRQoL). Quality of life research, 19(9), 1359-1366. <https://doi.org/10.1007/s11136-010-9692-7>
 23. Raghubar, KP, Chambers, T., Hill, RM, Taylor, O., Hockenberry, M., Hooke, MC, ... & Scheurer, ME (2022). Longitudinal investigation of suicidal ideation and associated factors during pediatric acute lymphoblastic leukemia chemotherapy. Psychooncology., 31(10):1782-1789. <https://doi.org/10.1002/pon.6014>
 24. Rahman, SA, Variyath, S., Al-Yateem, N., Al Marzouqi, A., & Subu, MA. (2023). Economic and social burden of childhood cancer in Bangladesh. Asian pacific journal of cancer prevention, 24(1), 69-74. <https://doi.org/10.31557/apjcp.2023.24.1.69>

25. Rodgers, CC, Hooke, MC, Taylor, OA, Koerner, KM, Mitby, PA, Moore, IM, ... & Pan, W. (2019). Childhood Cancer Symptom Cluster: Leukemia and Health-Related Quality of Life. *Oncology nursing society*, 46(2), 228-237. <https://10.1188/19.ONF.228-237>
26. Schwendicke, F., Dörfer, CE, Schlattmann, P., Foster Page, L., Thomson, WM, & Paris, S. (2015). Socioeconomic inequality and caries: a systematic review and meta-analysis. *Journal of dental research*, 94(1), 10-18. <https://doi.org/10.1177/0022034514557546>
27. Siegel S., Castellan JR, NJ. Nonparametric statistics for the behavioral sciences. 2.ed. New York: McGraw Hill, 1988. 399p.
28. Singh, N., Dubey, N., Rathore, M., & Pandey, P. (2020). Impact of early childhood caries on quality of life: Child and parent perspectives. *Journal of oral biology and craniofacial research*, 10(2), 83-86. <https://doi.org/10.1016/j.jobcr.2020.02.006>
29. Soares, SC, Roux, LJ, Castro, AR, Silva, CC, Rodrigues, R, Macho, VMP, ... Costa, C. (2023). Oral manifestations: A warning-sign in children with hematological disease acute lymphocytic leukemia. *Hematology reports*, 15(3), 491-502. <https://doi.org/10.3390/hematolrep15030051>
30. Steele, MM, Steele, RG, & Varni, JW. (2009). Reliability and Validity of the PedsQL™ oral health scale: Measuring the relationship between child oral health and health-related quality of life. *Children's health care*, 38(3), 228–244. <https://doi.org/10.1080/02739610903038818>
31. Sun, Y., Zhou, HJ, Shen, A., Wu, B., Wang, W., Luo, N., & Wang, P. (2023). A cross-sectional study evaluating health-related quality of life of chinese pediatric patients with hematological malignancies using EQ-5D-Y. *Frontiers in public health*, 10, 1050835. <https://doi.org/10.3389/fpubh.2022.1050835>
32. Sung, L., Yanofsky, R., Klaassen, RJ, Dix, D., Pritchard, S., Winick, N., ... & Klassen, A. (2011). Quality of life during active treatment for pediatric acute lymphoblastic leukemia. *International journal of cancer*, 128(5), 1213-1220. <https://doi.org/10.1002/ijc.25433>
33. Terwilliger, T., & Abdul-Hay, M. (2017). Acute lymphoblastic leukemia: a comprehensive review and 2017 update. *Blood cancer journal*, 7(6), e577. <https://doi.org/10.1038/bcj.2017.53>

34. Wang, Y., Zeng, X., Yang, X., Que, J., Du, Q., Zhang, Q., & Zou, J. (2021). Oral health, caries risk profiles, and oral microbiome of pediatric patients with leukemia submitted to chemotherapy. *Biomedical research international*, 6637503. <https://doi.org/10.1155/2021/6637503>
35. World Health Organization. (2013). *Oral health surveys: Basic methods* (5^a ed.). Retrieved from: <https://www.who.int/publications/i/item/9789241548645>

4.2 ARTIGO II

O manuscrito II foi elaborado seguindo as normas de publicação do periódico *Clinical Oral Investigations* (ANEXO G), que possui fator de impacto 3.606.

IMPACT OF ONCOLOGICAL TREATMENT ON THE QUALITY OF LIFE AND ORAL HEALTH OF CHILDREN AND ADOLESCENTS: SELF-PERCEPTION AND MOTHER'S PERCEPTION

ABSTRACT

Objective: To investigate the impact of oncological treatment on the quality of life (QoL) of children and adolescents based on self-reports and mothers' proxy reports.

Materials and Methods: A cross-sectional study was conducted involving 103 children and adolescents (one to 18 years of age) and their mothers in inpatient and outpatient care as well as those accommodated in supportive housing for pediatric patients. Data collection involved questionnaires addressing oncological treatment, sociodemographic aspects, and oral hygiene. QoL was measured using the Pediatric Quality of Life Inventory™ 4.0 Generic Core Scale (PedsQL-GC). Oral clinical examinations were conducted by three dentists who had undergone training and calibration exercises ($\kappa = 0.79$) for the diagnosis of dental caries (DMFT/dmft indices). Data analysis was performed using the SPSS statistical package and involved descriptive analysis as well as unadjusted and adjusted logistic regression analyses ($p < 0.05$).

Results: Most participants were male (54.4%) between one and seven years of age (55.3%), and had up to two decayed teeth (53.4%). The lowest QoL scores were found for the "physical functioning" and "school activities" domains. In the final logistic regression model, children/adolescents eight to 18 years of age (OR = 7.12; 95% CI: 1.98–25.51) and those in supportive housing (OR = 4.05; 95% CI: 1.19–3.31) self-reported an impact on QoL. Regarding proxy reports, an association was found for children/adolescents in supportive housing (OR = 9.43; 95% CI: 1.74–50.87).

Conclusion: The impact of oncological treatment on QoL was influenced by age and supportive housing for pediatric patients, when compared to those who returned to their own homes.

Clinical Relevance: These findings highlight the need for integrated interventions including psychosocial support and strategies for school adaptation to minimize the effects of treatment on the daily life and well-being of patients.

Keywords: Quality of life. Oral health. Oncological treatment. Self-report. Proxy report.

Introduction

Pediatric cancer is a significant public health concern in Brazil and the leading cause of death from chronic diseases in children and adolescents one to 18 years of age, accounting for approximately 8% of deaths in this age group [1]. The mortality rate from pediatric cancer is significantly higher in developing countries [2], with hematological and lymphatic cancers the most common in this population, accounting for 60% of cases [3, 4]. Given this scenario, it is essential to investigate the impact of oncological treatment on quality of life (QoL) to gain a better understanding of factors that influence the well-being of these patients during treatment.

The impact of cancer on the QoL of children and adolescents has been widely studied, [5,6,7,8]. However, most research focuses on QoL after the completion of treatment, whereas the impact during treatment requires further exploration [5,6]. Assessing QoL from the perspective of both the patients and their mothers is essential for a more integrated care approach, including oral health aspects, such as dental caries [7,8]. To fill this gap, this study assessed the overall QoL of children and adolescents during oncological treatment using specific, validated questionnaires for this population, such as the Pediatric Quality of Life Inventory™ 4.0 Generic Core Scale (PedsQL-GC) (self-report and proxy report).

This study is justified by the need to deepen the understanding of the impacts of oncological treatment on the overall and oral health-related QoL of children and adolescents during treatment, as most research focuses on the post-treatment phase [5,6,7,8]. One of the key differences of this investigation is the combined assessment of the perceptions of the patients themselves (self-reports) and their caregivers (proxy reports), which enables a more accurate analysis of the impacts of the disease considering both the subjective experience of the children and the perspectives of their mothers. Moreover, the study was conducted at a reference hospital and a supportive housing facility that accommodates children from other cities during treatment, enabling the inclusion of patients from diverse socioeconomic and logistical backgrounds, which enriches the findings. The investigation of dental caries combined

with the administration of the PedsQL-GC questionnaire contributes to a deeper understanding of the relationship between oral health and QoL in this population.

Therefore, the aim of the present study was to investigate the impact of oncological treatment on the QoL of children and adolescents, considering self-perceptions and proxy reports, with an analysis of sociodemographic variables, health conditions, oral hygiene habits, and dental caries.

Materials and Methods

Ethical considerations

This study was received approval from the Human Research Ethics Committee of the Federal University of Minas Gerais (-) in accordance with Resolution 466/12 of the National Board of Health and subsequently by the Borges da Costa Outpatient Clinic of the hospital affiliated with the university where the participants received outpatient and inpatient care and by the Aura Supportive Housing for pediatric patients in the city of Belo Horizonte in the state of Minas Gerais, Brazil.

All mothers received clarifications regarding the benefits and risks of the study and signed a statement of informed consent. The children/adolescents also received all relevant information about the study and the questionnaires to be applied and signed a term of assent.

Study design and sample

A quantitative observational cross-sectional study was conducted between October 2021 and February 2024 involving children and adolescents undergoing oncologic treatment at the Borges da Costa Outpatient Clinic and those accommodated at the Aura Supportive Housing for pediatric patients, which receives patients from other cities in the state of Minas Gerais as well as other states, providing accommodations for the necessary duration to enable treatment at reference hospitals in the city of Belo Horizonte.

The inclusion criteria were children and adolescents from one to 18 years of age undergoing oncological treatment at these institutions as well as their mothers or

guardians. Those with cognitive difficulties reported by the guardians or doctors were excluded.

Training/calibration and pilot Study

The examiners participated in a training session prior to data collection, which consisted of two stages: theoretical and practical [11]. In the theoretical phase, photographs of decayed teeth were used to standardize the diagnostic criteria with the assistance of a specialist. The examiners also read and reread the interview questionnaires to familiarize themselves with the questions. After this phase, the examiners diagnosed oral conditions (DMFT/dmft indices) for the determination of inter-examiner agreement and again after 14 days for the determination of intra-examiner agreement using the Kappa coefficient ($K = 0.79$ and 0.92 , respectively). According to Siegel and Castellan (1988) [12], Kappa values between 0.61 and 0.80 indicate good agreement and values above 0.80 constitute excellent agreement.

A pilot study was conducted with six children/adolescents in inpatient and outpatient care. The results indicated that no changes to the proposed methods were deemed necessary. Therefore, these participants were included in the main study.

Clinical data collection

Non-clinical data collection

Sociodemographic and health condition questionnaire

Administration of quality of life and oral health-related quality of life questionnaires

Data on sociodemographic information and oncological treatment were collected using a questionnaire administered to the children/adolescents and their mothers/legal guardians with questions related to the guardians (marital status, income, education level, and oral hygiene of their children) and the children/adolescents (sex, education, diagnosis of the condition and treatment phase).

The Brazilian version of the Pediatric Quality of Life Inventory™ 4.0 Generic Core Scale (PedsQL-GC) was used to measure the QoL of the participants. This is a multidimensional scale that includes a child self-report and proxy report from mothers

to assess QoL in children and adolescents one to 18 years of age. The PedsQL-GC does not require complementary instruments, is recommended for use on children/adolescents with cancer, and has demonstrated feasibility, reliability, and validity [13,14].

The PedsQL-GC consists of 23 items divided into four scales: physical functioning (eight items), emotional functioning (five items), social functioning (five items), and school functioning (five items). The questionnaires were administered to both children/adolescents and their caregivers, with the participants answering one questionnaire and their mothers answering another with the same items adapted to the first or third person. The response options are scored on a five-point scale (0 = never; 1 = almost never; 2 = sometimes; 3 = often; 4 = almost always). To facilitate self-reporting for children five to seven years of age, the response scale was simplified to a three-point scale (0 = never; 2 = sometimes; 4 = almost always), with each option accompanied by a facial expression scale consisting of three images ranging from a smiling face to a very sad face. The questionnaires were administered individually to the children/adolescents, with the researcher available to read the questions to the respondents and assist them in completing their answers. The items were reverse-scored and linearly transformed to a scale from 0 to 100 (0 = 100, 1 = 75, 2 = 50, 3 = 25, 4 = 0), with higher scores indicating better QoL.

Clinical data collection

Oral clinical examination

Oral clinical examinations were performed on the children and adolescents in inpatient and outpatient care and in supportive housing for pediatric patients for the diagnosis of dental caries. In both locations, the examinations were performed in private, well-lit rooms with artificial lighting. The Decayed, Missing, and Filled Teeth Index (DMFT) was used to diagnose the presence and severity of caries in the permanent dentition and the dmft index was used for the primary dentition, considering the average number of decayed teeth.

Statistical analysis

The organization of data and statistical analysis were performed using the Statistical Package for the Social Sciences (SPSS for Windows, version 21.0, IBM Inc., Armonk, NY, USA). The frequency distribution of the data was determined to characterize the sample. Bivariate and multiple logistic regression analyses were conducted to test associations between health-related QoL and the independent variables. In the multiple analysis, variables with a p-value <0.25 were incorporated to determine associations between the dependent variable and other variables. The significance level for the tests was set at 5% ($p < 0.05$).

Results

Table 1 displays the data for the characterization of the sample of 103 children/adolescents with cancer and their mothers. Most participants were male (54.4%) and one to seven years of age ($n = 57$). A total of 79.6% still attended school or received school activities during treatment. Most (85.4%) had a diagnosis of hematologic and lymphatic cancers and were undergoing chemotherapy ($n = 69$). In the oral health assessment, 53.4% had up to two decayed teeth and 77.7% reported brushing their teeth more than twice a day. A total of 70.9% of the mothers had more than eight years of schooling. Most participants were at the hospital on the day of the study ($n = 76$) and 77.7% lived in a city other than Belo Horizonte.

(Table 1)

Table 2 displays the means and standard deviations (SD) of the answers on the PedsQL-GC questionnaire. Mothers of children one to seven years of age had the lowest scores in the "physical functioning" domain (73.79 ± 26.40). In the proxy reports of mothers of children/adolescents eight to 18 years of age, the lowest scores were found in the "school activities" domain (54.98 ± 31.76) and "physical functioning" domain (66.30 ± 24.69). For the self-reports of children aged one to seven years of age, the lowest scores were in the "physical functioning" domain (76.43 ± 21.53) and "school activities" domain (69.79 ± 29.02). Children/adolescents eight to 18 years of age also had the lowest scores in "physical functioning" (65.58 ± 28.80) and "school activities" (56.09 ± 31.67) domains.

(Table 2)

The final model of logistic regression is illustrated in Tables 3 and 4. All independent variables related to quality of life measured by the dependent variable (PedsQL™ 4.0) ($p < 0.25$) in the bivariate analysis were incorporated into the multivariate analysis (adjusted model). In the self-reports of the children/adolescents, those eight to 18 years of age (OR = 7.12, 95% CI: 1.98-25.51) and those accommodated in the support house (OR = 4.05, 95% CI: 1.19-3.31) were more likely to experience poorer quality of life compared to those one to seven years of age. In the proxy reports of the mothers, an association with a poorer quality of life was found among those who were with their child in the support house (OR = 9.43, 95% CI: 1.74 - 50.87).

(Table 3 and 4)

Discussion

There is limited literature on the perceptions of children and adolescents undergoing cancer treatment regarding their general and oral health, especially concerning how these individuals assess their well-being and cope with challenges during treatment [5, 6]. Furthermore, there is a gap in knowledge on the sociodemographic characteristics, aspects of treatment and oral assessments, including the oral hygiene of these individuals [9,15]. The results of this study highlight important associations between sociodemographic factors and the quality of life (QoL) of children and adolescents undergoing cancer treatment. The analysis showed that children eight to 18 years and those accommodated in supportive housing for pediatric patients experienced an impact on QoL based on their self-perceptions. These findings are consistent with data from previous studies indicating that adolescence can be a particularly challenging phase during cancer treatment [6,16]. Adolescence is a period of greater awareness of the disease and its possible consequences, which may contribute to a higher level of concern compared to children in a younger age range [9, 17]. In addition to emotional impacts, adolescents may face additional difficulties with regards to social interactions during oncological treatment, as reflected in the findings of this study and previous research [17,18,19].

Adolescents and young adults undergoing oncological treatment recognize the importance of self-care and self-advocacy as fundamental strategies for coping with long-term illnesses [6,16]. Although patient-centered care should consider the

perspective of patients, there remains insufficient participation on the part of children and adolescents in pediatric care [18, 19], with gaps in knowledge on the effects of shared decision-making. Moreover, current models to promote this participation still largely reflect adult perspectives, without exploring the diversity of children's opinions [20,21]. The limited involvement of children and adolescents in decisions regarding their own care can affect their autonomy in terms of treatment as well as their emotional and social well-being. The experience of cancer combined with this restriction in decision-making can exert an impact on interpersonal relationships, as friendships during adolescence are built on deep, personal interactions, which may be compromised during cancer treatment [22].

The self-reports revealed that children and adolescents in supportive housing for pediatric patients were more likely to experience an impact on QoL compared to those in inpatient and outpatient care on the day of data collection. This result may be linked to various factors, such as the emotional impact of being away from the family environment, as supportive housing accommodates patients from other cities in the state of Minas Gerais as well as other states in Brazil, providing lodging for the duration of treatment. Furthermore, the need to adapt to living with other children in similar situations may constitute an additional challenge [23]. Living in an environment that, although supportive, does not replace the home setting can generate feelings of insecurity, anxiety and sadness, negatively influencing the self-perception of QoL [24,25]. These findings underscore the importance of considering the environment in which the child or adolescent is placed as a central factor related to psychological and emotional well-being [26].

Interventions focused on emotional support in supportive housing for pediatric patients are essential, promoting a welcoming environment that fosters healthy development [27]. Strategies such as psychosocial support groups, group therapy sessions, as well as recreational and educational programs can help minimize the emotional impact of separation from the family, strengthening the resilience of children and adolescents during treatment [26,27]. Moreover, the reports of the children and adolescents were consistent with the perceptions of their caregivers, who also reported an impact on their child's QoL while in supportive housing for pediatric patients. This finding may be related to separation from other family members during treatment, intensifying the

emotional impact of the oncological treatment process and increasing feelings of distress [28]. These results underscore the need for an approach that considers the well-being of both children and their caregivers as well as the importance of providing emotional support for the entire family during treatment [29].

In addition to the emotional impact of being separated from the family setting, low scores were found on the PedsQL-GC questionnaire completed by mothers/caregivers of children one to seven years of age in the 'physical functioning' domain, indicating limitations in performing daily physical activities. Among the mothers of children and adolescents eight to 18 years of age, the lowest scores were found for the 'school activities' and 'physical functioning' domains, suggesting that, in addition to physical difficulties, academic performance is also significantly affected in this age group. These findings underscore the need for interventions that address both physical and academic support during cancer treatment [6, 30].

The results from the self-reports of the children and adolescents were also consistent with the proxy reports of their mothers, demonstrating agreement with regards to the difficulties faced during treatment. The lowest scores were found for the 'physical functioning' domain, reflecting limitations related to fatigue, reduced mobility, and restrictions in daily activities [6, 31]. The "school activities" domain also stood out, demonstrating that academic performance tends to be compromised, primarily due to prolonged absences, a lack of energy, and difficulty concentrating. [32]. Wu et al. (2024) described factors such as the impact on physical and academic well-being, especially in older children who balance treatment and studies [6]. Furthermore, the emotional impact is intensified by family separation and the stress of treatment, affecting both the children and their mothers [26,27]. The need for emotional and psychological support strategies that involve the entire family is widely emphasized [29].

Regarding the oral health of the participants, the prevalence of dental caries was considerable despite good oral hygiene practices. This finding may be associated with dental care provided before and during chemotherapy treatment, as per the protocol adopted by inpatient and outpatient care in the city of Belo Horizonte, Brazil. Oral health care is essential for this population, particularly in terms of providing guidance

and care regarding oral health during cancer treatment [33]. Factors such as dental caries and oral hygiene can exacerbate the side effects of cancer therapy on the oral tissues, often leading to temporary interruption of cancer treatment for the management of infections and other oral complications [8]. However, despite the considerable prevalence of dental caries among the participants, no significant association was found between dental caries and QoL, which is in agreement with data described in a previous study reporting the absence of such an association in populations with a low frequency of caries [33,34]. These findings underscore the importance of considering oral health status when assessing the influence of oral conditions on QoL.

Another factor for this absence of an association is that, in light of the challenges posed by cancer and its treatment, children and adolescents may be more focused on their overall health and well-being than on specific dental issues [34]. Given the prevalence of dental caries identified, it is essential for dentists and other oral health professionals to work collaboratively in monitoring children and adolescents undergoing cancer treatment, implementing prevention and treatment strategies that improve the QoL of these patients during treatment [8, 33, 34]. The results of this study highlight the multidimensional impact of cancer treatment, affecting various areas of life for children and adolescents, encompassing physical, emotional, social, and psychological aspects, as demonstrated by both self-perceptions and the mothers' perceptions. It is imperative for the clinical approach to take this complexity into account, promoting interventions that address oral complications and also support the overall well-being of patients, ensuring that the specific needs of this population are met and contributing to a more positive treatment experience and improved oral health-related quality of life.

The strengths of this study make it relevant for clinical practice and future research. The holistic approach considers not only the physical impact of cancer treatment on the QoL of children and adolescents but also includes general domains of the PedsQL-GC questionnaire. The analysis of sociodemographic factors enriches the understanding of how these contexts influence the perception of QoL. In dentistry, the study emphasizes the importance of regular follow-up during chemotherapy, highlighting a low prevalence of dental caries, although complications such as sensitivity and tooth discoloration are common, underscoring the need for ongoing

preventive care. These findings suggest that future programs should integrate emotional support with clinical treatment to improve QoL in a comprehensive manner. However, this study has limitations, such as the small sample size, which makes it difficult to generalize the results across Brazil. Therefore, further studies in different contexts and populations are needed, along with longitudinal designs to investigate causality between cancer treatment and QoL in children and adolescents.

Conclusion

Factors such as age (8-18 years) and accommodation in supportive housing contribute to the impact on QoL in children and adolescents undergoing treatment for cancer, with low scores in the physical, school, and emotional domains. Although dental caries was not associated with overall QoL, oral health remains essential to prevent complications that could interrupt cancer treatment. Thus, multidisciplinary approaches should integrate dental care and emotional support, enabling more effective, comprehensive monitoring. In clinical practice, joint action between oncologists and dentists are needed to ensure preventive and therapeutic interventions that minimize oral impacts and promote a better treatment experience.

Compliance with ethical standards

Conflict of interest: The authors declare that they have no conflict of interest.

Funding: This work was supported by the Brazilian funding agency Coordination for the Advancement of Higher Education Personnel (CAPES) and the National Council for Scientific and Technological Development (CNPq) - Funding Code 001.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

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

TABLES

TABLE 1: Sample characterization (n=103)

Variables	Frequency	
Sex	N	%
Male	56	54,4
Female	47	45,6
Study or not		
Yes	82	79,6
No	21	20,4
Age		
1-7 years	57	55,3
8-18 years	46	44,7
Mother's age		
Up to 34 years	53	51,5
Over 34 years	50	48,5
Mother's education		
Up to 8 years of education	30	29,1
More than 8 years of education	73	70,9
Research location		
Hospital	76	73,8
Support Home	27	26,2
Where the family lives		
Belo Horizonte	23	22,3
Another city	80	77,7
Diagnosis of pathology		
Hematological and lymphatic cancer	88	85,4
Other type of cancer	15	14,6

TABLE 1: Sample characterization (n=103) (Continued)

Variables	Frequency	
Treatment		
Chemotherapy	69	67
Other	34	33
How often do you brush your teeth?		
Up to 2 times	23	22,3
More than 2 times	80	77,7
Number of decayed teeth		
Up to 2 teeth	55	53,4
More than 2 teeth	48	46,6

TABLE 2: Description of the average of the PedsQL4.0 domains. Difference between parents and children in the way they estimated QoL (n=103).

	Mothers 1-7	Children 1-7	Mothers 8-18	Teenagers 8-18
Domains	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Physical capacity	73,79 (26,40)	76,43 (21,53)	66,30 (24,69)	65,5815 (28,80)
Emotional aspect	75,53 (23,73)	74,79 (22,14)	68,15 (23,64)	65,65 (24,46)
Social activity	85,53 (26,97)	92,50 (12,06)	85,43(24,82)	80,04 (28,54)
School activity	80,26 (30,10)	69,79 (29,02)	54,98 (31,76)	56,09 (31,67)
Total sum PedsQL 4.0	77,59 (19,10)	74,47 (13,31)	66,53 (1118,52)	64,74 (21,12)

TABLE 3: Logistic regression for the association of child characteristics, clinical status of the disease and the impact on overall quality of life (n=103).

Variables	Unadjusted OR (95%IC)	P - value	Adjusted OR (95 % IC)	P - value
Sex				
Male	1	0,463	-	-
Female	0,72 (0,30-1,71)			
Study or not				
Yes	1	0,023	1	0,383
No	0,91 (0,12-0,71)		0,35 (0,34-3,66)	
Age				
1-7 years	1	0,000	1	0,003
8-18 years	7,14 (2,68-19,02)		7,12 (1,98-25,51)	
Mother's age				
Up to 34 years	1	0,021	1	0,874
Over 34 years	2,867 (1,17-6,98)		1,09 (0,36-3,311)	

TABLE 3: Logistic regression for the association of child characteristics, clinical status of the disease and the impact on overall quality of life (n=103) (Continuation)

Variables	Unadjusted OR (95%IC)	P - value	Adjusted OR (95 % IC)	P - value
Mother's education				
Up to 8 years of education	1 0,32 (0,13-0,79)	0,014	1 1,09 (0,36- 3,31)	0,070
More than 8 years of education				
Research location				
Hospital	1	0,013	1	0,024
Support Home	3,22 (1,27- 8,15)		4,05 (1,19-13,74)	
Where the family lives				
Belo Horizonte	1	0,065	1	0,099
Another city	3,39 (0,92-12,44)		3,55 (0,78-16,03)	
Diagnosis of pathology				
Hematological and lymphatic cancer	1 2,47 (0,80- 7,58)	0,335	-	-
Other type of cancer				

TABLE 3: Logistic regression for the association of child characteristics, clinical status of the disease and the impact on overall quality of life (n=103) (Continuation)

Variables	Unadjusted OR (95%IC)	P – value		Adjusted OR (95 % IC)	P – value
Treatment					
Chemotherapy	1	0,335	-		-
Other	1,54 (0,63- 3,74)				
How often do you brush your teeth?					
Up to 2 times	1	0,234	-		
More than 2 times	0,55 (0,20 – 1,46)				
Number of decayed teeth					
Up to 2 teeth	1	0,000	1		0,295
More than 2 teeth	6,30 (2,38 – 16,71)			2,07 (0,53-8,07)	

TABLE 4: Logistic regression for the association of child/adolescent characteristics, clinical status of the disease and the impact on overall QoL, according to proxy report (n = 103).

Variables	Unadjusted OR (95%IC)	P - value	Adjusted OR (95 % IC)	P - value
Sex				
Male	1	0,429	-	-
Female	0,72 (0,33-1,59)			
Study or not				
Yes	1	0,004	1	0,262
No	0,15 (0,41 – 0,55)		0,42 (0,97-1,88)	
Age				
1-7 years	1	0,077	1	0,569
8-18 years	2,041 (0,92- 4,50)		1,47 (0,39- 5,55)	
Mother's age				
Up to 34 years	1	0,066	1	0,434
Over 34 years	2,10 (0,95- 4,63)		1,48 (0,55-3,97)	

TABLE 4: Logistic regression for the association of child/adolescent characteristics, clinical status of the disease and the impact on overall QoL, according to proxy report (n = 103) (Continued).

Variables	Unadjusted OR (95%IC)	P - value	Adjusted OR (95 % IC)	P - value
Mother's education				
Up to 8 years of education	1	0,793	-	-
More than 8 years of education	0,89 (0,380 – 2,09)			
Research location				
Hospital	1	0,000	1	0,009
Support Home	9,53 (3,22 – 28,20)		9,43 (1,74 – 50,87)	
Where the family lives				
Belo Horizonte	1	0,124	-	-
Another city	2,17 (0,80 – 5,85)			
Diagnosis of pathology				
Hematological and lymphatic cancer	1	0,007	1	0,860
Other type of cancer	6,35 (1,67 – 24,16)		0,83 (0,11-6,24)	

TABLE 4: Logistic regression for the association of child/adolescent characteristics, clinical status of the disease and the impact on overall QoL, according to proxy report (n = 103) (Continued).

Variables	Unadjusted OR (95%IC)	P - value	Adjusted OR (95 % IC)	P - value	
Treatment					
Chemotherapy	1	0,445	-	-	
Other	1,37 (0,60 – 3,14)				
How often do you brush your teeth?					
Up to 2 times	1	0,445	-	-	
More than 2 times	0,54 (0,21-1,37)				
Number of decayed teeth					
Up to 2 teeth	1	0,071	1	0,658	
More than 2 teeth	2,06 (0,93-4,55)				1,31 (0,39 – 4,41)

References

1. De Oliveira Santos M et al (2023) Estimativa de incidência de câncer no Brasil, 2023-2025. *Revista Brasileira de Cancerologia*.
2. Loggetto P et al (2023) Regional collaboration for the development of national childhood cancer plans in Latin America and the Caribbean. *Revista Panamericana de Salud Pública*. <https://doi.org/10.26633/RPSP.2023.125>
3. Cano-Vázquez EM et al (2022) Depresión, ansiedad y calidad de vida en pacientes pediátricos con leucemia. *Revista Médica del Instituto Mexicano del Seguro Social*.
4. Siegel DA et al (2023) Counts, incidence rates, and trends of pediatric cancer in the United States, 2003-2019. *Journal of the National Cancer Institute*. <https://doi.org/10.1093/jnci/djad115>
5. Nelly EC et al (2022) Depression, anxiety and quality of life in pediatric patients with leukemia. *Revista medicadel Instituto Mexicano del Seguro Social*.
6. Wu T et al (2024) Health-related quality of life in children with childhood acute myeloid leukemia in China: A five-year prospective study. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2024.e319488>
7. Sun Y et al (2023) A cross-sectional study evaluating health-related quality of life of Chinese pediatric patients with hematological malignancies using EQ-5D-Y. *Frontiers in PublicHealth*. <https://doi.org/10.3389/fpubh.2022.10508355>
8. Kilic M, Gunen Yilmaz S, Kockopru ZM (2024) Evaluation of oral health-related quality of life in children with acute lymphocytic leukemia/acute myelocytic leukemia: A cross-sectional study. *Oral Diseases*. <https://doi.org/10.1111/odi.14614>
9. Silva AVMV et al (2023) Impact of childhood cancer on health-related quality of life in children and adolescents: self-perception and mother's perception. *Journal of Public Health*. <https://doi.org/10.1007/s10389023-01982-6>
10. Soares SC et al (2023) Oral manifestations: A warning-sign in children with hematological disease acute lymphocytic leukemia. *Hematology Reports*. <https://doi.org/10.3390/hematolrep15030051>
11. Peres MA, Traebert J, Marcene W (2001) Calibração de examinadores para estudos epidemiológicos de cárie dentária. *Cad Saúde Pública*., Rio de Janeiro, 17,(1)153-159. <https://doi.org/10.1590/S0102-311X2001000100016>

12. Siegel S (1988). Nonparametric statistics for the behavioral sciences. 2.ed. New York: McGraw Hill, 399p.
13. Klatchoian DA et al (2008) Qualidade de vida de crianças e adolescentes de São Paulo: confiabilidade e validade da versão brasileira do questionário genérico Pediatric Quality of Life Inventory™ versão 4.0. Jornal de Pediatria, 84,308-315. <https://doi.org/10.1590/S0021-75572008000400005>
14. Varni JW et al (2001) PedsQL™ 4.0: Reliability and validity of the Pediatric Quality of Life Inventory™ Version 4.0 Generic Core Scales in healthy and patient populations. Medical care, v. 39, (8) 800-812. <https://doi.org/10.1097/00005650-200108000-00006>
15. Dovigo G et al (2021) Evaluation of quality of life related to the health of children and their families and associated factors. Revista de Odontologia da UNESP. <https://doi.org/10.1097/j.pbj.0000000000000194>
16. Saleh MS et al (2023) Evaluation of health-related quality of life and its domains in pediatric patients with cancer. Journal of the Egyptian National Cancer Institute <https://doi.org/10.1186/s43046-023-00168-1>
17. Greenzang KA et al (2020) Early information needs of adolescents and young adults about late effects of cancer treatment. Cancer. <https://doi.org/10.1002/cncr.329322>
18. Michinobu R et al (2024) Children's cognition and attitudes during long-term cancer treatment: an ethnographic study. BMJ PaediatricsOpen. <https://doi.org/10.1136/bmjpo-2023-002405>
19. Coombes L et al (2022) Achieving child-centred care for children and young people with life-limiting and life-threatening conditions—a qualitative interview study. European Journal of Pediatrics, 181(10): 3739-3752. <https://doi.org/10.1007/s00431-022-04566-w>
20. Coyne I et al (2016) Interventions for promoting participation in shared decision-making for children with cancer. Cochrane Database of Systematic Reviews. <https://doi.org/10.1002/14651858.CD008970.pub33>
21. Darabos K et al (2021) Cancer-related decision-making among adolescents, young adults, caregivers, and oncology providers. Qualitative Health Research. <https://doi.org/10.1177/10497323211037654>

22. Balcerek M et al (2021) Health-related quality of life of children born to childhood cancer survivors in Germany. *Psycho-Oncology*, 30(11)1866-1875. <https://doi.org/10.1002/pon.5752>
23. Magiera A et al (2022) Determinants of quality of life among adolescents in the Małopolska region, Poland. *International journal of environmental research and public health*, <https://doi.org/10.3390/ijerph19148616>
24. Fernández J et al (2022) Public–private collaboration in the provision of palliative care for children and adolescents with cancer: A Chilean experience. *Cancer Reports*. <https://doi.org/10.1002/cnr2.1449>
25. Knoerl R et al (2024) Exploring Adolescent and Young Adult Cancer Survivors' Experience with Cancer Treatment-Related Symptoms: A Qualitative Analysis of Semi-Structured Interviews. *Journal of Adolescent and Young Adult Oncology*. <https://doi.org/10.1089/jayao.2024.0053>
26. Gallardo-Masa C et al (2024). How Adolescents in Residential Care Perceive their Skills and Satisfaction with Life: Do Adolescents and Youth Workers Agree?. *ChildIndicatorsResearch*.
27. Mcgrady ME et al (2024). Psychological outcomes in adolescent and young adult cancer survivors. *Journal of Clinical Oncology*. <https://doi.org/10.1200/JCO.23.01465>
28. Cui P et al (2023) Family resilience and its influencing factors among advanced cancer patients and their family caregivers: a multilevel modeling analysis. *BMC Cancer*. <https://doi.org/10.1186/s12885-023-11101-z>
29. Üzar-özçetin YS et al (2020) Quality of life, caregiver burden, and resilience among the family caregivers of cancer survivors. *European Journal of Oncology Nursing*. <https://doi.org/10.1016/j.ejon.2020.101832>
30. Coça KL et al (2019) Health-related quality of life of Brazilian children and adolescents with benign and malignant solid tumours: A prospective cohort study during the first year after hospital admission. *EuropeanJournalofCancerCare*. <https://doi.org/10.1111/ecc.13102>
31. Zang W et al (2023) Effect of concurrent training on physical performance and quality of life in children with malignancy: A systematic review and meta-analysis. *Frontiers in Public Health*. <https://doi.org/10.3389/fpubh.2023.1127255>

32. Barnett T et al (2023) Education support services for improving school engagement and academic performance of children and adolescents with a chronic health condition. Cochrane Database of Systematic Reviews. <https://doi.org/10.1002/14651858.CD011538.pub2>
33. Ambati P et al (2024) Evaluation of oral complications in children undergoing chemotherapy: An observational study. Journal of Indian Society of Pedodontics and Preventive Dentistry. https://doi.org/10.4103/jisppd.jisppd_219_24
34. Kilic M, Yilma S, Kockopru ZM (2023) Evaluation of oral health-related quality of life in children with acute lymphocytic leukemia/acute myelocytic leukemia: A cross-sectional study. Oral Dis. <https://doi.org/10.1111/odi.146144>

5 CONSIDERAÇÕES FINAIS

Considerando que o tratamento quimioterápico pode resultar em manifestações bucais que afetam a qualidade de vida dos pacientes, podendo inclusive interromper o tratamento ou reduzir sua eficácia, o papel do cirurgião-dentista é de extrema importância no cuidado de crianças e adolescentes com câncer. Estudos científicos sobre a qualidade de vida dessa população são essenciais, pois fornecem subsídios valiosos para que os profissionais de saúde atuem de forma mais integrada e holística. Este estudo contribuiu significativamente ao abordar a QVRSB de crianças e adolescentes com câncer, um tema ainda pouco explorado na literatura.

Os resultados evidenciam o impacto multidimensional do tratamento oncológico na QV e na QVRSB dos pacientes, segundo tanto a autopercepção das crianças e adolescentes quanto a percepção de suas mães. Observou-se que os pacientes mais velhos, especialmente entre 8 e 18 anos, relataram uma percepção mais negativa da QV, o que revela a complexidade emocional dessa fase, marcada por maior consciência sobre a doença e suas consequências. Crianças acolhidas em casas de apoio também demonstraram pior QV em relação àquelas internadas no hospital, possivelmente em função do distanciamento do ambiente familiar e das novas dinâmicas sociais. As mães, ao compartilharem experiências com outras famílias em ambientes de acolhimento, tenderam a ter uma visão mais crítica da QV de seus filhos, possivelmente intensificada pelo estresse e pela sobrecarga emocional.

Além disso, identificou-se uma associação entre a QVRSB, cárie dentária e idade materna, indicando que essas variáveis podem influenciar negativamente a experiência do tratamento oncológico. Esses achados reforçam a necessidade de estratégias de cuidado personalizadas, que integrem o suporte clínico, emocional e psicológico, visando à promoção da saúde bucal e geral dos pacientes. Recomenda-se a criação de programas contínuos de acompanhamento e suporte que se adaptem às necessidades em constante evolução das crianças, adolescentes e suas famílias, promovendo um ambiente de cuidado mais acolhedor, eficaz e humanizado.

REFERÊNCIAS

- BARBOSA, A. M.; RIBEIRO, D. M.; CALDO-TEIXEIRA, A. S. Knowledge and practices of oral health on hospitalized children with cancer. **Ciência & Saúde Coletiva**, São Paulo, v. 15, p. 1113, 2010. Disponível em: <http://dx.doi.org/10.1590/s1413-81232010000700019>. Acesso em: 29 abr. 2024.
- BENDO, C. B.; PAIVA, S. M.; VIEGAS, C. M., et al. The Peds QL™ Oral Health Scale: Feasibility, reliability and validity of the Brazilian Portuguese version. **Health and Quality of Life Outcomes**, Londres, v. 10, n. 42, abr. 2012. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3425333/>. Acesso em: 29 abr. 2024. BRASIL.
- Censo Demográfico 2020: Cidades e Estados. Disponível em: <https://www.ibge.gov.br>. Acesso em: 19 dez. 2024.
- COÇA, K. L., et al. Health-related quality of life of Brazilian children and adolescents with benign and malignant solid tumours: A prospective cohort study during the first year after hospital admission. **European Journal of Cancer Care**, Inglaterra, v. 28, n. 5, p. e13102, 2019. Disponível em: <http://dx.doi.org/10.1111/ecc.13102>. Acesso em: 29 abr. 2024.
- CHOO, C. C.; CHEW, P. K. H.; TAN, P., et al. Health-Related Quality of Life in Pediatric Patients with Leukemia in Singapore: A Cross-Sectional Pilot Study. **International Journal of Environmental Research and Public Health**, Basel, v. 16, n. 12, p. 2069, jun. 2019. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6617504/>. Acesso em: 29 abr. 2024.
- CUI, Y.; YAN, Y. The global burden of childhood and adolescent leukaemia and attributable risk factors: An analysis of the Global Burden of Disease Study 2019. **Journal of Global Health**, Edimburgo, v. 14, mar. 2024. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10906348/>. Acesso em: 26 mai. 2024.
- DEVI, K. S.; ALLENIDEKANIA, A. The Relationship of Oral Care Practice at Home with Mucositis Incidence in Children with Acute Lymphoblastic Leukemia. **Comprehensive Child and Adolescent Nursing**, Abingdon, v. 42(sup1), p. 56–64, 2019. Disponível em: <https://pubmed.ncbi.nlm.nih.gov/31192726/>. Acesso em: 29 abr. 2024.
- DOUBOVA, S. V., et al. Experiences with health care and health-related quality of life of patients with hematologic malignancies in Mexico. **BMC Health Services Research**, v. 20, n. 1, p. 644, 2020. Disponível em: <http://dx.doi.org/10.1186/s12913-020-05498-7>. Acesso em: 29 abr. 2024.
- FARIA, A. B. S.; SILVA, I. H.; DE GODOY ALMEIDA, R., et al. Seroprevalence of herpes virus associated with the presence and severity of oral mucositis in children diagnosed with acute lymphoid leukemia. **Journal of Oral Pathology & Medicine**, Copenhagen, v. 43, n. 4, p. 298-303, dez. 2014. Disponível em: <https://onlinelibrary.wiley.com/doi/10.1111/jop.12138>. Acesso em: 30 abr. 2024.

FERRANS, C. E. Development of a conceptual model of quality of life. **Scholarly Inquiry for Nursing Practice**, v. 10, p. 293-304, 1996. Disponível em: <https://psycnet.apa.org/record/1997-02223-004>. Acesso em: 29 abr. 2024.

GOOURSAND, D.; PAIVA, S. M.; ZARZAR, P. M., et al. Family Impact Scale (FIS): psychometric properties of the Brazilian Portuguese language version. **European Journal of Paediatric Dentistry**, Milão, v. 10, n. 3, p. 141-146, set. 2009. Disponível em: <https://pubmed.ncbi.nlm.nih.gov/19761289/>. Acesso em: 29 abr. 2024.

JUÁREZ-LÓPEZ, M. L. A.; SOLANO-SILVA, M. N.; FRAGOSO-RÍOS, R., et al. Oral diseases in children with acute lymphoblastic leukemia with chemotherapy treatment. **Revista Médica del Instituto Mexicano del Seguro Social**, México, v. 56, n. 2, p. 132-135, mar./abr. 2018. Disponível em: <https://pubmed.ncbi.nlm.nih.gov/29901909/>. Acesso em: 29 abr. 2024.

KAPLAN, J. A. Leukemia in Children. **Pediatrics in Review**, Evanston, v. 40, n. 7, p. 308-315, jul. 2019. Disponível em: <https://publications.aap.org/pediatricsinreview/article-abstract/40/7/319/35294/Leukemia-in-Children?redirectedFrom=fulltext>. Acesso em: 29 abr. 2024.

KILIC, M.; GÜNEN YILMAZ, S.; KÖCKOPRU, Z. M. Evaluation of oral health-related quality of life in children with acute lymphocytic leukemia/acute myelocytic leukemia: A cross-sectional study. **Oral Diseases**, Houndmills, maio 2023. Disponível em: <https://onlinelibrary.wiley.com/doi/10.1111/odi.14614>. Acesso em: 30 abr. 2024.

KLATCHOIAN, D. A., et al. Quality of life of children and adolescents from São Paulo: reliability and validity of the Brazilian version of the Pediatric Quality of Life Inventory™ version 4.0 Generic Core Scales. **Journal of Pediatrics**, v. 84, p. 308-315, 2008. Disponível em: <http://dx.doi.org/10.2223/JPED.1788>. Acesso em: 30 abr. 2024.

NAGARAJAN, R.; GERBING, R.; ALONZO, T., et al. Quality of life in pediatric acute myeloid leukemia: Report from the Children's Oncology Group. **Cancer Medicine**, Malden, v. 8, n. 9, p. 4454-4464, ago. 2019. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6675729/>. Acesso em: 29 abr. 2024.

NATIONAL CANCER INSTITUTE. Acute Lymphoblastic Leukemia Treatment (PDQ®)—Health Professional Version. 2024. Disponível em: https://www.cancer.gov/types/leukemia/hp/adult-all-treatment-pdq#_81. Acesso em Julho de 2024 Disponível em: [https://www.pediatricnursing.org/article/S0882-5963\(22\)00344-X/abstract](https://www.pediatricnursing.org/article/S0882-5963(22)00344-X/abstract). Acesso em 29 abr. 2024.

NELLY, E. C., et al. Depression, anxiety and quality of life in pediatric patients with leukemia. **Revista Médica del Instituto Mexicano del Seguro Social**, v. 60, n. 5, p. 883-886, 2022. Disponível em: <https://www.medscape.com/medline/abstract/3604872>. Acesso em: 29 abr. 2024.

NETO, R. D. S.; BRITO, M. L. P.; DO NASCIMENTO, M. M. X., et al. Childhood leukemia: Brazilian reality in children under fifteen years. **Journal of Pediatric Nursing**, Orlando, v. 69, p. 111-117, jan. 2023. Disponível em: [https://www.pediatricnursing.org/article/S0882-5963\(22\)00344-X/abstract](https://www.pediatricnursing.org/article/S0882-5963(22)00344-X/abstract). Acesso em: 29 abr. 2024.

NUNES, M. D. R.; NASCIMENTO, L. C.; FERNANDES, A. M., et al. Pain, sleep patterns and health-related quality of life in paediatric patients with cancer. **European Journal of Cancer Care**, Londres, v. 28, n. 4, p. e13029, jul. 2019. Disponível em: <https://onlinelibrary.wiley.com/doi/10.1111/ecc.13029>. Acesso em: 29 abr. 2024.

ORGANIZAÇÃO MUNDIAL DA SAÚDE. Oral Health Surveys: Basic Methods (5.^a ed.). Genebra: **Organização Mundial da Saúde**, 2013. Disponível em: <https://www.who.int/publications/i/item/9789241548645>. Acesso em: 29 abr. 2024.

PERES, M. A.; TRAEBERT, J.; MARCENE, W. Calibração de examinadores para estudos epidemiológicos de cárie dentária. **Cadernos de Saúde Pública**, Rio de Janeiro, v. 17, n. 1, p. 153-159, fev. 2001. Disponível em: <https://www.scielo.br/j/csp/a/wG8pMJbTyW7xKLXMV8B4pZR/>. Acesso em: 30 abr. 2024.

RAGHUBAR, K. P.; CHAMBERS, T.; HILL, R. M., et al. Longitudinal investigation of suicidal ideation and associated factors during pediatric acute lymphoblastic leukemia chemotherapy. **Psycho-Oncology**, Chichester, v. 31, n. 10, p. 1782-1789, out. 2022. Disponível em: <https://onlinelibrary.wiley.com/doi/10.1002/pon.6014>. Acesso em: 30 abr. 2024.

RODGERS, C. C.; HOOKE, M. C.; TAYLOR, O. A., et al. Childhood Cancer Symptom Cluster: Leukemia and Health-Related Quality of Life. **Oncology Nursing Forum**, Nova Iorque, v. 46, n. 2, p. 228-237, mar. 2019. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8106538/>. Acesso em: 30 abr. 2024.

SANTOS, M. O., et al. Estimativa de incidência de câncer no Brasil, 2023-2025. **Revista Brasileira de Cancerologia**, v. 69, n. 1, 2023. Disponível em: <https://rbc.inca.gov.br/index.php/revista/article/view/3700>. Acesso em: 29 abr. 2024.

SETH, R.; SINGH, A. Leukemias in Children. **Indian Journal of Pediatrics**, Nova Deli, v. 82, n. 9, p. 817-824, set. 2015. Disponível em: <http://dx.doi.org/10.1007/s12098-015-1695-5>. Acesso em: 16 jul. 2024.

SIEGEL, D. A., et al. Counts, incidence rates, and trends of pediatric cancer in the United States, 2003–2019. **Journal of the National Cancer Institute**, v. 115, n. 11, p. 1337-1354, 2023. Disponível em: <http://dx.doi.org/10.1093/jnci/djad115>. Acesso em: 13 jun. 2024.

SIEGEL, S.; CASTELLAN JR, N. J. Nonparametric Statistics for the Behavioral Sciences. 2. ed. Nova Iorque: McGraw-Hill, 1988. 399 p.

SIMAL, C. J. R.; PARISOTTO, V. S. Um pouco da história do Instituto do Radium de Belo Horizonte. **Revista Médica de Minas Gerais**, Belo Horizonte, v. 21, n. 3,

p. 353-360, 2011. Disponível em: <https://www.rmmg.org/artigo/detalhes/182>. Acesso em: 30 abr. 2024.

SILVA, A. V. M. V., et al. Impact of childhood cancer on health-related quality of life in children and adolescents: self-perception and mother's perception. **Journal of Public Health**, v. 32, p. 2299-2306, 2023. Disponível em: <https://link.springer.com/article/10.1007/s10389-023-01982-6#citeas>. Acesso em: 30 jan. 2025.

STEELE, M. M.; STEELE, R. G.; VARNI, J. W. Reliability and validity of the PedsQL™ Oral Health Scale: measuring the relationship between child oral health and health-related quality of life. **Child Health Care**, Londres, v. 38, n. 3, p. 228-244, jul. 2009. Disponível em: <https://www.tandfonline.com/doi/pdf/10.1080/02739610903038818>. Acesso em: 30 abr. 2024.

SUN, Y.; ZHOU, H. J.; SHEN, A., et al. A cross-sectional study evaluating health-related quality of life of Chinese pediatric patients with hematological malignancies using EQ-5D-Y. **Frontiers in Public Health**, Lausanne, article 1050835, jan. 2023. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9874309/>. Acesso em: 30 abr. 2024.

TERWILLIGER, T.; ABDUL-HAY, M. Acute lymphoblastic leukemia: a comprehensive review and 2017 update. *Blood Cancer Journal*, v. 7, n. 6, p. e577, jun. 2017. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5520400/>. Acesso em: 30 abr. 2024.

VARNI, J. W., et al. PedsQL™ 4.0: Reliability and validity of the Pediatric Quality of Life Inventory™ Version 4.0 Generic Core Scales in healthy and patient populations. **Medical Care**, v. 39, n. 8, p. 800-812, 2001. Disponível em: <http://dx.doi.org/10.1097/00005650-200108000-00006>. Acesso em: 30 abr. 2024.

WANG, Y.; ZENG, X.; YANG, X., et al. Oral Health, Caries Risk Profiles, and Oral Microbiome of Pediatric Patients with Leukemia Submitted to Chemotherapy. **Biomedical Research International**, New York, artigo 6637503, jan. 2021. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7834790/>. Acesso em: 30 abr. 2024.

WU, J.; FANTASIA, J. E.; KAPLAN, R. Oral manifestations of acute myelomonocytic leukemia: a case report and review of the classification of leukemias. **Journal of Periodontology**, Chicago, v. 73, n. 6, p. 664-668, jun. 2002. Disponível em: <https://aap.onlinelibrary.wiley.com/doi/10.1902/jop.2002.73.6.664>. Acesso em: 30 abr. 2024.

WU, T., et al. Health-related quality of life in children with childhood acute myeloid leukemia in China: A five-year prospective study. **Heliyon**, v. 10, n. 11, p. e31948, 2024. Disponível em: <http://dx.doi.org/10.1016/j.heliyon.2024.e31948> . Acesso em: 30 abr. 2024.

APÊNDICE A - Aprovação Superintendência Regional de Ensino

CARTA DE ANUÊNCIA PARA SUPERINTENDÊNCIA REGIONAL DE ENSINO

Exmo (a). Sr. (a) Superintendente de Ensino,

Objetivamos realizar uma pesquisa para dissertação de mestrado intitulada "Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia", que está sendo desenvolvida sob minha orientação, na Faculdade de Odontologia da Universidade Federal de Minas Gerais (UFMG).

Solicitamos por gentileza sua autorização para examinar crianças e adolescentes entre 2 a 18 anos nas pré-escolas e escolas em que estão matriculadas, bem como aplicar questionários à elas e aos seus pais/responsáveis. Informamos que a realização deste trabalho não trará custos para as instituições e, na medida do possível, não iremos interferir na operacionalização e/ou nas atividades cotidianas das mesmas. Salientamos ainda, que em retorno, forneceremos os resultados desta pesquisa para a Secretaria Estadual de Educação.

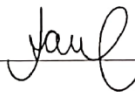
Ressaltamos que em virtude do cenário atual de pandemia do covid-19, pretende-se iniciar a coleta de dados nas pré-escolas e escolas após a pandemia, quando as aulas estiverem sendo ministradas presencialmente.

Esclarecemos que tal autorização é uma pré-condição bioética para execução de qualquer estudo envolvendo seres humanos, sob qualquer forma ou dimensão, em consonância com a resolução 466/12 do Conselho Nacional de Saúde.

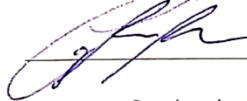
Este estudo está submetido à apreciação do Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais, e somente terá início após a aprovação.

Atenciosamente,

Sete Lagoas, 26 de Outubro de 2020



Prof. Dr. Saul Martins Paiva (FO/UFMG) - Pesquisador responsável



Superintendente de Ensino

Cláudio Renato Souza Abreu
MaSP 662889-5
Superintendente
SRE Sete Lagoas

APÊNDICE B – Aprovação Secretaria Municipal de Educação de Sete Lagoas**CARTA DE ANUÊNCIA PARA SECRETARIA MUNICIPAL DE EDUCAÇÃO DE SETE LAGOAS**

Exmo (a). Sr. (a) Secretário (a) Municipal de Educação

Objetivamos realizar uma pesquisa para dissertação de mestrado intitulada “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”, que está sendo desenvolvida sob minha orientação, na Faculdade de Odontologia da Universidade Federal de Minas Gerais (UFMG).

Solicitamos por gentileza sua autorização para examinar crianças e adolescentes entre 2 a 18 anos nas pré-escolas e escolas em que estão matriculadas, bem como aplicar questionários à elas e aos seus pais/responsáveis. Informamos que a realização deste trabalho não trará custos para as instituições e, na medida do possível, não iremos interferir na operacionalização e/ou nas atividades cotidianas das mesmas. Salientamos ainda, que em retorno, forneceremos os resultados desta pesquisa para a Secretaria Municipal de Educação.

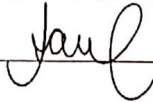
Ressaltamos que em virtude do cenário atual de pandemia do covid-19, pretende-se iniciar a coleta de dados nas pré-escolas e escolas após a pandemia, quando as aulas estiverem sendo ministradas presencialmente.

Esclarecemos que tal autorização é uma pré-condição bioética para execução de qualquer estudo envolvendo seres humanos, sob qualquer forma ou dimensão, em consonância com a resolução 466/12 do Conselho Nacional de Saúde.

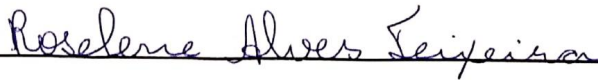
Este estudo está submetido à apreciação do Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais, e somente terá início após a aprovação.

Atenciosamente,

Sete Lagoas, ____ de ____ de 2020



Prof. Dr. Saul Martins Paiva (FO/UFMG) - Pesquisador responsável



Secretário (a) Municipal de Educação

Roselene Alves Teixeira
Secretária Mun. de Educação, Esportes e Cultura
Portaria nº 12.968

APÊNDICE C - Aprovação das escolas

Exmo(a). Sr(a). Diretor(a)

Objetivamos realizar uma pesquisa para tese de doutorado intitulada "Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia", que está sendo desenvolvida sob minha orientação, na Faculdade de Odontologia da Universidade Federal de Minas Gerais (UFMG).

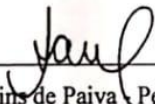
Solicitamos por gentileza sua autorização para examinar crianças entre 2 a 18 anos de idade, bem como aplicar questionários a elas e aos seus pais/responsáveis/cuidadores. Informamos que a realização deste trabalho não trará custos para as instituições e, na medida do possível, não iremos interferir na operacionalização e/ou nas atividades cotidianas das mesmas. Salientamos, ainda que em retorno, forneceremos os resultados desta pesquisa para a escola.

Esclarecemos que tal autorização é uma pré-condição bioética para execução de qualquer estudo envolvendo seres humanos, sob qualquer forma ou dimensão, em consonância com a resolução 466/12 do Conselho Nacional de Saúde.

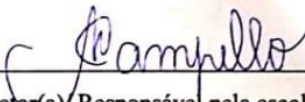
Este estudo foi aprovado no Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (CAAE: 67189617.2.1001.5149).

Atenciosamente,

Sete Lagoas, 23 de Novembro de 2022


Prof. Dr. Saul Martins de Paiva Pesquisador responsável

AUTORIZO


Diretor(a) Responsável pela escola

Exmo(a). Sr(a). Diretor(a)

Objetivamos realizar uma pesquisa para tese de doutorado intitulada "Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia", que está sendo desenvolvida sob minha orientação, na Faculdade de Odontologia da Universidade Federal de Minas Gerais (UFMG).

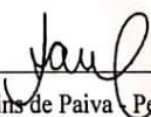
Solicitamos por gentileza sua autorização para examinar crianças entre 2 a 18 anos de idade, bem como aplicar questionários a elas e aos seus pais/responsáveis/cuidadores. Informamos que a realização deste trabalho não trará custos para as instituições e, na medida do possível, não iremos interferir na operacionalização e/ou nas atividades cotidianas das mesmas. Salientamos, ainda que em retorno, forneceremos os resultados desta pesquisa para a escola.

Esclarecemos que tal autorização é uma pré-condição bioética para execução de qualquer estudo envolvendo seres humanos, sob qualquer forma ou dimensão, em consonância com a resolução 466/12 do Conselho Nacional de Saúde.

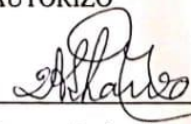
Este estudo foi aprovado no Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (CAAE: 67189617.2.1001.5149).

Atenciosamente,

Sete Lagoas, 31 de agosto de 2022


Prof. Dr. Saul Martins de Paiva - Pesquisador responsável

AUTORIZO


Diretor(a)/ Responsável pela escola

Vanda Ap. Almeida de Paiva
MaSP 362 - 95-3
Diretora-MG 29/06/2019
E. F. Dr. Artur Bernardes

**APÊNDICE D - Carta de apresentação do estudo e termo de consentimento
livre e esclarecido para pais/cuidadores das crianças e adolescentes de 1 a 17
anos**

Senhores Pais/Responsáveis/Cuidadores, convidamos você e seu (sua) filho (a) a participar da pesquisa que tem o título “Qualidade de vida relacionada à saúde bucal de crianças e adolescentes com leucemia”, do Programa de Pós-graduação da Faculdade de Odontologia, na área de Odontopediatria, da Universidade Federal de Minas Gerais (UFMG).

Este estudo está sendo realizado para compreender melhor os problemas causados pelos dentes, boca, lábios e maxilares em crianças e adolescentes com leucemia. Esta pesquisa será feita através de um questionário que busca suas opiniões e/ou as opiniões do seu (a) filho (a), além de um exame visual da boca de seu (a) filho (a). Após sua autorização, realizaremos a pesquisa com você e seu (a) filho (a).

Essa pesquisa será feita com dois grupos: um grupo de crianças e adolescentes com leucemia e outro grupo com crianças e adolescentes sem leucemia. Os dados da pesquisa serão comparados entre esses dois grupos.

Não haverá custo nem benefícios financeiros. Gostaria de esclarecer que os senhores têm o direito de autorizar a participação do seu (a) filho (a) ou não, podendo desistir a qualquer momento. Caso desista, e o seu (a) filho (a) seja do grupo de participantes com leucemia, ele não terá nenhum prejuízo quanto ao tratamento médico que vem recebendo. Esta pesquisa preza pelo sigilo e privacidade dos participantes.

Talvez, seja preciso tirar fotos da boca do (a) seu (a) filho (a) para utilizarmos nas nossas aulas, eventos e artigos científicos. Essas fotos não serão identificadas, pois utilizaremos um filtro para impedir a identificação do participante. Caso isso seja necessário, essas fotos, bem como todo o material da pesquisa ficarão arquivados com o pesquisador Dr. Saul Martins de Paiva e com a pesquisadora Alice Machado Carvalho Santos em suas casas pelo tempo que for necessário. Caso você concorde com isso, vamos te pedir para assinar outro documento, além deste.

Rubrica do participante:

Rubrica do pesquisador:

Esta pesquisa oferece riscos mínimos aos participantes, como: constrangimento ao responder as perguntas, incômodo ao examinarmos os dentes do seu (a) filho (a) e quebra de sigilo. Para evitar tais riscos, nós faremos o possível para que todas as informações fornecidas sejam mantidas em total confidência. Os questionários não serão identificados com os nomes dos participantes e serão curtos e rápidos. Além disso, vocês responderão os questionários em uma sala separada sem a presença de outras pessoas. Ademais, caso seu (a) filho (a) sinta algum incômodo ao olharmos os dentes, iremos interromper o exame imediatamente e só o realizaremos quando seu (a) filho (a) nos permitir. O exame clínico não causará dor para seu (a) filho (a), pois se trata de um exame de rotina, mas em caso de preocupação e constrangimento, será explicado ao seu filho que nenhum procedimento invasivo será realizado. Ressalta-se que a criança não será examinada contra vontade própria.

Os benefícios dessa pesquisa para seu (a) filho (a) incluem o diagnóstico de alterações bucais. Além disso, a realização desse estudo poderá contribuir para o entendimento sobre a saúde bucal de crianças e adolescentes em tratamento de leucemia e seu impacto na qualidade de vida dessas pessoas. O atendimento/tratamento odontológico dessa população poderá ser aprimorado.

O nosso trabalho terá a seguinte sequência: após a sua autorização, você e/ou seu (a) filho (a) serão convidados a responderem algumas questões sobre a qualidade de vida do (a) seu (a) filho (a). Em seguida, seu (a) filho (a) será examinado, com a utilização de materiais esterilizados e descartáveis, conforme as normas. Durante o exame clínico, pode ser necessário tirar algumas fotografias dos dentes de seu (a) filho (a). Mas ele (a) não será identificado e a duração desse exame será de aproximadamente 10 minutos. No momento do exame, estaremos usando luvas descartáveis e todo o material de proteção individual como avental, óculos de proteção, gorro e máscara descartável.

Respondendo a estas questões, você nos ajudará a aprender mais sobre as experiências de pessoas jovens que precisam fazer tratamento de saúde.

Caso você esteja de acordo com a participação de seu (a) filho (a) na pesquisa, gostaria da sua autorização.

Rubrica do participante:

Rubrica do pesquisador:

Esse documento será obtido em duas vias, uma que ficará aos cuidados do pesquisador e outra em sua posse.



Assinatura do pesquisador responsável

Estamos à disposição para maiores esclarecimentos:

- Alice Machado Carvalho Santos: Telefone: **(31) 99853-0346**

E-mail:

alicemachado_santos@hotmail.com

- Pesquisador Responsável - Saul Martins Paiva: Telefone: **(31) 99967-3382**

E-mail: **smpaiva@uol.com.br**

Em caso de dúvidas sobre as questões éticas dessa pesquisa, entrar em contato com o Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (COEP-UFMG) pelo telefone: **(31) 3409-4592** ou e-mail **coep@prpq.ufmg.br**.

COEP/ UFMG: Av. Antônio Carlos, 6627, Pampulha. Prédio da Reitoria, 7º andar sala 7018. CEP 31270-901.

Eu, _____, RG _____, responsável por _____, de _____ anos de idade, declaro ter sido devidamente esclarecido (a) e autorizo a participação de meu (a) filho (a) na pesquisa “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”, que será executada pela doutoranda Alice Machado Carvalho Santos, com a orientação do Prof. Dr. Saul Martins de Paiva, do Programa de Pós-graduação em Odontologia, UFMG, bem como a utilização dos dados coletados desde que seja mantido o sigilo de minha identificação conforme normas do Comitê de Ética em Pesquisa desta Universidade. Autorizo ainda a realização de fotografias dos dentes e da cavidade bucal, sem identificação do meu (a) filho (a), para utilização como material didático para aulas expositivas, apresentação em eventos científicos ou para publicação de artigo em revista científica da área da saúde, nacional e/ou internacional.

Belo Horizonte, _____ de _____ de _____.

Assinatura do responsável

Eu, _____, RG _____, declaro ter sido devidamente esclarecido (a) e autorizo a minha participação na pesquisa “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”, que será executada pela doutoranda Alice Machado Carvalho Santos, com a orientação do Prof. Dr. Saul Martins de Paiva, do Programa de Pós-graduação

em Odontologia, UFMG, bem como com a utilização dos dados coletados desde que seja mantido o sigilo de minha identificação conforme normas do Comitê de Ética em Pesquisa desta Universidade.

Belo Horizonte, _____ de _____ de _____

_____.

Assinatura do participante

Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (COEP)

Endereço: Av. Antônio Carlos, 6627, Unidade Administrativa II – 2º andar – Sala 2005
– Campus Pampulha

CEP: 31.270-901 – Belo Horizonte – MG

Telefone para contato: (31) 3409-4592

E-mail: coep@prpq.ufmg.br

Horário de atendimento: de 9:00h às 11:00 e de 14:00h às 16:00h

APÊNDICE E - Carta de apresentação do estudo e termo de assentimento livre e esclarecido para crianças de 5-7 anos

Estamos te convidando a participar da pesquisa “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”. Sua mãe ou seu pai deixou você participar.

Nós queremos saber se os problemas na boca como cárie e dor de dente podem incomodar sua vida. Para isso, precisamos que você e seus pais respondam algumas perguntas e também vamos precisar olhar os seus dentes.

Essa pesquisa será feita com dois grupos: um grupo de crianças e adolescentes com leucemia e outro grupo com crianças e adolescentes sem leucemia. Os dados da pesquisa serão comparados entre esses dois grupos.

Você não precisa participar se não quiser que ninguém vai ficar triste com você. Caso você seja do grupo de crianças com leucemia e não quiser participar da pesquisa, não tem problema, você vai continuar o seu tratamento médico normalmente. Não precisa pagar para participar da pesquisa e você também não vai receber dinheiro para participar.

Vamos olhar a sua boca e seus dentes. Nós vamos olhar se você apresenta problemas nos dentes. Usaremos um espelho e secaremos seus dentes com uma gaze. Vamos usar luvas, máscara, avental, gorro e óculos.

Talvez, seja preciso tirar fotos da sua boca para utilizarmos nas nossas aulas, eventos e artigos científicos. Essas fotos não serão identificadas, pois utilizaremos um filtro para impedir a identificação do participante. Caso isso seja necessário, as fotos, bem como todo o material da pesquisa ficarão guardados com o pesquisador Dr. Saul Martins de Paiva e com a pesquisadora Alice Machado Carvalho Santos em suas casas pelo tempo que for necessário. Caso você concorde com isso, vamos pedir para assinar o seu nome em outra folha também.

Esta pesquisa oferece poucos riscos, como: você pode ficar com vergonha ao responder as perguntas e pode se sentir desconfortável ao olharmos a sua boca. Além disso, pode acontecer de outras pessoas saberem o que você respondeu. No entanto, nós faremos o possível para que isso não aconteça; não vamos contar a outras pessoas, nem contaremos a estranhos o que você nos falar. Você responderá as

Rubrica do participante:

Rubrica do pesquisador:

perguntas em uma sala separada longe de outras pessoas, para evitar que você sinta vergonha. Na folha de perguntas não vai ter o seu nome, e essas perguntas serão pequenas e rápidas. Além disso, caso se sinta incomodado ao olharmos a sua boca, nos avise, que vamos parar imediatamente e só olharemos quando você concordar. Não vai doer para olhar os seus dentes, mas nós não iremos te avaliar contra a sua vontade.

As coisas boas que esse estudo pode trazer para quem participar é que vamos descobrir se existe algum problema nos seus dentes, e caso exista, vocês serão encaminhadas para tratamento com um dentista nas clínicas da Faculdade de Odontologia da UFMG. Além disso, essa pesquisa vai contribuir para entendermos sobre a saúde bucal de crianças e adolescentes durante o tratamento da leucemia e seu impacto na qualidade de vida destas pessoas. O atendimento/ tratamento dentário dessas pessoas poderá ser melhorado.

Caso seja necessário, seus pais podem entrar em contato com a gente através desse telefone: (31) 99853-0346 ou desse e-mail: alicemachado_santos@hotmail.com

Caso você tenha alguma pergunta sobre as questões éticas dessa pesquisa, seus pais podem procurar o Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (COEP-UFMG) pelo telefone: **(31) 3409-4592** ou e-mail **coep@prpq.ufmg.br**.

COEP/ UFMG: Av. Antônio Carlos, 6627, Pampulha. Prédio da Reitoria, 7º andar sala 7018. CEP 31270-901.

Ao assinar essa folha, você concorda em participar dessa pesquisa, concorda da gente olhar a sua boca e também concorda em responder as perguntas. Autoriza também que as informações obtidas sejam apresentadas e publicadas em nossos trabalhos, mas não vamos mostrar o seu nome em nenhum lugar.

=====

Eu _____ aceito participar da pesquisa “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”.

Entendi que posso dizer “sim” e participar, mas que, a qualquer momento, posso dizer “não” e desistir e que ninguém vai ficar triste comigo.

Os pesquisadores deixaram que eu perguntasse e conversei com os meus responsáveis antes.

Recebi uma via deste termo de assentimento, li ou leram pra mim e concordo em participar da pesquisa.

, ____ de ____ de ____.

Assinatura do menor

_____

Assinatura do pesquisador responsável

Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (COEP)

Endereço: Av. Antônio Carlos, 6627, Unidade Administrativa II – 2º andar – Sala 2005 – Campus Pampulha

CEP: 31.270-901 – Belo Horizonte – MG

Telefone para contato: (31) 3409-4592

E-mail: coep@prpq.ufmg.br

Horário de atendimento: de 9:00h às 11:00 e de 14:00h às 16:00h .

APÊNDICE F - Carta de apresentação do estudo e termo de assentimento livre e esclarecido para crianças de 8-12 anos

Convidamos você a participar da pesquisa que tem o título “Qualidade de vida relacionada à saúde bucal em crianças e adolescente com leucemia”. Seus pais deixaram que você participe.

Queremos saber se os problemas na boca como cárie e dor de dente podem incomodar sua vida. Para isso, precisamos que você e seus pais/cuidadores respondam algumas perguntas e também vamos precisar olhar os seus dentes.

Essa pesquisa será feita com dois grupos: um grupo de crianças e adolescentes com leucemia e outro grupo com crianças e adolescentes sem leucemia. Os dados da pesquisa serão comparados entre esses dois grupos.

Você não precisa participar se não quiser que ninguém vai ficar triste com você. Caso você seja do grupo de crianças com leucemia e não quiser participar da pesquisa, não tem problema, você vai continuar o seu tratamento médico normalmente. Não precisa pagar para participar da pesquisa e você também não receberá nenhum dinheiro para participar.

Vamos fazer um exame da sua boca e seus dentes. Neste exame vamos olhar se você apresenta problemas nos dentes. Para isso, vamos usar um espelho e vamos secar seus dentes com gaze. Os dentistas vão usar luvas descartáveis, máscara, avental, gorro e óculos.

Talvez, seja preciso tirar fotos da sua boca para utilizarmos nas nossas aulas, eventos e artigos científicos. Essas fotos não serão identificadas, pois utilizaremos um filtro para impedir a identificação do participante. Caso isso seja necessário, as fotos, bem como todo o material da pesquisa ficarão guardados com o pesquisador Dr. Saul Martins de Paiva e com a pesquisadora Alice Machado Carvalho Santos em suas casas pelo tempo que for necessário. Caso você concorde com isso, vamos pedir para assinar o seu nome em outra folha também.

Esta pesquisa oferece riscos mínimos aos participantes, como: você pode se sentir constrangido ao responder as perguntas, também pode se sentir incomodado ao olharmos os seus dentes. Além disso, pode acontecer de outras pessoas saberem o que você respondeu. No entanto, para evitar esses riscos, nós faremos o possível

Rubrica do participante:

Rubrica do pesquisador:

para que todas as informações fornecidas por você sejam mantidas em segredo; Você responderá as perguntas em uma sala separada longe de outras pessoas, para evitar constrangimento. Na folha de perguntas não vai ter o seu nome, e essas perguntas serão pequenas e rápidas. Além disso, caso se sinta incomodado ao olharmos a sua boca, nos avise, que vamos parar imediatamente e só olharemos quando você concordar. O exame não vai te causar dor, mas não iremos te avaliar contra a sua vontade.

Os benefícios dessa pesquisa para os participantes incluem o diagnóstico de alterações bucais. Além disso, a realização desse estudo poderá contribuir para o entendimento sobre a saúde bucal de crianças e adolescentes em tratamento de leucemia e seu impacto na qualidade de vida dessas pessoas. O atendimento/ tratamento odontológico dessa população poderá ser melhorado.

Caso você ou alguém da sua família queira saber mais sobre a pesquisa, pode nos procurar pelo telefone (31) 99853-0346 e ainda pelo e-mail alicemachado_santos@hotmail.com.

Em caso de dúvidas sobre as questões éticas dessa pesquisa, entrar em contato com o Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (COEP-UFMG) pelo telefone: **(31) 3409-4592** ou e-mail **coep@prpq.ufmg.br**.

COEP/ UFMG: Av. Antônio Carlos, 6627, Pampulha. Prédio da Reitoria, 7º andar sala 7018. CEP 31270-901.

Ao assinar esse documento, você concorda em participar deste estudo e que seja realizado exame clínico, bem como, o preenchimento do questionário com as perguntas. Autoriza também que as informações obtidas através do exame clínico e das respostas aos questionários sejam apresentadas e publicadas em eventos e artigos científicos, mas não vamos mostrar o seu nome em nenhum lugar.

=====

Eu _____ aceito participar da pesquisa “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”.

Entendi que posso dizer “sim” e participar, mas que, a qualquer momento, posso dizer “não” e desistir e que ninguém vai ficar furioso.

Os pesquisadores tiraram minhas dúvidas e conversaram com os meus responsáveis.

Recebi uma via deste termo de assentimento e li e concordo em participar da pesquisa.

, ____ de ____ de ____.

Assinatura do menor

Assinatura do pesquisador
responsável

Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (COEP)

Endereço: Av. Antônio Carlos, 6627, Unidade Administrativa II – 2º andar – Sala 2005
– Campus Pampulha

CEP: 31.270-901 – Belo Horizonte – MG

Telefone para contato: (31) 3409-4592

E-mail: coep@prpq.ufmg.br

Horário de atendimento: de 9:00h às 11:00 e de 14:00h às 16:00h .

APÊNDICE G - Carta de apresentação do estudo e termo de assentimento livre e esclarecido para adolescentes de 13-18 anos

Prezado (a), convidamos você a participar da pesquisa que tem o título “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”. Seus pais permitiram que você participe.

Queremos saber se os problemas na boca como cárie e dor de dente podem afetar a sua vida. Para isso, precisamos que você responda algumas perguntas e também precisaremos avaliar os seus dentes.

Essa pesquisa será feita com dois grupos: um grupo de crianças e adolescentes com leucemia e outro grupo com crianças e adolescentes sem leucemia. Os dados da pesquisa serão comparados entre esses dois grupos.

Você não precisa participar da pesquisa se não quiser e não terá nenhum problema se desistir. Caso você seja do grupo de participantes com leucemia e desista de participar, não se preocupe, pois você continuará o seu tratamento médico normalmente. Essa pesquisa não lhe causará custos nem benefícios financeiros.

Iremos realizar um exame da sua boca e seus dentes. Neste exame será observado se você apresenta problemas nos dentes. Para isso, será usado um espelho e vamos secar seus dentes com gaze. Os dentistas usarão luvas descartáveis, máscara, avental, gorro e óculos.

Talvez, seja preciso tirar fotos da sua boca para utilizarmos nas nossas aulas, eventos e artigos científicos. Essas fotos não serão identificadas, pois utilizaremos um filtro para impedir a identificação do participante. Caso isso seja necessário, essas fotos, bem como todo o material da pesquisa ficarão arquivados com o pesquisador Dr. Saul Martins de Paiva e com a pesquisadora Alice Machado Carvalho Santos em suas casas pelo tempo que for necessário. Caso você concorde com isso, vamos te pedir para assinar o seu nome em outro documento além deste.

Esta pesquisa oferece riscos mínimos aos participantes, como: constrangimento ao responder as perguntas, incômodo ao examinarmos os seus dentes e quebra de sigilo. Para evitar tais riscos, nós faremos o possível para que todas as informações fornecidas por você sejam mantidas em total confidência. Os questionários não serão identificados com o seu nome, e serão curtos e rápidos. Além

Rubrica do participante:

Rubrica do pesquisador:

disso, você responderá os questionários em uma sala separada sem a presença de outras pessoas. Ademais, caso sinta algum incômodo ao olharmos os seus dentes, nos avise, que paramos imediatamente e só realizaremos o exame clínico quando você permitir. O exame não te causará dor, mas não iremos te avaliar contra a sua vontade.

Os benefícios dessa pesquisa para os participantes incluem o diagnóstico de alterações bucais. Além disso, a realização desse estudo poderá contribuir para o entendimento sobre a saúde bucal de crianças e adolescentes em tratamento de leucemia e seu impacto na qualidade de vida dessas pessoas. O atendimento/tratamento odontológico dessa população poderá ser aprimorado.

Caso você ou alguém da sua família queira saber mais sobre a pesquisa, pode nos procurar pelo telefone (31) 99853-0346 e ainda pelo e-mail alicemachado_santos@hotmail.com.

Em caso de dúvidas sobre as questões éticas dessa pesquisa, entrar em contato com o Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (COEP-UFMG) pelo telefone: **(31) 3409-4592** ou e-mail **coep@prpq.ufmg.br**.

COEP/ UFMG: Av. Antônio Carlos, 6627, Pampulha. Prédio da Reitoria, 7º andar sala 7018. CEP 31270-901.

Ao assinar esse documento, você concorda em participar deste estudo e que seja realizado exame clínico, bem como, o preenchimento do questionário. Autoriza também que os dados obtidos através do exame clínico e das respostas aos questionários sejam apresentados e publicados em eventos e artigos científicos, mas não vamos mostrar o seu nome em nenhum lugar.

=====

Eu _____ aceito participar da pesquisa “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”.

Entendi que posso aceitar e participar, mas que, a qualquer momento, posso desistir.

Os pesquisadores tiraram minhas dúvidas e conversaram com os meus responsáveis.

Recebi uma via deste termo de assentimento e li e concordo em participar da pesquisa.

, ____ de ____ de ____.

Assinatura do menor

Assinatura do pesquisador
responsável

Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais (COEP)

Endereço: Av. Antônio Carlos, 6627, Unidade Administrativa II – 2º andar – Sala 2005
– Campus Pampulha

CEP: 31.270-901 – Belo Horizonte – MG

Telefone para contato: (31) 3409-4592

E-mail: coep@prpq.ufmg.br

Horário de atendimento: de 9:00h às 11:00 e de 14:00h às 16:00h .

**APÊNDICE H - Questionário de características individuais,
socioodemográficas, socioeconômicas e sobre saúde geral e saúde bucal**

Características individuais da criança/adolescente e de sua família:

- Nome da criança ou adolescente: _____
- Data de nascimento: ____/____/____
- Cidade de origem da criança/adolescente: _____
- Cidade de origem da mãe: _____
- Cidade de origem do pai: _____
- Sexo da criança/adolescente: () Masculino / () Feminino / () Prefiro não responder
- Qual tipo de escola a criança/adolescente está matriculada(o): () Municipal () Estadual () Particular () Não estuda
- A criança/adolescente está matriculada em qual ano da escola? _____
- Quem está respondendo esse questionário: () Mãe () Pai () Tio/Tia () Avô/ Avó () Outro. Especifique: _____
- Você vive na mesma casa que a criança/adolescente? () Sim () Não
- A criança/adolescente vive com o pai e a mãe na mesma casa? () Sim () Não
- A criança/adolescente é adotada(o): () Sim () Não
- Profissão do pai da criança/adolescente: _____
- Idade do pai da criança/adolescente: _____
- Profissão da mãe da criança/adolescente: _____
- Idade da mãe da criança/adolescente: _____
- Número total de pessoas que moram na mesma casa com a criança/adolescente: _____
- Qual a renda familiar mensal (somando a renda de todas as pessoas que moram na casa com a criança/adolescente)
 - () Até 1 salário mínimo () 1 a 2 salários mínimos () 3 a 4 salários mínimos () 5 a 7 salários mínimos () acima de 8 salários mínimos () Não sei responder

• Escolaridade da mãe:

() Não estudou () Ensino Fundamental incompleto () Ensino Fundamental completo () Ensino Médio incompleto () Ensino médio completo () Ensino superior incompleto () Ensino superior completo () Pós-graduado () Não sei responder

• Escolaridade do pai:

() Não estudou () Ensino Fundamental incompleto () Ensino Fundamental completo () Ensino Médio incompleto () Ensino médio completo () Ensino superior incompleto () Ensino superior completo () Pós-graduado () Não sei responder

• A criança/adolescente apresenta algum problema de saúde? () Sim () Não

Perguntas sobre Saúde Bucal

• Quantas vezes a criança/adolescente escova dente por dia? () Não escova () Escova 1 vez () Escova 2 vezes () Escova 3 vezes ou mais

• A criança/adolescente usa fio dental? () Sim () Não

• A criança/adolescente consome açúcar diariamente? () Sim () Não Quantas vezes? ____

• Está em tratamento odontológico? () Sim () Não

Perguntas sobre o tratamento da leucemia (se for o caso):

• Qual o diagnóstico da doença? () Leucemia () Linfoma () Outro. Especifique:

• Qual era a idade da criança/adolescente no momento do diagnóstico da doença: _____

• Se a criança/adolescente tiver leucemia, especificar qual o tipo: _____

• Se a criança/adolescente tiver leucemia, especifique em qual fase do tratamento ela está:

() Indução () Consolidação () Manutenção () Não sei responder

• Qual o tipo de tratamento?

() Quimioterapia () Radioterapia () Cirurgia () Quimioterapia e radioterapia

() Quimioterapia e cirurgia () Radioterapia e cirurgia () Outro. Especifique:

• A criança/adolescente fez sessões de laserterapia? () Sim () Não

• Se a criança e adolescente tiver feito sessões de laserterapia, especifique quantas sessões:

() Não fez () De 1 a 5 sessões () De 6 a 10 se sessões () 11 ou mais sessões

Data de hoje: __/__/__ Local: _____

APÊNDICE I - Termo de autorização para utilização de imagem para fins acadêmicos

Eu, _____, responsável pelo (a) menor _____, autorizo a utilização da imagem do (a) meu (a) filho (a), na qualidade de participante/entrevistado(a) no projeto de pesquisa intitulado “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”, sob responsabilidade dos pesquisadores: Dr. Saul Martins de Paiva e Alice Machado Carvalho Santos vinculados ao Programa de Pós -graduação em Odontologia da Universidade Federal de Minas Gerais.

A imagem do (a) meu (a) filho (a) pode ser utilizada apenas para análise por parte da equipe de pesquisa, apresentações em aulas e eventos científicos e publicação de artigos científicos.

Tenho ciência de que utilizarão um filtro de imagem para impedir a identificação do (a) meu (a) filho (a), não haverá divulgação da imagem do (a) meu (a) filho (a) por qualquer meio de comunicação, sejam elas televisão, rádio ou internet, exceto nas atividades vinculadas ao ensino e a pesquisa explicitadas anteriormente. Tenho ciência também de que a guarda e demais procedimentos de segurança com relação às imagens são de responsabilidade dos pesquisadores responsáveis.

Deste modo, declaro que autorizo, livre e espontaneamente, o uso para fins acadêmicos, nos termos acima descritos, da imagem do (a) meu (a) filho (a).

Este documento foi elaborado em duas vias, uma ficará com os pesquisadores e outra com o(a) participante.

Assinatura do (a) responsável pelo menor Pesquisador responsável

Local: _____ Data: ____ de _____ de _____

APÊNDICE J - Termo de autorização para utilização de imagem para fins acadêmicos

Eu, _____,
autorizo a utilização da minha imagem, na qualidade de participante/entrevistado(a) no projeto de pesquisa intitulado “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com leucemia”, sob responsabilidade dos pesquisadores: Dr. Saul Martins de Paiva e Alice Machado Carvalho Santos vinculados ao Programa de Pós -graduação em Odontologia da Universidade Federal de Minas Gerais.

Minha imagem pode ser utilizada apenas para análise por parte da equipe de pesquisa, apresentações em aulas e eventos científicos e publicação de artigos científicos.

Tenho ciência de que utilizarão um filtro de imagem para impedir a minha identificação, não haverá divulgação da minha imagem por qualquer meio de comunicação, sejam elas televisão, rádio ou internet, exceto nas atividades vinculadas ao ensino e a pesquisa explicitadas anteriormente. Tenho ciência também de que a guarda e demais procedimentos de segurança com relação às imagens são de responsabilidade dos pesquisadores responsáveis.

Deste modo, declaro que autorizo, livre e espontaneamente, o uso para fins de acadêmicos, nos termos acima descritos, da minha imagem.

Este documento foi elaborado em duas vias, uma ficará com os pesquisadores e outra com o(a) participante.

Assinatura do (a) participante

Pesquisador responsável

Local: _____ Data: _____ de _____ de _____

APÊNDICE K - Exame clínico bucal

Nome da criança ou adolescente: _____

Data de nascimento: ____/____/____ Sexo: 1-Masculino () 2-Feminino ()

Data do exame: ____/____/____ Está em tratamento odontológico? ()sim () não

Cárie Dentária: ceo/d - CPO-D

17	16	15/55	14/54	13/53	12	11	21	22	23/63	24/64	25/65	26	27
47	46	45/85	44/84	43/83	42	41	31	32	33/73	34/74	35/75	36	37

Códigos: 0 = Coroa hígida; 1 = coroa cariada; 2 = coroa restaurada, mas cariada; 3 = coroa restaurada e sem cárie; 4 = dente perdido devido à cárie; 5 = dente permanente perdido por outra razão (se for devido à esfoliação código 8); 6 = dente com selante; 7 = prótese ou coroa por razões diferentes de cárie; 8 = coroa não erupcionada; 9 = dente excluído quando não puder ser examinado (banda ortodôntica ou hipoplasia grave) (OMS, 2013).

Envolvimento pulpar, ulceração, fistula e abscesso: PUFA/pufa

17	16	15/55	14/54	13/53	12	11	21	22	23/63	24/64	25/65	26	27
47	46	45/85	44/84	43/83	42	41	31	32	33/73	34/74	35/75	36	37

P/p = Envolvimento Pulpar; U/u = Ulceração; F/f = Fistula; A/a = Abscesso

Mucosite

☐ Presente

☐ Ausente

Candidíase

☐ Presente

☐ Ausente

Dor de dente no momento do exame: ____ SIM ____ NÃO

ANEXO A – Aprovação do Comitê de Ética em Pesquisa

UNIVERSIDADE FEDERAL DE
MINAS GERAIS

**PARECER CONSUBSTANCIADO DO CEP****DADOS DO PROJETO DE PESQUISA**

Título da Pesquisa: QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL EM CRIANÇAS E ADOLESCENTES COM LEUCEMIA

Pesquisador: Saul Martins de Paiva

Área Temática:

Versão: 2

CAAE: 36138920.2.0000.5149

Instituição Proponente: UNIVERSIDADE FEDERAL DE MINAS GERAIS

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 4.446.866

Apresentação do Projeto:

A leucemia é o câncer mais comum diagnosticado na infância, representando em média 30% dos casos. Foi observado que crianças com leucemia têm baixa qualidade de vida relacionada à saúde durante o tratamento do câncer. Contudo, através de uma revisão bibliográfica realizada no período de fevereiro a novembro de 2019, não foram encontradas publicações relacionando o impacto da saúde bucal em crianças com leucemia. A qualidade de vida relacionada à saúde bucal (QVRSB) refere-se ao impacto da saúde ou doença bucal no funcionamento diário, bem-estar e qualidade de vida de um indivíduo. Esse estudo tem como objetivo avaliar a influência das condições bucais na qualidade de vida de crianças e adolescentes com leucemia, na faixa de 2 a 18 anos, que realizam tratamento no Ambulatório Borges da Costa na Unidade de Hematologia e Oncologia do Hospital das Clínicas da Universidade Federal Minas Gerais (UFMG) e compará-los a um grupo de crianças e adolescentes saudáveis.

Objetivo da Pesquisa:

Objetivo Primário: Avaliar o impacto das condições bucais na qualidade de vida relacionada à saúde bucal, comparando um grupo de crianças/adolescentes com leucemia com um grupo sem leucemia (saudável).

Objetivo Secundário: Investigar a associação entre as condições bucais e o impacto na qualidade de vida de crianças e adolescentes de 2 a 18 anos com leucemia.

Endereço: Av. Presidente Antônio Carlos, 6627 2º Ad SI 2005

Bairro: Unidade Administrativa II

CEP: 31.270-901

UF: MG

Município: BELO HORIZONTE

Telefone: (31)3409-4592

E-mail: coep@prpq.ufmg.br

UNIVERSIDADE FEDERAL DE MINAS GERAIS



Continuação do Parecer: 4.446.866

Avaliação dos Riscos e Benefícios:

Os riscos da pesquisa incluem: risco de identificação do participante, desconforto e constrangimento durante a coleta de dados clínicos e aplicação dos questionários. Os autores relatam que os questionários não serão identificados com o nome do participante e que o exame clínico visual e não invasivo, será realizado cuidadosamente. Os benefícios para os participantes incluem o diagnóstico das alterações bucais e encaminhamento para tratamento nas clínicas de atenção odontológica da UFMG. Os benefícios para a comunidade envolvem a possibilidade de aumentar a compreensão da qualidade de vida relacionada à saúde bucal nesse grupo específico que enfrenta dificuldades no seu cotidiano, podendo aprimorar o cuidado odontológico oferecido.

Comentários e Considerações sobre a Pesquisa:

Será realizado estudo transversal comparativo envolvendo participantes com leucemia (idade de 2 a 18 anos) que realizam tratamento no Ambulatório Borges da Costa na Unidade de Hematologia e Oncologia do Hospital das Clínicas da UFMG. O grupo controle será formado por crianças e adolescentes sem leucemia de 2 a 18 anos, recrutados em escolas e pré-escolas da cidade de Sete Lagoas, MG, sem alterações sistêmicas diagnosticadas. Os pais ou responsáveis dos participantes com leucemia participarão do estudo, porém os pais ou responsáveis pelas crianças saudáveis não participarão, uma vez que não será aplicado questionário a eles. Está prevista a participação de 60 crianças e adolescentes, em cada grupo. As variáveis dependentes avaliadas serão: Qualidade de Vida relacionada à saúde bucal (QVRSB) e Qualidade de vida relacionada à saúde (QVRS), coletadas por meio de instrumentos validados no Brasil. A saúde bucal será avaliada por meio dos índices ceo-d/CPO-D para avaliação de cárie dentária (OMS, 1996) e pufa/PUFA (MONSE et al., 2010). Além disso, será observada a presença de mucosite e candidíase. A presença de leucemia será avaliada pelo prontuário médico que confirma a doença. A ausência da doença será confirmada pelo relato da própria criança/adolescente ou por seus pais/responsáveis. Os exames clínicos serão realizados em sala reservada no ambulatório e em uma sala de aula nas escolas, sob luz artificial, com espelho clínico. Os participantes estarão sentados em cadeiras de frente para o examinador. Os questionários serão autoaplicáveis para os participantes a partir de 8 anos de idade, e para crianças de 5 a 7 anos, serão aplicados em forma de entrevista, individualmente, ficando o pesquisador à disposição para ler as perguntas e permitindo que eles marquem a folha de respostas ou encarreguem o pesquisador para isso.

Considerações sobre os Termos de apresentação obrigatória:

Foram apresentados os seguintes documentos: informações básicas do projeto, projeto completo, TCLE para participantes de 18 anos, TCLE para pais e responsáveis por participantes de 18 anos

Endereço: Av. Presidente Antônio Carlos, 6627 2º Ad SI 2005

Bairro: Unidade Administrativa II

CEP: 31.270-901

UF: MG

Município: BELO HORIZONTE

Telefone: (31)3409-4592

E-mail: coep@prpq.ufmg.br

UNIVERSIDADE FEDERAL DE MINAS GERAIS



Continuação do Parecer: 4.446.866

com leucemia, TCLE para pais e responsáveis por menores de 18 anos, TALE para adolescentes de 13 a 17 anos, TALE para crianças de 9 a 12 anos, TALE para crianças de 5 a 8 anos, parecer consubstanciado aprovado pela Câmara Departamental, anuência da Unidade de Hematologia do HC/UFMG, anuência da chefia do Serviço de Onco-hematologia do HC/UFMG, Anuência da GEP/HC/UFMG, carta de anuência assinada pela Secretária de Educação, Esportes e Cultura de Sete Lagoas, carta de anuência assinada pelo Superintendente Regional de Educação, de Sete Lagoas, modelo de carta de anuência para escolas, planilha orçamentária, cronograma de atividades, folha de rosto devidamente preenchida e assinada, Termo de Autorização para Utilização de Imagem para fins acadêmicos para pais/responsáveis, Termo de Autorização para Utilização de Imagem para fins acadêmicos para crianças/adolescentes, carta resposta às diligências do CEP.

Recomendações:

Foram esclarecidas todas as inadequações apontadas e realizadas as modificações necessárias nos termos de apresentação obrigatória. Foram anexadas a anuência da GEP/HC/UFMG e da Secretaria Municipal de Educação de Sete Lagoas. Foram incluídos Termos de Autorização para Uso de Imagem.

Considerando que o tempo ideal de armazenamento do material coletado é de 5 a 10 anos, podendo haver também destruição dos dados logo após transcrição dos mesmos, sugere-se a modificação do texto redigido nos TCLE e TALE: "Caso isso seja necessário, as fotos, bem como todo o material da pesquisa ficarão guardados com o pesquisador em suas casas pelo tempo que for necessário".

Sugere-se também, nos TALEs 5-8 e 9-12, corrigir a redação da frase: "...você não precisa participar se não quiser que ninguém vai ficar triste com você."

Incluir no Termo de Consentimento Livre e Esclarecido para Pais/Responsáveis de Participantes de 18 Anos com Leucemia, a informação de que o documento será obtido em duas vias, uma que ficará aos cuidados do pesquisador e outra em posse do participante.

Conclusões ou Pendências e Lista de Inadequações:

De acordo com o exposto, s.m.j., somos pela aprovação do projeto de pesquisa.

Considerações Finais a critério do CEP:

Tendo em vista a legislação vigente (Resolução CNS 466/12), o CEP-UFMG recomenda aos Pesquisadores: comunicar toda e qualquer alteração do projeto e do termo de consentimento via emenda na Plataforma Brasil, informar imediatamente qualquer evento adverso ocorrido durante o desenvolvimento da pesquisa (via documental encaminhada em papel), apresentar na forma de

Endereço: Av. Presidente Antônio Carlos, 6627 2º Ad SI 2005

Bairro: Unidade Administrativa II

CEP: 31.270-901

UF: MG

Município: BELO HORIZONTE

Telefone: (31)3409-4592

E-mail: coep@prpq.ufmg.br

UNIVERSIDADE FEDERAL DE MINAS GERAIS



Continuação do Parecer: 4.446.866

notificação relatórios parciais do andamento do mesmo a cada 06 (seis) meses e ao término da pesquisa encaminhar a este Comitê um sumário dos resultados do projeto (relatório final).

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_1545784.pdf	27/10/2020 22:47:56		Aceito
Outros	Parecer_GEP.pdf	27/10/2020 22:47:00	Saul Martins de Paiva	Aceito
Outros	Termo_de_autorizacao_de_uso_de_imagens_para_pais_ou_responsaveis.pdf	27/10/2020 22:46:20	Saul Martins de Paiva	Aceito
Outros	Termo_de_autorizacao_de_uso_de_imagens_para_crianças_e_adolescentes.pdf	27/10/2020 22:44:21	Saul Martins de Paiva	Aceito
Outros	carta_resposta_COEP.pdf	27/10/2020 22:42:29	Saul Martins de Paiva	Aceito
Projeto Detalhado / Brochura Investigador	Projeto_mestrado_Alice_para_COEP.pdf	27/10/2020 22:41:38	Saul Martins de Paiva	Aceito
Outros	Carta_de_anuencia_seretaria_municipal_de_educacao.pdf	27/10/2020 22:39:44	Saul Martins de Paiva	Aceito
Outros	Carta_de_anuencia_superintendente_sete_lagoas.pdf	27/10/2020 22:35:37	Saul Martins de Paiva	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TALE13a17_anos.pdf	27/10/2020 22:31:53	Saul Martins de Paiva	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TALE5a8_anos.pdf	27/10/2020 22:31:24	Saul Martins de Paiva	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TALE9a12anos.pdf	27/10/2020 22:30:55	Saul Martins de Paiva	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE_para_participantes_de_18_anos.pdf	27/10/2020 22:27:55	Saul Martins de Paiva	Aceito
TCLE / Termos de Assentimento / Justificativa de	TCLE_para_pais_de_participantes_de_18_anos_com_leucemia.pdf	27/10/2020 22:27:40	Saul Martins de Paiva	Aceito

Endereço: Av. Presidente Antônio Carlos, 6627 2º Ad SI 2005

Bairro: Unidade Administrativa II

CEP: 31.270-901

UF: MG

Município: BELO HORIZONTE

Telefone: (31)3409-4592

E-mail: coep@prpq.ufmg.br

**UNIVERSIDADE FEDERAL DE
MINAS GERAIS**



Continuação do Parecer: 4.446.866

Ausência	TCLE_para_pais_de_participantes_de_18_anos_com_leucemia.pdf	27/10/2020 22:27:40	Saul Martins de Paiva	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE_para_pais_de_crianças_e_adolescentes_de_2a17_anos.pdf	27/10/2020 22:26:57	Saul Martins de Paiva	Aceito
Outros	CARTA_DE_ANUENCIA_ESCOLAS.pdf	27/10/2020 22:24:03	Saul Martins de Paiva	Aceito
Declaração de Instituição e Infraestrutura	Parecer_da_Camara_Departamental.pdf	13/07/2020 15:23:40	Saul Martins de Paiva	Aceito
Declaração de Instituição e Infraestrutura	Aprovacao_unidade_de_hematologia.pdf	13/07/2020 15:21:28	Saul Martins de Paiva	Aceito
Declaração de concordância	Aprovacao_Camila.PDF	13/07/2020 15:20:44	Saul Martins de Paiva	Aceito
Cronograma	Planilha_orcamentaria.pdf	13/07/2020 14:15:28	Saul Martins de Paiva	Aceito
Cronograma	CRONOGRAMA_DE_ATIVIDADES.pdf	13/07/2020 14:13:49	Saul Martins de Paiva	Aceito
Folha de Rosto	Folha_de_Rosto_CEP_Assinada.pdf	13/07/2020 13:51:27	Saul Martins de Paiva	Aceito

Situação do Parecer:

Aprovado

Necessita Apreciação da CONEP:

Não

BELO HORIZONTE, 08 de Dezembro de 2020

Assinado por:
Crissia Carem Paiva Fontainha
(Coordenador(a))

Endereço: Av. Presidente Antônio Carlos, 6627 2º Ad SI 2005

Bairro: Unidade Administrativa II

CEP: 31.270-901

UF: MG

Município: BELO HORIZONTE

Telefone: (31)3409-4592

E-mail: coep@prpq.ufmg.br

ANEXO B – Aprovação Ambulatório Borges da Costa



CARTA DE APROVAÇÃO FINAL

Belo Horizonte, 09 de dezembro de 2020.

PROJETO DE PESQUISA Nº 73/2020: Qualidade de Vida relacionada à saúde bucal em crianças e adolescentes com leucemia.

Reportando-nos ao projeto de pesquisa acima referenciado, considerando sua concordância com o parecer da Comissão de Avaliação Econômico-financeira de Projetos de Pesquisa do Hospital das Clínicas e a aprovação pelo COEP-UFMG, em 08/12/2020, esta gerência aprova seu desenvolvimento no âmbito institucional. **Solicitamos enviar à GEP relatório parcial ou final após um ano, com descritos das produções acadêmicas relacionadas a esta pesquisa como: artigos, resumos, publicação em periódicos ou livros.**

Atenciosamente,

Fabiana Maria Kakehassi
Profa. Fabiana Maria Kakehassi

Gerência de Ensino e Pesquisa do HC-UFMG

Profa. Fabiana Maria Kakehassi
 Gerente de Ensino e Pesquisa
 Insc. 219738 CRM 30769
 Insc. SEL 342 de 20/05/19
 HC-UFMG/EBSERH

Ao Senhor,

Prof. Saul Martins de Paiva

Departamento de Saúde Bucal da Criança e Adolescente

Faculdade de Medicina da UFMG.

ANEXO C – Aprovação AURA - Casa de Apoio a Crianças e Adolescentes com Câncer e Transplantados



Faculdade de Odontologia
Av. Pres. Antônio Carlos, 6627 – Pampulha
Belo Horizonte – MG – 31.270-901
www.odonto.ufmg.br



ANEXO C – Aprovação AURA - Casa de Apoio a Crianças e Adolescentes com Câncer e Transplantados

Exmo(a). Sr(a). Coordenador(a),

Objetivamos realizar uma pesquisa para dissertação de mestrado intitulada “Qualidade de vida relacionada à saúde bucal em crianças e adolescentes com câncer”, que será desenvolvida pela doutoranda Anna Vitória Mendes Viana Silva, sob orientação do Professor Dr^o Saul Martins de Paiva, no Programa de Pós-Graduação em Odontologia da Faculdade de Odontologia da Universidade Federal de Minas Gerais (UFMG). O objetivo da nossa pesquisa é avaliar o impacto do câncer na qualidade de vida relacionada à saúde e na qualidade de vida relacionada à saúde bucal de crianças e adolescentes com leucemia, comparando com crianças e adolescentes saudáveis.

Vimos por meio desta, solicitar, respeitosamente, sua autorização para realizar a coleta de dados na Casa de Apoio Aura, realizando exame clínico bucal nas crianças/adolescentes entre 2 a 18 anos de idade, que estão recebendo tratamento de leucemia/linfoma, além de aplicar questionários aos seus pais/responsáveis. Informamos que a realização deste trabalho não trará custos para a instituição nem para os voluntários e suas famílias. Salientamos, ainda que em retorno, os resultados desta pesquisa serão integralmente disponibilizados para a casa de apoio e nos colocamos a disposição para a construção conjunta de atividades educativas sobre saúde bucal das crianças e adolescentes.

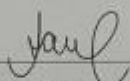
No momento do exame, usaremos todo o equipamento de proteção individual, como luvas descartáveis, avental, óculos de proteção, gorro, máscara descartável e protetor facial, seguindo todas as recomendações necessárias. Não haverá aglomerações no espaço do exame, e entre as trocas de alunos o espaço será desinfetado.

Esclarecemos que tal autorização é uma pré-condição ética para execução de qualquer estudo envolvendo seres humanos, sob qualquer forma ou dimensão, em consonância com a resolução 466/12 do Conselho Nacional de Saúde.

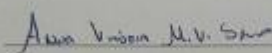
Este estudo já foi submetido e aprovado no Comitê de Ética em Pesquisa com Seres Humanos da Universidade Federal de Minas Gerais.

Atenciosamente,

Belo Horizonte, 08 de agosto de 2023



Prof. Dr. Saul Martins de Paiva - Pesquisador responsável



Anna Visória Mendes Viana Silva - Pesquisadora

AUTORIZO



CRM MG 19665
Coordenadora da casa de apoio

ANEXO D – Autorização para uso dos questionários PedsQL

De: <eprovide@mapi-trust.org>
 Date: qui., 2 de set. de 2021 às 11:49
 Subject: ePROVIDE™: Your User Agreement - Pediatric Quality of Life Inventory™ - 41318
 To: <jsabelzanforlin89@gmail.com>

Dear User

Thank you for using the online distribution on <https://eprovide.mapi-trust.org> for the use of this COA.

Please find attached your completed User License Agreement.

This COA may be under specific conditions of use and copyright ownership.

By accepting the General and Special Terms of this User License Agreement, you have acknowledged that you will respect these conditions, and especially:

- You will only use the COA in the context of use that you have indicated
- You will not modify the COA
- You will not translate the COA without contacting Mapi Research Trust beforehand for possible specific conditions
- You will not distribute the COA to other third parties

We invite you to refer to the attached Terms for complete information and conditions of use.

Should you have any questions, please contact us at eprovide@mapi-trust.org.

Best regards,



ANEXO E – Termos gerais do contrato de licença do usuário para uso dos questionários PedsQL



USER LICENSE AGREEMENT GENERAL TERMS

Mapi Research Trust, a not-for-profit organization subject to the terms of the French law of 1st July 1901, registered in Lyon under number 453 979 346, whose business address is 27 rue de la Villette, 69003 Lyon, France (hereafter referred to as “**MRT**”), and the **User**, as defined herein (each referred to singularly as a “**Party**” and/or collectively as the “**Parties**”), do hereby agree to the following User Agreement General and Special Terms (hereafter, the “**AGREEMENT**”).

WHEREAS MRT facilitates access to information on Clinical Outcome Assessment (COAs) and epidemiology and encourages exchanges between various users around the world by providing, in particular, the availability, translation(s) (where appropriate) and distribution of COAs.

WHEREAS the User wishes to be able to have access to one or several COAs and to use each such COA in accordance with the terms and conditions set forth in the **AGREEMENT**.

Now, therefore, MRT and the User agree to enter into this **AGREEMENT** subject to the following terms and conditions.

ANEXO F - Instrução aos autores da revista científica Oral Diseases

Author Guidelines

Oral Diseases now offers [Free Format submission](#) for a simplified and streamlined submission process; [More details here](#)

Content of Author Guidelines:

- [1. General](#)
- [2. Ethical Guidelines](#)
- [3. Manuscript Submission Procedure](#)
- [4. Manuscript Types Accepted](#)
- [5. Manuscript Format and Structure](#)
- [6. After Acceptance](#)

Relevant Documents: [Open Access Order Form](#), [Standard Release Form for photographic consent](#)

Useful Websites: [Submission Site](#), [Articles Published in Oral Diseases](#), [Author Services](#), [Author Services](#), [Guidelines for Figures](#)

SUBMISSION

Once the submission materials have been prepared in accordance with the Author Guidelines, manuscripts should be submitted online at <https://wiley.atyponrex.com/journal/ODI>.

[Click here](#) for more details on how to use ScholarOne.

For technical help with the submission system, please review our [FAQs](#) or contact submissionhelp@wiley.com.

For general assistance, please contact odiedoffice@wiley.com.

1. GENERAL

The editors encourage submissions of original articles, review articles, reports of meetings, book reviews and correspondence in the form of letters to the editor. *Oral Diseases* does not accept case reports.

Please read the instructions below carefully for details on the submission of manuscripts, the journal's requirements and standards as well as information concerning the procedure after a manuscript has been accepted for publication in *Oral Diseases*. Authors are encouraged to visit [Wiley Author Services](#) for further information on the preparation and submission of articles and figures.

Preprint Policy

Please find the Wiley preprint policy [here](#). *Oral Diseases* accepts articles previously published on preprint servers. *Oral Diseases* will consider for review articles previously available as preprints. Authors are requested to update any pre-publication versions with a link to the final published article. Authors may also post the final published version of the article immediately after publication.

Data Sharing and Data Accessibility

Oral Diseases expects data sharing. All accepted manuscripts will need to publish a data availability statement to confirm the presence or absence of shared data. The journal expects authors to share the data and other artefacts supporting the results in the paper by archiving it in an appropriate public repository. Authors should include a data accessibility statement, including a link to the repository they have used, in order that this statement can be published alongside their paper. Review [Wiley's Data Sharing policy](#) where you will be able to see and select the data availability statement that is right for your submission. If you have shared data, this statement will describe how the data can be accessed, and include a persistent identifier (e.g., a DOI for the data, or an accession number) from the repository where you shared the data. [Sample statements are available here](#). If published, statements will be placed in the heading of your manuscript.

2. ETHICAL GUIDELINES

Oral Diseases adheres to the ethical guidelines given below for publication and research.

2.1. Authorship and Acknowledgements

Authorship: *Oral Diseases* adheres to the [International Standards for Authors](#) published by the Committee on Publication Ethics (COPE). All authors named on a paper should agree to be named on the paper, and all authors so named should agree to the submission of the paper to *Oral Diseases* and approve the submitted and accepted versions of the publication. Any change to the author list should be approved by all authors, including any author who has been removed from the list.

Oral Diseases also adheres to the [definition of authorship](#) set up by The International Committee of Medical Journal Editors (ICMJE). According to the ICMJE authorship criteria should be based on 1) substantial contributions to conception and design of, or acquisition of data or analysis and interpretation of data, 2) drafting the article or revising it critically for important intellectual content and 3) final approval of the version to be published. Authors should meet conditions 1, 2 and 3.

It is a requirement that the corresponding author submit a short description of each individual's contribution to the research and its publication. Upon submission of a manuscript all co-authors should also be registered with a correct e-mail addresses. If any of the e-mail addresses supplied are incorrect, the corresponding author will be contacted by the Journal Administrator.

For all articles, the journal mandates the CRediT (Contribution Roles Taxonomy), for more information please see [Author Services](#).

Acknowledgements: Authors must acknowledge individuals who do not qualify as authors but who contributed to the research. Authors must acknowledge any assistance that they have received (e.g. provision of writing assistance, literature searching, data analysis, administrative support, supply of materials). If/how this assistance was funded should be described and included with other funding information. "Acknowledgements" should be brief and should not include

thanks to anonymous referees and editors. Where people are acknowledged, a cover letter demonstrating their consent must be provided.

2.2. Ethical Approvals

Human 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 2002) 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.

Photographs of People: Oral Diseases follows current HIPAA guidelines for the protection of patient/subject privacy. If an individual pictured in a digital image or photograph can be identified, his or her permission is required to publish the image. The corresponding author must either submit a letter signed by the patient authorizing Oral Diseases to publish the image/photo, or complete the 'Standard Release Form for photographic consent' available at the top of this page or by clicking the "instructions and Forms" link on the submission site. The approval must be received by the Editorial Office prior to final acceptance of the manuscript for publication. Otherwise, the image/photo must be altered such that the individual cannot be identified (black bars over eyes, tattoos, scars, etc.). Oral Diseases will not publish patient photographs that will in any way allow the patient to be identified, unless the patient has given their express consent.

Editors reserve the right to reject papers if there are doubts as to whether appropriate procedures have been used.

Animal Study: When experimental animals are used the methods section must clearly indicate that adequate measures were taken to minimize pain or discomfort. Experiments should be carried out in accordance with the Guidelines laid down by the National Institute of Health (NIH) in the USA regarding the care and use of animals for experimental procedures or with the European Communities Council Directive of 24 November 1986 (86/609/EEC) and in accordance with local laws and regulations.

2.3 Clinical Trials

Clinical Trials should be reported using the CONSORT guidelines available at www.consort-statement.org. A [CONSORT checklist](#) and [flowchart](#) should also be included in the submission material. Clinical trials can be registered in any free, public clinical trials registry such as <http://www.clinicaltrials.gov> or <http://isrctn.org/>. A list of further registries is available at <http://www.who.int/ictpnetwork/primary/en/>. As stated in an editorial published in *Oral Diseases* (12:217-218, 2006), all manuscripts reporting results from a clinical trial must indicate that the trial was fully registered at a readily accessible website. The clinical trial registration number and name of the trial register will be published with the paper.

2.4 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.

2.5 Conflict of Interest and Source of Funding

All sources of institutional, private and corporate financial support for the work within the manuscript must be fully acknowledged, and any potential grant holders should be listed. Authors

are also required to disclose any possible conflict of interest. These include financial (for example patent, ownership, stock ownership, consultancies, speaker's fee). Information on sources of funding and any potential conflict of interest should be disclosed at submission under the heading "Acknowledgements".

2.6 Appeal of Decision

The decision on a paper is final and cannot be appealed.

2.7 Avoiding allegations of plagiarism

The journal to which you are submitting your manuscript employs text matching software (iThenticate) to ensure against plagiarism. By submitting your manuscript to this journal you accept that your manuscript may be screened for plagiarism against previously published work. Authors should consider whether their manuscript may raise concerns via iThenticate, which will signal whether a paper is likely in any way to be plagiarized in a formal sense. iThenticate will also, however, signal whether a paper may be plagiarized by repeating work of the submitting authors and thus be regarded as duplicate or redundant publication. Experience shows that, on occasion, large sections of submitted manuscripts can be close to verbatim in word choice from that seen in other papers from the authors' group. This has nothing to do with simple repetition of names/affiliations, but does involve common (not necessarily "standard") phrases that are more appropriately referenced instead of repeating. Alternatively, they can be rephrased differently. Previously published results, including numerical information and figures or images, should be labeled to make it clear where they were previously reported. Papers that present new analyses of results that have already been published (for example, subgroup analyses) should identify the primary data source, and include a full reference to the related primary publications. *Oral Diseases* will review and publish accepted manuscripts that report data included in conference proceedings in abstract form. In such cases, authors must be clear to readers that part of all of the manuscript's data have already been published in abstract form by so indicating using a footnote to the title that states the conference proceedings in which the relevant abstract was published. For full guidance on text matching and plagiarism, please refer to Section 3 ('Research Integrity') of Wiley's Ethics Guidelines at <https://authorservices.wiley.com/ethics-guidelines/index.html>.

2.8 Permissions

If all or parts of previously published illustrations are used, permission must be obtained from the copyright holder concerned. It is the author's responsibility to obtain these in writing and provide copies to the Publishers.

3. MANUSCRIPT SUBMISSION PROCEDURE

Oral Diseases only accepts online submission of manuscripts. Manuscripts should be submitted at the online submission site: <https://wiley.atyponrex.com/journal/ODI>. Complete instructions for submitting a manuscript are available at the site upon creating an account. Assistance for submitting papers can be sought with the editorial assistant at: odiedoffice@wiley.com.

Data protection: By submitting a manuscript to or reviewing for this publication, your name, email address, and affiliation, and other contact details the publication might require, will be used for the regular operations of the publication, including, when necessary, sharing with the publisher (Wiley) and partners for production and publication. The publication and the publisher recognize the importance of protecting the personal information collected from users in the operation of these services and have practices in place to ensure that steps are taken to maintain the security,

integrity, and privacy of the personal data collected and processed. You can learn more at <https://authorservices.wiley.com/statements/data-protection-policy.html>.

Article Preparation Support

[Wiley Editing Services](#) offers expert help with English Language Editing, as well as translation, manuscript formatting, figure illustration, figure formatting, and graphical abstract design – so you can submit your manuscript with confidence. Also, check out our resources for [Preparing Your Article](#) for general guidance about writing and preparing your manuscript.

3.1. Manuscript Files Accepted

Manuscripts should be uploaded as Word (.doc/.docx) or Rich Text Format (.rft) files (not write-protected) plus separate figure files. GIF, JPEG, PICT or Bitmap files are acceptable for submission, but only high-resolution TIF or EPS files are suitable for printing. The files will be automatically converted to HTML and PDF on upload and will be used for the review process. The text file must contain the entire manuscript including title page, abstract, text, references, acknowledgements, tables, and figure legends, but no embedded figures. In the text file, please reference figures as for instance 'Figure 1', 'Figure 2' etc to match the tag name you choose for individual figure files uploaded. Manuscripts should be formatted as described in the Author Guidelines below.

3.2. Transparent Peer Review

This journal is participating in a Peer Review Transparency initiative. By submitting to this journal, authors agree that the reviewer reports, their responses, and the editor's decision letter will be linked from the published article to where they appear on [Publons](#) in the case that the article is accepted. Authors have the opportunity to opt out during submission, and reviewers may remain anonymous unless they would like to sign their report. Read more about this initiative [here](#).

3.3. Suggest a Reviewer

Oral Diseases attempts to keep the review process as short as possible to enable rapid publication of new scientific data. In order to facilitate this process, you must suggest the names and current e-mail addresses of from 2-4 potential reviewers whom you consider capable of reviewing your manuscript in an unbiased way.

3.4. Suspension of Submission Mid-way in the Submission Process

You may suspend a submission at any phase before clicking the 'Submit' button and save it to submit later. The manuscript can then be located under 'Unsubmitted Manuscripts' and you can click on 'Continue Submission' to continue your submission when you choose to.

3.5. E-mail Confirmation of Submission

After submission you will receive an e-mail to confirm receipt of your manuscript. If you do not receive the confirmation e-mail after 24 hours, please check your e-mail address carefully in the system. If the e-mail address is correct please contact your IT department. The error may be caused by some sort of spam filtering on your e-mail server. Also, the e-mails should be received if the IT department adds our e-mail server (uranus.scholarone.com) to their whitelist.

3.6. Manuscript Status

The average time from submission to first decision for manuscripts submitted to *Oral Diseases* is 20 days. You can access ScholarOne Manuscripts any time to check your 'Author Centre' for the status of your manuscript. The Journal will inform you by e-mail once a decision has been made.

3.7. Submission of Revised Manuscripts

To upload a revised manuscript, locate your manuscript under 'Manuscripts with Decisions' and click on 'Submit a Revision'. Please remember to delete any old files uploaded when you upload your revised manuscript.

3.8. Refer and Transfer Program

Wiley believes that no valuable research should go unshared. This journal participates in Wiley's [Refer & Transfer program](#). If your manuscript is not accepted, you may receive a recommendation to transfer your manuscript to another suitable Wiley journal, either through a referral from the journal's editor or through our Transfer Desk Assistant.

4. MANUSCRIPT TYPES ACCEPTED

Original Research Articles: Manuscripts reporting laboratory investigations, well-designed and controlled clinical research, and analytical epidemiology are invited. Studies related to aetiology, pathogenesis, diagnosis, prevention and treatment are all of interest, but all papers must be based on rigorous hypothesis-driven research. Areas of interest include diseases affecting any structures of the mouth; cancer and pre-cancerous conditions; saliva and salivary glands; bone and hard tissues; relationship between oral, periodontal, and dental conditions and general health; pain; behavioral dentistry; chemosensory, developmental, geriatric, and motor disorders.

Randomised trials must adhere to the [CONSORT guidelines](#), and a [CONSORT checklist](#) and [flowchart](#) must be submitted with such papers. Please also refer to the notes under section 2.3 above.

Oral Diseases supports the ALLTRIALS initiative and encourages authors submitting manuscripts reporting 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.

Observational studies must adhere to the [STROBE guidelines](#), and a [STROBE checklist](#) must be submitted with such papers. Diagnostic accuracy studies must adhere to the [STARD guidelines](#), and a [STARD checklist](#) must be submitted with such papers.

Review Papers: *Oral Diseases* commissions review papers and also welcomes uninvited reviews. Systematic reviews with or without meta-analyses must adhere to the [PRISMA guidelines](#), and a [PRISMA checklist](#) and [flowchart](#) must be submitted with such papers. The word limit for Review Papers is 4,000 words, with a maximum of two tables or images and 50 references.

Clinical Image: Clinical Images illustrate a brief presentation of a peculiar case. These include a clinical description, excellent clinical pictures, a multiple choice quiz on the putative diagnosis (no more than 4-5 options), the final diagnosis and a brief discussion, followed by the patient outcome. Clinical Images should be structured as follows:

- 1.

1. TITLE describing the case without mentioning the diagnosis
2. CASE REPORT: 120 words
3. CASE IMAGE(S): No more than 2 clinical pictures of the case (the legend must not mention the diagnosis). Label image(s) Figure 1 or Figure 1A and 1B.
4. QUIZ: Provide no more than 4 possible answers. See example here:

WHAT IS YOUR DIAGNOSIS?

Based on the patient's history, physical examination, and laboratory findings, which one of the following is the most suspicious diagnosis?

1. Answer A
2. Answer B
3. Answer C
4. Answer D

1. 5. DIAGNOSIS: Provide the answer along with a 1-2 sentence explanation followed by the subsequent discussion. (350 words).
2. 6. DIAGNOSIS IMAGE: One picture clarifying the diagnosis (i.e. a histological picture, images, micro, blood tests, ...). Label this Figure
3. 7. OUTCOME: 1-2 sentences.
4. 8. AUTHOR CONTRIBUTION section: Required.
5. 9. PATIENT CONSENT section: Use standard wording, "The patient reported in this manuscript provided written informed consent for the publication of the case details."
6. 10. CONFLICT OF INTEREST STATEMENTS (COIS): Required section. Default text when no conflicts exist reads "All authors have no conflicts of interest to disclose."
7. 11. ACKNOWLEDGEMENTS: Optional section.
8. 12. KEYWORDS: Not required as they may give away the answer.
9. 13. FUNDING: Not required for this article type.
10. 14. REFERENCES: Maximum 10.

Letters to the Editors: Letters, if of broad interest, are encouraged. They may deal with material in papers published in *Oral Diseases* or they may raise new issues, but should have important implications. Only one letter may be submitted by any single author or group of authors on any one published paper. Letters to the Editors should not include an abstract and are limited to 500 words, with a maximum of 1 figure and 10 references.

Case Reports: *Oral Diseases* does not accept case reports and instead recommends that authors submit to [Clinical Case Reports](#) an open access journal published by Wiley.

Meeting Reports: Will be considered by the editors for publication only if they are of wide and significant interest.

Short Communications: These are brief papers of any topic within the scope of *Oral Diseases* about significant and novel advances that are complete in research endeavor but not suitable for full publications. Short Communications should not include an abstract and are limited to 1000 words, with a maximum of 3 figures and 20 references. Short Communications **should not** be structured into sections.

Invited Reviews: These may be submitted by invitation of the Senior Editors only, and consist of around 2500-2750 words, with a maximum of one table or image and 25 references.

Commentaries: These may be submitted by invitation of the Senior Editors only.

Invited Editorials: These may be submitted by invitation of the Senior Editors only.

Invited Book Reviews: These may be submitted by invitation of the Senior Editors only.

5. MANUSCRIPT FORMAT AND STRUCTURE

Oral Diseases now offers [Free Format submission](#) for a simplified and streamlined submission process.

Before you submit, you will need:

- Your manuscript: this should be an editable file including text, figures, and tables, or separate files – whichever you prefer. All required sections should be contained in your manuscript, including abstract, introduction, methods, results, and conclusions. Figures and tables should have legends. Figures should be uploaded in the highest resolution possible. References may be submitted in any style or format, as long as it is consistent throughout the manuscript. Supporting information should be submitted in separate files. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers, and the editorial office will send it back to you for revision. Your manuscript may also be sent back to you for revision if the quality of English language is poor.
- An ORCID ID, freely available at <https://orcid.org>. *(Why is this important? Your article, if accepted and published, will be attached to your ORCID profile. Institutions and funders are increasingly requiring authors to have ORCID IDs.)*
- The title page of the manuscript, including:
 - Your co-author details, including affiliation and email address. *(Why is this important? We need to keep all co-authors informed of the outcome of the peer review process.)*
 - Statements relating to our ethics and integrity policies, which may include any of the following *(Why are these important? We need to uphold rigorous ethical standards for the research we consider for publication):*
 - data availability statement
 - funding statement
 - conflict of interest disclosure
 - ethics approval statement
 - patient consent statement
 - permission to reproduce material from other sources
 - clinical trial registration

If you are invited to revise your manuscript after peer review, the journal will also request the revised manuscript to be formatted according to journal requirements as described below.

5.1. Page Charge

IMPORTANT: Please note that articles exceeding 8 published pages, including title page, abstract, references, table/figure legends and tables and figures, are subject to a charge of GBP 70 per additional page. As a guide, one published page amounts approximately to 850

words, or two to four small tables/figures. Additional supplementary material (including text and figures), which does not fit within the page limits, can be published online only as supporting information.

Open Access Article Processing Charges (APCs) are billed separately from additional page charges. If your institution or funder is covering your APC, please refer to their guidelines on what additional costs they may be able to cover. For more information on this journal's APCs, please see the [Open Access page](#).

For Special Issue content, **only**, the excessing page charges will be waived for invited reviews that often require greater length, but we still strongly recommend the invited authors to follow the formatting requirements detailed here.

5.2. Format

Language: Authors should write their manuscripts in British English using an easily readable style. Authors whose native language is not English should have a native English speaker read and correct their manuscript. Spelling and phraseology should conform to standard British usage and should be consistent throughout the paper. 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.

Presentation: Authors should pay special attention to the presentation of their findings so that they may be communicated clearly. The background and hypotheses underlying the study as well as its main conclusions should be clearly explained. Titles and abstracts especially should be written in language that will be readily intelligible to any scientist.

Technical jargon: should be avoided as much as possible and clearly explained where its use is unavoidable.

Abbreviations: *Oral Diseases* adheres to the conventions outlined in Units, Symbols and Abbreviations: A Guide for Medical and Scientific Editors and Authors. Non-standard abbreviations must be used three or more times and written out completely in the text when first used.

5.3. Structure: All papers submitted to *Oral Diseases* should include:

- Title Page
- Structured Abstract
- Main text
- References
- (Figures)
- (Figure Legends)
- (Tables)

Title Page: should be part of the manuscript uploaded for review and include:

- A title of no more than 100 characters including spaces
- A running title of no more than 50 characters
- 3-6 keywords
- Complete names and institutions for each author
- Corresponding author's name, address, email address and fax number

- Date of submission (and revision/resubmission)

Abstract: is limited to 200 words in length and should contain no abbreviations. The abstract should be included in the manuscript document uploaded for review as well as separately where specified in the submission process. The abstract should convey the essential purpose and message of the paper in an abbreviated form. Structured abstract is an abstract divided into distinct sections such as Objective, Methods, Results, and Conclusions. It is typically maximum 250 words containing no abbreviations. The abstract should be included in the manuscript document uploaded for review as well as separately where specified during the submission process.

The Main Text of Original Research Articles should be organised as follows

Introduction: should be focused, outlining the historical or logical origins of the study and not summarize the results; exhaustive literature reviews are inappropriate. It should close with the explicit statement of the specific aims of the investigation.

Materials and Methods must contain sufficient detail such that, in combination with the references cited, all clinical trials and experiments reported can be fully reproduced. As a condition of publication, authors are required to make materials and methods used freely available to academic researchers for their own use. This includes antibodies and the constructs used to make transgenic animals, although not the animals themselves. Other supporting data sets must be made available on the publication date from the authors directly.

(i) Clinical trials: As noted above, these should be reported using the CONSORT guidelines available at www.consort-statement.org. A [CONSORT checklist](#) should also be included in the submission material. Clinical trials can be registered in any of the following free, public clinical trials registries: www.clinicaltrials.gov, <http://clinicaltrials.ifpma.org/clinicaltrials/>, <http://isrctn.org/>. As stated in an editorial published in *Oral Diseases* (12:217-218), 2006), all manuscripts reporting results from a clinical trial must indicate that the trial was fully registered at a readily accessible website. The clinical trial registration number and name of the trial register will be published with the paper.

(ii) Experimental subjects: As noted above, 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 2002) 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. When experimental animals are used the methods section must clearly indicate that adequate measures were taken to minimize pain or discomfort. Experiments should be carried out in accordance with the Guidelines laid down by the National Institute of Health (NIH) in the USA regarding the care and use of animals for experimental procedures or with the European Communities Council Directive of 24 November 1986 (86/609/EEC) and in accordance with local laws and regulations.

(iii) Suppliers: Suppliers of materials should be named and their location (town, state/county, country) included.

Results: should present the observations with minimal reference to earlier literature or to possible interpretations.

Discussion: may usually start with a brief summary of the major findings, but repetition of parts of the abstract or of the results sections should be avoided. The section should end with a brief conclusion and a comment on the potential clinical relevance of the findings. Statements and interpretation of the data should be appropriately supported by original references.

Acknowledgements: Should be used to provide information on sources of funding for the research, any potential conflict of interest and to acknowledge contributors to the study that do not qualify as authors. All sources of institutional, private and corporate financial support for the work within the manuscript must be fully acknowledged, and any potential grant holders should be listed. Acknowledgements should be brief and should not include thanks to anonymous referees and editors. Where people are acknowledged, a cover letter demonstrating their consent must be provided.

5.4. References

References should be prepared according to the *Publication Manual of the American Psychological Association* (6th edition). This means in-text citations should follow the author-date method whereby the author's last name and the year of publication for the source should appear in the text, for example, (Jones, 1998). For references with three to five authors, all authors should be listed only on the first occurrence of the in-text citation, and in subsequent in-text occurrences only the first author should be listed followed by 'et al.'. The complete reference list should appear alphabetically by name at the end of the paper.

A sample of the most common entries in reference lists appears below. Please note that a DOI should be provided for all references where available. For more information about APA referencing style, please refer to the [APA website](#). Please note that for journal articles, issue numbers are not included unless each issue in the volume begins with page one.

Journal article

Example of reference with 2 to 7 authors

Beers, S. R., & De Bellis, M. D. (2002). Neuropsychological function in children with maltreatment-related posttraumatic stress disorder. *The American Journal of Psychiatry*, 159, 483–486. doi: 10.1176/appi.ajp.159.3.483

Ramus, F., Rosen, S., Dakin, S. C., Day, B. L., Castellote, J. M., White, S., & Frith, U. (2003). Theories of developmental dyslexia: Insights from a multiple case study of dyslexic adults. *Brain*, 126(4), 841–865. doi: 10.1093/brain/awg076

Example of reference with more than 7 authors

Rutter, M., Caspi, A., Fergusson, D., Horwood, L. J., Goodman, R., Maughan, B., ... Carroll, J. (2004). Sex differences in developmental reading disability: New findings from 4 epidemiological studies. *Journal of the American Medical Association*, 291(16), 2007–2012. doi: 10.1001/jama.291.16.2007

Book edition

Bradley-Johnson, S. (1994). *Psychoeducational assessment of students who are visually impaired or blind: Infancy through high school* (2nd ed.). Austin, TX: Pro-ed.

5.5. Tables, Figures and Figure Legends

Figures: All figures and artwork must be provided in electronic format. Please save vector graphics (e.g. line artwork) in Encapsulated Postscript Format (EPS) and bitmap files (e.g. half-tones) or clinical or in vitro pictures in Tagged Image Format (TIFF).

Detailed information on our digital illustration standards can be found at <http://authorservices.wiley.com/bauthor/illustration.asp>.

Check your electronic artwork before submitting it: <http://authorservices.wiley.com/bauthor/eachecklist.asp>.

Unnecessary figures and parts (panels) of figures should be avoided: data presented in small tables or histograms, for instance, can generally be stated briefly in the text instead. Figures should not contain more than one panel unless the parts are logically connected.

Figures divided into parts should be labelled with a lower-case, boldface, roman letter, a, b, and so on, in the same type size as used elsewhere in the figure. Lettering in figures should be in lower-case type, with the first letter capitalized. Units should have a single space between the number and unit, and follow SI nomenclature common to a particular field. Unusual units and abbreviations should be spelled out in full or defined in the legend. Scale bars should be used rather than magnification factors, with the length of the bar defined in the legend rather than on the bar itself. In general visual cues (on the figures themselves) are preferred to verbal explanations in the legend (e.g. broken line, open red triangles etc).

Guidelines for Cover Submissions

If you would like to send suggestions for artwork related to your manuscript to be considered to appear on the cover of the journal, please [follow these general guidelines](#).

6. AFTER ACCEPTANCE

Wiley Author Services

When an accepted article is received by Wiley's production team, the corresponding author will receive an email asking them to login or register with Wiley Author Services. You will be asked to sign a publication license at this point as well as pay for any applicable APCs.

Copyright & Licensing

You may choose to publish under the terms of the journal's standard copyright agreement, or Open Access under the terms of a Creative Commons License. Standard re-use and licensing rights vary by journal. Note that certain funders mandate a particular type of CC license be used. This journal uses the CC-BY/CC-BY-NC/CC-BY-NC-ND Creative Commons License.

Self-Archiving Definitions and Policies: Note that the journal's standard copyright agreement allows for self-archiving of different versions of the article under specific conditions.

Proof Corrections

Proofs must be returned to the Production Editor within **three days** of receipt. As changes to proofs are costly, we ask that you only correct typesetting errors. Excessive changes made by the author in the proofs, excluding typesetting errors, will be charged separately. Other than in exceptional circumstances, all illustrations are retained by the publisher. Please note that the author is responsible for all statements made in their work, including changes made by the copy editor.

Early View

Oral Diseases is covered by Wiley-Blackwell's Early View service. Early View articles are complete full-text articles published online in advance of their publication in a printed issue. Early

View articles are complete and final. They have been fully reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after online publication. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so Early View articles cannot be cited in the traditional way. They are therefore given a Digital Object Identifier (DOI), which allows the article to be cited and tracked before it is allocated to an issue. After print publication, the DOI remains valid and can continue to be used to cite and access the article.

Article Promotion Support

[Wiley Editing Services](#) offers professional video, design, and writing services to create shareable video abstracts, infographics, conference posters, lay summaries, and research news stories for your research – so you can help your research get the attention it deserves.

Wiley's Author Name Change Policy

In cases where authors wish to change their name following publication, Wiley will update and republish the paper and redeliver the updated metadata to indexing services. Our editorial and production teams will use discretion in recognizing that name changes may be of a sensitive and private nature for various reasons including (but not limited to) alignment with gender identity, or as a result of marriage, divorce, or religious conversion. Accordingly, to protect the author's privacy, we will not publish a correction notice to the paper, and we will not notify co-authors of the change. Authors should contact the journal's Editorial Office with their name change request.

ANEXO G - Instrução aos autores da revista científica *Clinical Oral Investigations*

Instructions for Authors

Types of papers

Papers may be submitted for the following sections:

- Research Article
- Reviews
- Brief Report – with up to 2000 words and up to two figures and/or tables
- Correspondence (Discussion paper)
- Debate (Letter to the Editor)
- Perspective (by Editor invitation only)

Perspective articles are focused articles on topics of interest to a broad audience, but are written from a personal viewpoint. They are intended to provide a forum to be more speculative than Reviews, but should remain balanced and are intended to cover timely and relevant topics. These articles are peer reviewed.

Limited to 1,500-3,000 words (excluding abstract, references and figure legends); Unstructured abstract 200 words; 4 tables/figures; 60 references

It is the general policy of this journal not to accept case reports and pilot studies.

Editorial Procedure

Clinical Oral Investigations operates a single-blind peer-review system, where the reviewers are aware of the names and affiliations of the authors, but the reviewer reports provided to authors are anonymous.

Submitted manuscripts will generally be reviewed by two or more experts who will be asked to evaluate whether the manuscript is scientifically sound and coherent, whether it duplicates already published work, and whether or not the manuscript is sufficiently clear for publication. The Editors will reach a decision based on these reports and, where necessary, they will consult with members of the Editorial Board.

Summary of the editorial process

- The author submits a manuscript and the Editorial Office performs an initial quality check on the manuscript to ensure that the paper is formatted correctly
- The manuscript receives a tracking number and Manuscripts are assigned to an Editor-in-Chief or a Section Editor for an initial editorial assessment. If the decision is not to send the manuscript for review, the Editor contacts the author with the decision.
- If the Editor decides the paper is within the Journal's remit, peer reviewers are selected and assigned. This can take some time dependent on the responsiveness and availability of the reviewers selected.
- Reviewers are given 14 days from acceptance to submit their reports. Once the required reports are submitted, the Associate Editor will give a recommendation or the Editor-in-Chief makes a final decision based on the comments received. The final decision is the sole responsibility of the Editors-in-Chief.

Manuscript Submission

Manuscript Submission

Submission of a manuscript implies: that the work described has not been published before; that it is not under consideration for publication anywhere else; that its publication has been approved by all co-authors, if any, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation.

Permissions

Authors wishing to include figures, tables, or text passages that have already been published elsewhere are required to obtain permission from the copyright owner(s) for both the print and online format and to include evidence that such permission has been granted when submitting their papers. Any material received without such evidence will be assumed to originate from the authors.

Online Submission

Please follow the hyperlink “Submit manuscript” and upload all of your manuscript files following the instructions given on the screen.

Source Files

Please ensure you provide all relevant editable source files at every submission and revision. Failing to submit a complete set of editable source files will result in your article not being considered for review. For your manuscript text please always submit in common word processing formats such as .docx or LaTeX.

Submitting Declarations

Please note that [Author Contribution information](#) and [Competing Interest information](#) must be provided at submission via the submission interface. Only the information submitted via the interface will be used in the final published version. Please make sure that if you are an editorial board member and also a listed author that you also declare this information in the Competing Interest section of the interface.

Please see the relevant sections in the submission guidelines for further information on these statements as well as possible other mandatory statements.

Further Useful Information

please follow the link below

[Further Useful Information](#)

The Springer Author Academy is a set of comprehensive online training pages mainly geared towards first-time authors. At this point, more than 50 pages offer advice to authors on how to write and publish a journal article.

[Springer Author Academy](#)

Title Page

The title page should include:

- The name(s) of the author(s)

- A concise and informative title
- The affiliation(s) and address(es) of the author(s)
- The e-mail address, telephone and fax numbers of the corresponding author

Abstract

Please provide a structured abstract of 150 to 250 words which should be divided into the following sections:

- Objectives (stating the main purposes and research question)
- Materials and Methods
- Results
- Conclusions
- Clinical Relevance

These headings must appear in the abstract.

Keywords

Please provide 4 to 6 keywords which can be used for indexing purposes.

Text

Text Formatting

Manuscripts should be submitted in Word.

- Use a normal, plain font (e.g., 10-point Times Roman) for text.
- Use italics for emphasis.
- Use the automatic page numbering function to number the pages.
- Do not use field functions.
- Use tab stops or other commands for indents, not the space bar.
- Use the table function, not spreadsheets, to make tables.
- Use the equation editor or MathType for equations.
- Save your file in docx format (Word 2007 or higher) or doc format (older Word versions).

Manuscripts with mathematical content can also be submitted in LaTeX. We recommend using [Springer Nature's LaTeX template](#).

Headings

Please use no more than three levels of displayed headings.

Abbreviations

Abbreviations should be defined at first mention and used consistently thereafter.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

Acknowledgments

Acknowledgments of people, grants, funds, etc. should be placed in a separate section on the title page. The names of funding organizations should be written in full.

References

Citation

Reference citations in the text should be identified by numbers in square brackets. Some examples:

1. Negotiation research spans many disciplines [3].
2. This result was later contradicted by Becker and Seligman [5].
3. This effect has been widely studied [1-3, 7].

Reference list

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text.

The entries in the list should be numbered consecutively.

If available, please always include DOIs as full DOI links in your reference list (e.g. “<https://doi.org/abc>”).

- Journal article

Gamelin FX, Baquet G, Berthoin S, Thevenet D, Nourry C, Nottin S, Bosquet L (2009) Effect of high intensity intermittent training on heart rate variability in prepubescent children. *Eur J Appl Physiol* 105:731-738. <https://doi.org/10.1007/s00421-008-0955-8>

Ideally, the names of all authors should be provided, but the usage of “et al” in long author lists will also be accepted:

Smith J, Jones M Jr, Houghton L et al (1999) Future of health insurance. *N Engl J Med* 341:325–329

- Article by DOI

Slifka MK, Whitton JL (2000) Clinical implications of dysregulated cytokine production. *J Mol Med*. <https://doi.org/10.1007/s001090000086>

- Book

South J, Blass B (2001) *The future of modern genomics*. Blackwell, London

- Book chapter

Brown B, Aaron M (2001) The politics of nature. In: Smith J (ed) The rise of modern genomics, 3rd edn. Wiley, New York, pp 230-257

- Online document

Cartwright J (2007) Big stars have weather too. IOP Publishing PhysicsWeb. <http://physicsweb.org/articles/news/11/6/16/1>. Accessed 26 June 2007

- Dissertation

Trent JW (1975) Experimental acute renal failure. Dissertation, University of California
Always use the standard abbreviation of a journal's name according to the ISSN List of Title Word Abbreviations, see

[ISSN.org LTWA](http://www.issn.org/LTWA)

If you are unsure, please use the full journal title.

Authors preparing their manuscript in LaTeX can use the bibliography style file sn-basic.bst which is included in the [Springer Nature Article Template](#).

Tables

- All tables are to be numbered using Arabic numerals.
- Tables should always be cited in text in consecutive numerical order.
- For each table, please supply a table caption (title) explaining the components of the table.
- Identify any previously published material by giving the original source in the form of a reference at the end of the table caption.
- Footnotes to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body.

Artwork and Illustrations Guidelines

Electronic Figure Submission

- Supply all figures electronically.
- Indicate what graphics program was used to create the artwork.
- For vector graphics, the preferred format is EPS; for halftones, please use TIFF format. MSOffice files are also acceptable.
- Vector graphics containing fonts must have the fonts embedded in the files.
- Name your figure files with "Fig" and the figure number, e.g., Fig1.eps.

Line Art

- Definition: Black and white graphic with no shading.
- Do not use faint lines and/or lettering and check that all lines and lettering within the figures are legible at final size.
- All lines should be at least 0.1 mm (0.3 pt) wide.

- Scanned line drawings and line drawings in bitmap format should have a minimum resolution of 1200 dpi.
- Vector graphics containing fonts must have the fonts embedded in the files.

Halftone Art

- Definition: Photographs, drawings, or paintings with fine shading, etc.
- If any magnification is used in the photographs, indicate this by using scale bars within the figures themselves.
- Halftones should have a minimum resolution of 300 dpi.

Combination Art

- Definition: a combination of halftone and line art, e.g., halftones containing line drawing, extensive lettering, color diagrams, etc.
- Combination artwork should have a minimum resolution of 600 dpi.

Color Art

- Color art is free of charge for online publication.
- If black and white will be shown in the print version, make sure that the main information will still be visible. Many colors are not distinguishable from one another when converted to black and white. A simple way to check this is to make a xerographic copy to see if the necessary distinctions between the different colors are still apparent.
- If the figures will be printed in black and white, do not refer to color in the captions.
- Color illustrations should be submitted as RGB (8 bits per channel).

Figure Lettering

- To add lettering, it is best to use Helvetica or Arial (sans serif fonts).
- Keep lettering consistently sized throughout your final-sized artwork, usually about 2–3 mm (8–12 pt).
- Variance of type size within an illustration should be minimal, e.g., do not use 8-pt type on an axis and 20-pt type for the axis label.
- Avoid effects such as shading, outline letters, etc.
- Do not include titles or captions within your illustrations.

Figure Numbering

- All figures are to be numbered using Arabic numerals.
- Figures should always be cited in text in consecutive numerical order.
- Figure parts should be denoted by lowercase letters (a, b, c, etc.).
- If an appendix appears in your article and it contains one or more figures, continue the consecutive numbering of the main text. Do not number the appendix figures, "A1, A2, A3, etc." Figures in online appendices [Supplementary Information (SI)] should, however, be numbered separately.

Figure Captions

- Each figure should have a concise caption describing accurately what the figure depicts. Include the captions in the text file of the manuscript, not in the figure file.

- Figure captions begin with the term Fig. in bold type, followed by the figure number, also in bold type.
- No punctuation is to be included after the number, nor is any punctuation to be placed at the end of the caption.
- Identify all elements found in the figure in the figure caption; and use boxes, circles, etc., as coordinate points in graphs.
- Identify previously published material by giving the original source in the form of a reference citation at the end of the figure caption.

Figure Placement and Size

- Figures should be submitted within the body of the text. Only if the file size of the manuscript causes problems in uploading it, the large figures should be submitted separately from the text.
- When preparing your figures, size figures to fit in the column width.
- For large-sized journals the figures should be 84 mm (for double-column text areas), or 174 mm (for single-column text areas) wide and not higher than 234 mm.
- For small-sized journals, the figures should be 119 mm wide and not higher than 195 mm.

Permissions

If you include figures that have already been published elsewhere, you must obtain permission from the copyright owner(s) for both the print and online format. Please be aware that some publishers do not grant electronic rights for free and that Springer will not be able to refund any costs that may have occurred to receive these permissions. In such cases, material from other sources should be used.

Accessibility

In order to give people of all abilities and disabilities access to the content of your figures, please make sure that

- All figures have descriptive captions (blind users could then use a text-to-speech software or a text-to-Braille hardware)
- Patterns are used instead of or in addition to colors for conveying information (colorblind users would then be able to distinguish the visual elements)
- Any figure lettering has a contrast ratio of at least 4.5:1

Generative AI Images

Please check [Springer's policy on generative AI images](#) and make sure your work adheres to the principles described therein.

Supplementary Information (SI)

Springer accepts electronic multimedia files (animations, movies, audio, etc.) and other supplementary files to be published online along with an article or a book chapter. This feature can add dimension to the author's article, as certain information cannot be printed or is more convenient in electronic form.

Before submitting research datasets as Supplementary Information, authors should read the journal's Research data policy. We encourage research data to be archived in data repositories wherever possible.

Submission

- Supply all supplementary material in standard file formats.

- Please include in each file the following information: article title, journal name, author names; affiliation and e-mail address of the corresponding author.
- To accommodate user downloads, please keep in mind that larger-sized files may require very long download times and that some users may experience other problems during downloading.

Audio, Video, and Animations

- Aspect ratio: 16:9 or 4:3
- Maximum file size: 2 GB
- Minimum video duration: 1 sec
- Supported file formats: avi, wmv, mp4, mov, m2p, mp2, mpg, mpeg, flv, mxfl, mts, m4v, 3gp

Text and Presentations

- Submit your material in PDF format; .doc or .ppt files are not suitable for long-term viability.
- A collection of figures may also be combined in a PDF file.

Spreadsheets

- Spreadsheets should be submitted as .csv or .xlsx files (MS Excel).

Specialized Formats

- Specialized format such as .pdb (chemical), .wrl (VRML), .nb (Mathematica notebook), and .tex can also be supplied.

Collecting Multiple Files

- It is possible to collect multiple files in a .zip or .gz file.

Numbering

- If supplying any supplementary material, the text must make specific mention of the material as a citation, similar to that of figures and tables.
- Refer to the supplementary files as "Online Resource", e.g., "... as shown in the animation (Online Resource 3)", "... additional data are given in Online Resource 4".
- Name the files consecutively, e.g. "ESM_3.mpg", "ESM_4.pdf".

Captions

- For each supplementary material, please supply a concise caption describing the content of the file.

Processing of supplementary files

- Supplementary Information (SI) will be published as received from the author without any conversion, editing, or reformatting.

Accessibility

In order to give people of all abilities and disabilities access to the content of your supplementary files, please make sure that

- The manuscript contains a descriptive caption for each supplementary material
- Video files do not contain anything that flashes more than three times per second (so that users prone to seizures caused by such effects are not put at risk)

Generative AI Images

Please check [Springer's policy on generative AI images](#) and make sure your work adheres to the principles described therein.

Clinical Trial Registration

Clinical trials must be registered prior to submission of manuscripts. The registration site must be publicly available in English.

Recommended sites are: <https://www.isrctn.com> ; <https://www.clinicaltrialsregister.eu>; <https://clinicaltrials.gov> or similar.

The registration number is required for the submission and must appear on the title page.

Editing Services

English

How can you help improve your manuscript for publication?

Presenting your work in a well-structured manuscript and in well-written English gives it its best chance for editors and reviewers to understand it and evaluate it fairly. Many researchers find that getting some independent support helps them present their results in the best possible light. The experts at Springer Nature Author Services can help you with manuscript preparation—including **English language editing, developmental comments, manuscript formatting, figure preparation, translation**, and more.

[Get started and save 15%](#)

You can also use our free [Grammar Check](#) tool for an evaluation of your work.

Please note that using these tools, or any other service, is not a requirement for publication, nor does it imply or guarantee that editors will accept the article, or even select it for peer review.

Ethical Responsibilities of Authors

This journal is committed to upholding the integrity of the scientific record. As a member of the Committee on Publication Ethics ([COPE](#)) the journal will follow the [COPE](#) guidelines on how to deal with potential acts of misconduct.

Authors should refrain from misrepresenting research results which could damage the trust in the journal, the professionalism of scientific authorship, and ultimately the entire scientific endeavour. Maintaining integrity of the research and its presentation is helped by following the rules of good scientific practice, which include*:

- The manuscript should not be submitted to more than one journal for simultaneous consideration.
- The submitted work should be original and should not have been published elsewhere in any form or language (partially or in full), unless the new work concerns an expansion of previous work. (Please provide transparency on the re-use of material to avoid the concerns about text-recycling ('self-plagiarism').
- A single study should not be split up into several parts to increase the quantity of submissions and submitted to various journals or to one journal over time (i.e. 'salami-slicing/publishing').

- Concurrent or secondary publication is sometimes justifiable, provided certain conditions are met. Examples include: translations or a manuscript that is intended for a different group of readers.
- Results should be presented clearly, honestly, and without fabrication, falsification or inappropriate data manipulation (including image based manipulation). Authors should adhere to discipline-specific rules for acquiring, selecting and processing data.
- No data, text, or theories by others are presented as if they were the author's own ('plagiarism'). Proper acknowledgements to other works must be given (this includes material that is closely copied (near verbatim), summarized and/or paraphrased), quotation marks (to indicate words taken from another source) are used for verbatim copying of material, and permissions secured for material that is copyrighted.

Important note: the journal may use software to screen for plagiarism.

- Authors should make sure they have permissions for the use of software, questionnaires/(web) surveys and scales in their studies (if appropriate).
- Research articles and non-research articles (e.g. Opinion, Review, and Commentary articles) must cite appropriate and relevant literature in support of the claims made. Excessive and inappropriate self-citation or coordinated efforts among several authors to collectively self-cite is strongly discouraged.
- Authors should avoid untrue statements about an entity (who can be an individual person or a company) or descriptions of their behavior or actions that could potentially be seen as personal attacks or allegations about that person.
- Research that may be misapplied to pose a threat to public health or national security should be clearly identified in the manuscript (e.g. dual use of research). Examples include creation of harmful consequences of biological agents or toxins, disruption of immunity of vaccines, unusual hazards in the use of chemicals, weaponization of research/technology (amongst others).
- Authors are strongly advised to ensure the author group, the Corresponding Author, and the order of authors are all correct at submission. Adding and/or deleting authors during the revision stages is generally not permitted, but in some cases may be warranted. Reasons for changes in authorship should be explained in detail. Please note that changes to authorship cannot be made after acceptance of a manuscript.

*All of the above are guidelines and authors need to make sure to respect third parties rights such as copyright and/or moral rights.

Upon request authors should be prepared to send relevant documentation or data in order to verify the validity of the results presented. This could be in the form of raw data, samples, records, etc. Sensitive information in the form of confidential or proprietary data is excluded.

If there is suspicion of misbehavior or alleged fraud the Journal and/or Publisher will carry out an investigation following [COPE](#) guidelines. If, after investigation, there are valid concerns, the author(s) concerned will be contacted under their given e-mail address and given an opportunity to address the issue. Depending on the situation, this may result in the Journal's and/or Publisher's implementation of the following measures, including, but not limited to:

- If the manuscript is still under consideration, it may be rejected and returned to the author.
- If the article has already been published online, depending on the nature and severity of the infraction:
 - an erratum/correction may be placed with the article
 - an expression of concern may be placed with the article

- or in severe cases retraction of the article may occur.

The reason will be given in the published erratum/correction, expression of concern or retraction note. Please note that retraction means that the article is **maintained on the platform**, watermarked “retracted” and the explanation for the retraction is provided in a note linked to the watermarked article.

- The author’s institution may be informed
- A notice of suspected transgression of ethical standards in the peer review system may be included as part of the author’s and article’s bibliographic record.

Fundamental errors

Authors have an obligation to correct mistakes once they discover a significant error or inaccuracy in their published article. The author(s) is/are requested to contact the journal and explain in what sense the error is impacting the article. A decision on how to correct the literature will depend on the nature of the error. This may be a correction or retraction. The retraction note should provide transparency which parts of the article are impacted by the error.

Suggesting / excluding reviewers

Authors are welcome to suggest suitable reviewers and/or request the exclusion of certain individuals when they submit their manuscripts. When suggesting reviewers, authors should make sure they are totally independent and not connected to the work in any way. It is strongly recommended to suggest a mix of reviewers from different countries and different institutions. When suggesting reviewers, the Corresponding Author must provide an institutional email address for each suggested reviewer, or, if this is not possible to include other means of verifying the identity such as a link to a personal homepage, a link to the publication record or a researcher or author ID in the submission letter. Please note that the Journal may not use the suggestions, but suggestions are appreciated and may help facilitate the peer review process.

Authorship principles

These guidelines describe authorship principles and good authorship practices to which prospective authors should adhere to.

Authorship clarified

The Journal and Publisher assume all authors agreed with the content and that all gave explicit consent to submit and that they obtained consent from the responsible authorities at the institute/organization where the work has been carried out, **before** the work is submitted.

The Publisher does not prescribe the kinds of contributions that warrant authorship. It is recommended that authors adhere to the guidelines for authorship that are applicable in their specific research field. In absence of specific guidelines it is recommended to adhere to the following guidelines*:

All authors whose names appear on the submission

- 1) made substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data; or the creation of new software used in the work;
- 2) drafted the work or revised it critically for important intellectual content;
- 3) approved the version to be published; and

4) agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

* Based on/adapted from:

[ICMJE, Defining the Role of Authors and Contributors.](#)

[Transparency in authors' contributions and responsibilities to promote integrity in scientific publication, McNutt et al, PNAS February 27, 2018](#)

Disclosures and declarations

All authors are requested to include information regarding sources of funding, financial or non-financial interests, study-specific approval by the appropriate ethics committee for research involving humans and/or animals, informed consent if the research involved human participants, and a statement on welfare of animals if the research involved animals (as appropriate).

The decision whether such information should be included is not only dependent on the scope of the journal, but also the scope of the article. Work submitted for publication may have implications for public health or general welfare and in those cases it is the responsibility of all authors to include the appropriate disclosures and declarations.

Data transparency

All authors are requested to make sure that all data and materials as well as software application or custom code support their published claims and comply with field standards. Please note that journals may have individual policies on (sharing) research data in concordance with disciplinary norms and expectations.

Role of the Corresponding Author

One author is assigned as Corresponding Author and acts on behalf of all co-authors and ensures that questions related to the accuracy or integrity of any part of the work are appropriately addressed.

The Corresponding Author is responsible for the following requirements:

- ensuring that all listed authors have approved the manuscript before submission, including the names and order of authors;
- managing all communication between the Journal and all co-authors, before and after publication;*
- providing transparency on re-use of material and mention any unpublished material (for example manuscripts in press) included in the manuscript in a cover letter to the Editor;
- making sure disclosures, declarations and transparency on data statements from all authors are included in the manuscript as appropriate (see above).

* The requirement of managing all communication between the journal and all co-authors during submission and proofing may be delegated to a Contact or Submitting Author. In this case please make sure the Corresponding Author is clearly indicated in the manuscript.

Author contributions

In absence of specific instructions and in research fields where it is possible to describe discrete efforts, the Publisher recommends authors to include contribution statements in the work that specifies the

contribution of every author in order to promote transparency. These contributions should be listed at the separate title page.

Examples of such statement(s) are shown below:

- Free text:

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by [full name], [full name] and [full name]. The first draft of the manuscript was written by [full name] and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

[Example: CRediT taxonomy:](#)

- Conceptualization: [full name], ...; Methodology: [full name], ...; Formal analysis and investigation: [full name], ...; Writing - original draft preparation: [full name, ...]; Writing - review and editing: [full name], ...; Funding acquisition: [full name], ...; Resources: [full name], ...; Supervision: [full name],....

For **review articles** where discrete statements are less applicable a statement should be included who had the idea for the article, who performed the literature search and data analysis, and who drafted and/or critically revised the work.

For articles that are based primarily on the **student's dissertation or thesis**, it is recommended that the student is usually listed as principal author:

[A Graduate Student's Guide to Determining Authorship Credit and Authorship Order, APA Science Student Council 2006](#)

[Affiliation](#)

The primary affiliation for each author should be the institution where the majority of their work was done. If an author has subsequently moved, the current address may additionally be stated. Addresses will not be updated or changed after publication of the article.

[Changes to authorship](#)

Authors are strongly advised to ensure the correct author group, the Corresponding Author, and the order of authors at submission. Changes of authorship by adding or deleting authors, and/or changes in Corresponding Author, and/or changes in the sequence of authors are **not** accepted **after acceptance** of a manuscript.

- **Please note that author names will be published exactly as they appear on the accepted submission!**

Please make sure that the names of all authors are present and correctly spelled, and that addresses and affiliations are current.

Adding and/or deleting authors at revision stage are generally not permitted, but in some cases it may be warranted. Reasons for these changes in authorship should be explained. Approval of the change

during revision is at the discretion of the Editor-in-Chief. Please note that journals may have individual policies on adding and/or deleting authors during revision stage.

Author identification

Authors are recommended to use their [ORCID](#) ID when submitting an article for consideration or acquire an [ORCID](#) ID via the submission process.

Deceased or incapacitated authors

For cases in which a co-author dies or is incapacitated during the writing, submission, or peer-review process, and the co-authors feel it is appropriate to include the author, co-authors should obtain approval from a (legal) representative which could be a direct relative.

Authorship issues or disputes

In the case of an authorship dispute during peer review or after acceptance and publication, the Journal will not be in a position to investigate or adjudicate. Authors will be asked to resolve the dispute themselves. If they are unable the Journal reserves the right to withdraw a manuscript from the editorial process or in case of a published paper raise the issue with the authors' institution(s) and abide by its guidelines.

Confidentiality

Authors should treat all communication with the Journal as confidential which includes correspondence with direct representatives from the Journal such as Editors-in-Chief and/or Handling Editors and reviewers' reports unless explicit consent has been received to share information.

Compliance with Ethical Standards

To ensure objectivity and transparency in research and to ensure that accepted principles of ethical and professional conduct have been followed, authors should include information regarding sources of funding, potential conflicts of interest (financial or non-financial), informed consent if the research involved human participants, and a statement on welfare of animals if the research involved animals.

Authors should include the following statements (if applicable) in a separate section entitled "Compliance with Ethical Standards" when submitting a paper:

- Disclosure of potential conflicts of interest
- Research involving Human Participants and/or Animals
- Informed consent

Please note that standards could vary slightly per journal dependent on their peer review policies (i.e. single or double blind peer review) as well as per journal subject discipline. Before submitting your article check the instructions following this section carefully.

The corresponding author should be prepared to collect documentation of compliance with ethical standards and send if requested during peer review or after publication.

The Editors reserve the right to reject manuscripts that do not comply with the above-mentioned guidelines. The author will be held responsible for false statements or failure to fulfill the above-mentioned guidelines.

Disclosure of potential conflicts of interest

Authors must disclose all relationships or interests that could have direct or potential influence or impart bias on the work. Although an author may not feel there is any conflict, disclosure of relationships and interests provides a more complete and transparent process, leading to an accurate and objective

assessment of the work. Awareness of a real or perceived conflicts of interest is a perspective to which the readers are entitled. This is not meant to imply that a financial relationship with an organization that sponsored the research or compensation received for consultancy work is inappropriate. Examples of potential conflicts of interests **that are directly or indirectly related to the research** may include but are not limited to the following:

- Research grants from funding agencies (please give the research funder and the grant number)
- Honoraria for speaking at symposia
- Financial support for attending symposia
- Financial support for educational programs
- Employment or consultation
- Support from a project sponsor
- Position on advisory board or board of directors or other type of management relationships
- Multiple affiliations
- Financial relationships, for example equity ownership or investment interest
- Intellectual property rights (e.g. patents, copyrights and royalties from such rights)
- Holdings of spouse and/or children that may have financial interest in the work

In addition, interests that go beyond financial interests and compensation (non-financial interests) that may be important to readers should be disclosed. These may include but are not limited to personal relationships or competing interests directly or indirectly tied to this research, or professional interests or personal beliefs that may influence your research.

The corresponding author collects the conflict of interest disclosure forms from all authors. In author collaborations where formal agreements for representation allow it, it is sufficient for the corresponding author to sign the disclosure form on behalf of all authors. Examples of forms can be found

[here:](#)

The corresponding author will include a summary statement in the text of the manuscript in a separate section before the reference list, that reflects what is recorded in the potential conflict of interest disclosure form(s).

Please make sure to submit all Conflict of Interest disclosure forms together with the manuscript.

See below examples of disclosures:

Funding: This study was funded by X (grant number X).

Conflict of Interest: Author A has received research grants from Company A. Author B has received a speaker honorarium from Company X and owns stock in Company Y. Author C is a member of committee Z.

If no conflict exists, the authors should state:

Conflict of Interest: The authors declare that they have no conflict of interest.

Research involving human participants, their data or biological material

Ethics approval

When reporting a study that involved human participants, their data or biological material, authors should include a statement that confirms that the study was approved (or granted exemption) by the appropriate institutional and/or national research ethics committee (including the name of the ethics committee) and certify that the study was performed in accordance with the ethical standards as laid down in the [1964 Declaration of Helsinki](#) and its later amendments or comparable ethical standards. If doubt exists whether the research was conducted in accordance with the 1964 Helsinki Declaration or comparable standards, the authors must explain the reasons for their approach, and demonstrate that an independent ethics committee or institutional review board explicitly approved the doubtful aspects of the study. If a study was granted exemption from requiring ethics approval, this should also be detailed in the manuscript (including the reasons for the exemption).

Retrospective ethics approval

If a study has not been granted ethics committee approval prior to commencing, retrospective ethics approval usually cannot be obtained and it may not be possible to consider the manuscript for peer review. The decision on whether to proceed to peer review in such cases is at the Editor's discretion.

Ethics approval for retrospective studies

Although retrospective studies are conducted on already available data or biological material (for which formal consent may not be needed or is difficult to obtain) ethics approval may be required dependent on the law and the national ethical guidelines of a country. Authors should check with their institution to make sure they are complying with the specific requirements of their country.

Ethics approval for case studies

Case reports require ethics approval. Most institutions will have specific policies on this subject. Authors should check with their institution to make sure they are complying with the specific requirements of their institution and seek ethics approval where needed. Authors should be aware to secure informed consent from the individual (or parent or guardian if the participant is a minor or incapable) See also section on **Informed Consent**.

Cell lines

If human cells are used, authors must declare in the manuscript: what cell lines were used by describing the source of the cell line, including when and from where it was obtained, whether the cell line has recently been authenticated and by what method. If cells were bought from a life science company the following need to be given in the manuscript: name of company (that provided the cells), cell type, number of cell line, and batch of cells.

It is recommended that authors check the [NCBI database](#) for misidentification and contamination of human cell lines. This step will alert authors to possible problems with the cell line and may save considerable time and effort.

Further information is available from the [International Cell Line Authentication Committee](#) (ICLAC).

Authors should include a statement that confirms that an institutional or independent ethics committee (including the name of the ethics committee) approved the study and that informed consent was obtained from the donor or next of kin.

Research Resource Identifiers (RRID)

Research Resource Identifiers (RRID) are persistent unique identifiers (effectively similar to a DOI) for research resources. This journal encourages authors to adopt RRIDs when reporting key biological resources (antibodies, cell lines, model organisms and tools) in their manuscripts.

Examples:

Organism: *Filip1^{tm1a(KOMP)Wtsi}* **RRID:**MMRRC_055641-UCD

Cell Line: RST307 cell line **RRID:**CVCL_C321

Antibody: Luciferase antibody DSHB Cat# LUC-3, **RRID:**AB_2722109

Plasmid: mRuby3 plasmid **RRID:**Addgene_104005

Software: ImageJ Version 1.2.4 **RRID:**SCR_003070

RRIDs are provided by the [Resource Identification Portal](#). Many commonly used research resources already have designated RRIDs. The portal also provides authors links so that they can quickly [register a new resource](#) and obtain an RRID.

Clinical Trial Registration

The World Health Organization (WHO) definition of a clinical trial is "any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects on health outcomes". The WHO defines health interventions as "A health intervention is an act performed for, with or on behalf of a person or population whose purpose is to assess, improve, maintain, promote or modify health, functioning or health conditions" and a health-related outcome is generally defined as a change in the health of a person or population as a result of an intervention.

To ensure the integrity of the reporting of patient-centered trials, authors must register prospective clinical trials (phase II to IV trials) in suitable publicly available repositories. For example www.clinicaltrials.gov or any of the primary registries that participate in the [WHO International Clinical Trials Registry Platform](#).

The trial registration number (TRN) and date of registration should be included as the last line of the manuscript abstract.

For clinical trials that have not been registered prospectively, authors are encouraged to register retrospectively to ensure the complete publication of all results. The trial registration number (TRN), date of registration and the words 'retrospectively registered' should be included as the last line of the manuscript abstract.

Standards of reporting

Springer Nature advocates complete and transparent reporting of biomedical and biological research and research with biological applications. Authors are recommended to adhere to the minimum reporting guidelines hosted by the [EQUATOR Network](#) when preparing their manuscript.

Exact requirements may vary depending on the journal; please refer to the journal's Instructions for Authors.

Checklists are available for a number of study designs, including:

Randomised trials ([CONSORT](#)) and Study protocols ([SPIRIT](#))

Observational studies ([STROBE](#))

Systematic reviews and meta-analyses ([PRISMA](#)) and protocols ([Prisma-P](#))

Diagnostic/prognostic studies ([STARD](#)) and ([TRIPOD](#))

Case reports ([CARE](#))

Clinical practice guidelines ([AGREE](#)) and ([RIGHT](#))

Qualitative research ([SRQR](#)) and ([COREQ](#))

Animal pre-clinical studies ([ARRIVE](#))

Quality improvement studies ([SQUIRE](#))

Economic evaluations ([CHEERS](#))

Summary of requirements

The above should be summarized in a statement and placed in a 'Declarations' section before the reference list under a heading of 'Ethics approval'.

Examples of statements to be used when ethics approval has been obtained:

- All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Bioethics Committee of the Medical University of A (No. ...).
- This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of University B (Date.../No. ...).
- Approval was obtained from the ethics committee of University C. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

- The questionnaire and methodology for this study was approved by the Human Research Ethics committee of the University of D (Ethics approval number: ...).

Examples of statements to be used for a retrospective study:

- Ethical approval was waived by the local Ethics Committee of University A in view of the retrospective nature of the study and all the procedures being performed were part of the routine care.
- This research study was conducted retrospectively from data obtained for clinical purposes. We consulted extensively with the IRB of XYZ who determined that our study did not need ethical approval. An IRB official waiver of ethical approval was granted from the IRB of XYZ.
- This retrospective chart review study involving human participants was in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Human Investigation Committee (IRB) of University B approved this study.

Examples of statements to be used when no ethical approval is required/exemption granted:

- This is an observational study. The XYZ Research Ethics Committee has confirmed that no ethical approval is required.
- The data reproduced from Article X utilized human tissue that was procured via our Biobank AB, which provides de-identified samples. This study was reviewed and deemed exempt by our XYZ Institutional Review Board. The BioBank protocols are in accordance with the ethical standards of our institution and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

Informed consent

All individuals have individual rights that are not to be infringed. Individual participants in studies have, for example, the right to decide what happens to the (identifiable) personal data gathered, to what they have said during a study or an interview, as well as to any photograph that was taken. This is especially true concerning images of vulnerable people (e.g. minors, patients, refugees, etc) or the use of images in sensitive contexts. In many instances authors will need to secure written consent before including images.

Identifying details (names, dates of birth, identity numbers, biometrical characteristics (such as facial features, fingerprint, writing style, voice pattern, DNA or other distinguishing characteristic) and other information) of the participants that were studied should not be published in written descriptions, photographs, and genetic profiles unless the information is essential for scholarly purposes and the participant (or parent/guardian if the participant is a minor or incapable or legal representative) gave written informed consent for publication. Complete anonymity is difficult to achieve in some cases. Detailed descriptions of individual participants, whether of their whole bodies or of body sections, may lead to disclosure of their identity. Under certain circumstances consent is not required as long as information is anonymized and the submission does not include images that may identify the person.

Informed consent for publication should be obtained if there is any doubt. For example, masking the eye region in photographs of participants is inadequate protection of anonymity. If identifying characteristics are altered to protect anonymity, such as in genetic profiles, authors should provide assurance that alterations do not distort meaning.

Exceptions where it is not necessary to obtain consent:

- Images such as x rays, laparoscopic images, ultrasound images, brain scans, pathology slides unless there is a concern about identifying information in which case, authors should ensure that consent is obtained.
- Reuse of images: If images are being reused from prior publications, the Publisher will assume that the prior publication obtained the relevant information regarding consent. Authors should provide the appropriate attribution for republished images.

Consent and already available data and/or biologic material

Regardless of whether material is collected from living or dead patients, they (family or guardian if the deceased has not made a pre-mortem decision) must have given prior written consent. The aspect of confidentiality as well as any wishes from the deceased should be respected.

Data protection, confidentiality and privacy

When biological material is donated for or data is generated as part of a research project authors should ensure, as part of the informed consent procedure, that the participants are made aware what kind of (personal) data will be processed, how it will be used and for what purpose. In case of data acquired via a biobank/biorepository, it is possible they apply a broad consent which allows research participants to consent to a broad range of uses of their data and samples which is regarded by research ethics committees as specific enough to be considered “informed”. However, authors should always check the specific biobank/biorepository policies or any other type of data provider policies (in case of non-bio research) to be sure that this is the case.

Consent to Participate

For all research involving human subjects, freely-given, informed consent to participate in the study must be obtained from participants (or their parent or legal guardian in the case of children under 16) and a statement to this effect should appear in the manuscript. In the case of articles describing human transplantation studies, authors must include a statement declaring that no organs/tissues were obtained from prisoners and must also name the institution(s)/clinic(s)/department(s) via which organs/tissues were obtained. For manuscripts reporting studies involving vulnerable groups where there is the potential for coercion or where consent may not have been fully informed, extra care will be taken by the editor and may be referred to the Springer Nature Research Integrity Group.

Consent to Publish

Individuals may consent to participate in a study, but object to having their data published in a journal article. Authors should make sure to also seek consent from individuals to publish their data prior to submitting their paper to a journal. This is in particular applicable to case studies. A consent to publish form can be found

[here. \(Download docx, 36 kB\)](#)

Summary of requirements

The above should be summarized in a statement and placed in a 'Declarations' section before the reference list under a heading of 'Consent to participate' and/or 'Consent to publish'. Other declarations include Funding, Competing interests, Ethics approval, Consent, Data and/or Code availability and Authors' contribution statements.

Please see the various examples of wording below and revise/customize the sample statements according to your own needs.

Sample statements for "**Consent to participate**":

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

Informed consent was obtained from legal guardians.

Written informed consent was obtained from the parents.

Verbal informed consent was obtained prior to the interview.

Sample statements for "**Consent to publish**":

The authors affirm that human research participants provided informed consent for publication of the images in Figure(s) 1a, 1b and 1c.

The participant has consented to the submission of the case report to the journal.

Patients signed informed consent regarding publishing their data and photographs.

Sample statements if identifying information about participants is available in the article:

Additional informed consent was obtained from all individual participants for whom identifying information is included in this article.

Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

Images will be removed from publication if authors have not obtained informed consent or the paper may be removed and replaced with a notice explaining the reason for removal.

[Back to top](#)

Research Data Policy and Data Availability Statements

This journal follows Springer Nature [research data policy](#). Sharing of all relevant research data is strongly encouraged and authors must add a Data Availability Statement to original research articles.

Research data includes a wide range of types, including spreadsheets, images, textual extracts, archival documents, video or audio, interview notes or any specialist formats generated during research.

Data availability statements

All original research must include a data availability statement. This statement should explain how to access data supporting the results and analysis in the article, including links/citations to publicly archived datasets analysed or generated during the study. Please see our full policy [here](#).

If it is not possible to share research data publicly, for instance when individual privacy could be compromised, this statement should describe how data can be accessed and any conditions for reuse. Participant consent should be obtained and documented prior to data collection. See our [guidance on sensitive data](#) for more information.

When creating a data availability statement, authors are encouraged to consider the minimal dataset that would be necessary to interpret, replicate and build upon the findings reported in the article.

Further guidance on writing a data availability statement, including examples, is available at:

[Data availability statements](#)

Data repositories

Authors are strongly encouraged to deposit their supporting data in a publicly available repository. Sharing your data in a repository promotes the integrity, discovery and reuse of your research, making it easier for the research community to build on and credit your work.

See our [data repository guidance](#) for information on finding a suitable repository.

We recommend the use of discipline-specific repositories where available. For a number of data types, submission to specific public repositories is mandatory.

See our [list of mandated data types](#).

The journal encourages making research data available under open licences that permit reuse. The journal does not enforce use of particular licences in third party repositories. You should ensure you have necessary rights to share any data that you deposit in a repository.

Data citation

The journal recommends that authors cite any publicly available data on which the conclusions of the paper rely. This includes data the authors are sharing alongside their publication and any secondary data the authors have reused. Data citations should include a persistent identifier (such as a DOI), should be included in the reference list using the minimum information recommended by [DataCite](#) (Dataset Creator, Dataset Title, Publisher [repository], Publication Year, Identifier [e.g. DOI, Handle, Accession or ARK]) and follow journal style.

See our [further guidance](#) on citing datasets.

Research data and peer review

If the journal that you are submitting to uses double-anonymous peer review and you are providing reviewers with access to your data (for example via a repository link, supplementary information or data on request), it is strongly suggested that the authorship in the data is also anonymised. There are [data repositories that can assist with this](#) and/or will create a link to mask the authorship of your data.

Support with research data policy

Authors who need help understanding our data sharing policy, finding a suitable data repository, or organising and sharing research data can consult our [Research Data Helpdesk](#) for guidance.

See our [FAQ page](#) for more information on Springer Nature's research data policy.

After Acceptance

Upon acceptance, your article will be exported to Production to undergo typesetting. Shortly after this you will receive two e-mails. One contains a request to confirm your affiliation, choose the publishing model for your article, as well as to arrange rights and payment of any associated publication cost. A second e-mail containing a link to your article's proofs will be sent once typesetting is completed.

Article publishing agreement

Depending on the ownership of the journal and its policies, you will either grant the Publisher an exclusive licence to publish the article or will be asked to transfer copyright of the article to the Publisher.

Offprints

Offprints can be ordered by the corresponding author.

Color illustrations

Publication of color illustrations is free of charge.

Proof reading

The purpose of the proof is to check for typesetting or conversion errors and the completeness and accuracy of the text, tables and figures. Substantial changes in content, e.g., new results, corrected values, title and authorship, are not allowed without the approval of the Editor.

After online publication, further changes can only be made in the form of an Erratum, which will be hyperlinked to the article.

Online First

The article will be published online after receipt of the corrected proofs. This is the official first publication citable with the DOI. After release of the printed version, the paper can also be cited by issue and page numbers.

[Back to top](#)

Open Choice

Open Choice allows you to publish open access in more than 1850 Springer Nature journals, making your research more visible and accessible immediately on publication.

Article processing charges (APCs) vary by journal – [view the full list](#)

Benefits:

- Increased researcher engagement: Open Choice enables access by anyone with an internet connection, immediately on publication.
- Higher visibility and impact: In Springer hybrid journals, OA articles are accessed 4 times more often on average, and cited 1.7 more times on average*.
- Easy compliance with funder and institutional mandates: Many funders require open access publishing, and some take compliance into account when assessing future grant applications.

It is easy to find funding to support open access – please see our funding and support pages for more information.

*) Within the first three years of publication. Springer Nature hybrid journal OA impact analysis, 2018.

[Open Choice](#)

[Funding and Support pages](#)

[Copyright](#)

Open Choice articles do not require transfer of copyright as the copyright remains with the author. In opting for open access, the author(s) agree to publish the article under a Creative Commons license. Details of the OA licences offered to authors can be found on the individual journal website, in the journal's **How to publish with us** guide.

[Open access publishing](#)

To find out more about publishing your work Open Access in *Clinical Oral Investigations*, including information on fees, funding and licences, visit our [Open access publishing page](#).

PERSPECTIVAS FUTURAS

Constatou-se que o tratamento oncológico impacta negativamente a qualidade de vida de crianças e adolescentes, especialmente nos domínios físico, escolar, emocional e de saúde bucal. Fatores como a idade e o acolhimento em casas de apoio demonstraram influenciar de maneira significativa a QV, sendo observado um impacto negativo mais acentuado entre aqueles afastados do convívio familiar.

Os resultados apresentados nesta tese contribuíram significativamente para o avanço do conhecimento ao comparar a QVRSB de crianças e adolescentes com e sem câncer, evidenciando como o câncer e seu tratamento afetam diretamente a saúde bucal e, por consequência, a qualidade de vida dessa população. Além disso, os achados ressaltam a importância de intervenções personalizadas que não se limitem ao tratamento clínico, mas que incluam também suporte emocional e psicológico, visando uma abordagem mais holística do cuidado.

Para que este estudo se torne mais representativo e que seus resultados possam ser generalizados ou interpretados sob uma perspectiva de causa e efeito, são recomendados delineamentos longitudinais que permitam acompanhar a evolução da QV ao longo do tempo. Ademais, pesquisas adicionais com amostras maiores, em diferentes contextos socioculturais e com populações diversas, são essenciais para aprofundar a compreensão das dinâmicas envolvidas e ampliar os achados deste trabalho. Futuros programas e políticas de saúde devem integrar ações clínicas e psicossociais, com enfoque preventivo e terapêutico, promovendo melhorias sustentáveis na qualidade de vida de crianças e adolescentes em tratamento oncológico.

ATIVIDADES DESENVOLVIDAS DURANTE O CURSO DE DOUTORADO

Formação Acadêmica

- Especialização em Odontopediatria. Fundação Universidade de Itáúna, FUIT, Brasil (2023-2025);

Atuação Profissional

Universidade Federal de Minas Gerais

- Monitora voluntária de pós graduação da disciplina de Pesquisa Odontológica para Crianças com Necessidade Complexas II (2021-2022);
- Monitora voluntária de graduação da disciplina de Trabalho de Conclusão de Curso I (2021-2024);

Faculdade Atenas de Sete Lagoas

- Professora Universitária da disciplina Saúde Bucal Coletiva, ministrada no primeiro período da faculdade de Odontologia (2022-2022);

Revisor de Periódicos

- Arquivos em Odontologia (UFMG);
- Brazilian Oral Research;
- Journal of Pharmaceutical Research International;
- Pesquisa Brasileira em Odontopediatria e Clínica Integrada;

Prêmios e títulos

- Menção honrosa, Semana de Odontologia Universidade Federal do Pernambuco (2022);
- 1º Lugar - Área 4 (Odontopediatria, Ortodontia e Ortopedia), Sociedade Brasileira de Pesquisa Odontológica (2022);

Artigos completos publicados em periódicos

- Silva, AVMV; Freitas, IZ; Santos, AMC; Rodrigues, PC; Paiva, SM. Health-Related Quality of Life of a child with Trisomy 21 and Acute Myeloid Leukemia: Case report. RGO. REVISTA GAÚCHA DE ODONTOLOGIA (ONLINE), 2024.
- Silva AVMV, Santos AMC, Freitas IZ, França MP, Paiva SM. Impact of childhood cancer on health-related quality of life in children and adolescents: self-perception and mother's perception. Journal Of Public Health-Heidelberg , v. 31, p. 1-8, 2023.
- Fernandes MLMF, Maia CA, Maia GA, Santos AMC, Paiva SM, Fernandes AM. Endodontic techniques with Nickel Titanium instruments: analysis of quality and efficiency of instrumentation in primary molars. RGO, Rev Gaúch Odontol. 2023;71:e20230016.
- Assaf BR, Verçosa JC, Costa VHS, Santos AMC, Frozoni MF, Fernandes AM. In vitro evaluation of cyclic fatigue resistance of thermally treated novel nickel-titanium rotary instruments. RESEARCH, SOCIETY AND DEVELOPMENT, v. 11, p. e32211729870, 2022.
- Santos AMC, Perazzo MF, Mattos FF, Pordeus IA, Granville-Garcia AF, Paiva SM. Dental students' satisfaction with their course and how it is associated to their satisfaction with life and career outlook. Acta Odontol Latinoam. 2022;35(3):223-228.

- Resende LC, Maia CA, Santos AMC, Campos GO, Soares Junior PRR, Fernandes AM. Fatigue strength of Bassi Logic™ and Hyflex EDM endodontic instruments in an artificial canal with an extreme curvature. RESEARCH, SOCIETY AND DEVELOPMENT, v. 11, p. e47511629570, 2022.

Capítulos de livros publicados

SANTOS, A. M. C.; PROCOPIO, S. W. ; DEPS, T. D. ; BORGES-OLIVEIRA, A. C. . Sono, Pacientes com Necessidades Especiais e Saúde Bucal. Sono em Odontopediatria: Do diagnóstico à Prática Clínica. 1ed.: , 2022, v. , p. 163-180.

Resumos publicados em anais de congressos

- Pimenta, B V; Silva, AVMV; Santos, AMC; Freitas, IZ; Silva, BPG; Perazzo, MF; Paiva, SM. Associação entre Hábitos de Higiene Bucal e Qualidade de Vida Relacionada à Saúde de Crianças e Adolescentes em tratamento oncológico In: 41ª Reunião da Sociedade Brasileira de Pesquisa Odontológica, 2024, Campinas. Brazilian Oral Research. 2024, v.38.

- Silva, BPG; Silva, AVMV; Pimenta, BV; Santos, AMC; Freitas, IZ; Perazzo, MF; Paiva, SM. Fatores associados ao impacto do câncer infantil na qualidade de vida das famílias destas crianças/adolescentes In: 41ª Reunião da Sociedade Brasileira de Pesquisa Odontológica, 2024, Campinas. Brazilian Oral Research. 2024, v.38.

- Silva, AVMV; Santos, AMC; Freitas, IZ; Pimenta, BV; Silva, BPG; Perazzo, MF; Paiva, SM. Impacto do Tratamento Oncológico na Qualidade de Vida Geral e na Relacionada à Saúde Bucal em Crianças e Adolescentes In: 41ª Reunião da

Sociedade Brasileira de Pesquisa Odontológica, 2024, Campinas. Brazilian Oral Research. 2024, v.38.

- Silva, AVMV; Santos, AMC; Freitas, IZ; Pimenta, BV; Silva, BPG, Perazzo, MF, Paiva, SM. Impacto do Tratamento Oncológico na Qualidade de Vida Geral e na Relacionada à Saúde Bucal em Crianças e Adolescentes In: 41ª Reunião da Sociedade Brasileira de Pesquisa Odontológica, 2024, Campinas. Brazilian Oral Research. 2024, v.38.

- Freitas, IZ; Silva, AVMV; Santos, AMC; Perazzo, MF; Paiva, SM. Fatores Associados À Qualidade De Vida Relacionada À Saúde De Crianças E Adolescentes Com Leucemia/Linfoma. In: 29º Congresso Brasileiro De Odontopediatria, 2023, Rio De Janeiro. Revista Científica Do Cro-Rj (Rio De Janeiro Dental Journal), 2023. V. 8.

- Santos, AMC; Freitas, IZ; Silva, AVMV; Cancela, CSP; Perazzo, MF; Paiva, SM. Qualidade de Vida Relacionada à Saúde e experiência de cárie dentária de crianças e adolescentes em tratamento oncológico. In: 39ª Reunião da Sociedade Brasileira de Pesquisa Odontológica, 2022, Campinas - SP. Brazilian Oral Research, 2022. v. 36.

- Freitas, IZ; Silva, AVMV; Santos, AMC; Perazzo, MF; Bendo, CB; Paiva, SM. Qualidade de vida relacionada à saúde de familiares de crianças/ adolescentes em tratamento para leucemia e linfoma. In: 39ª Reunião da Sociedade Brasileira de Pesquisa Odontológica, 2022, Campinas - SP. Brazilian Oral Research, 2022. v. 36.

- Silva, AVMV; Santos, AMC; Freitas, IZ; Perazzo, MF; Paiva, SM. Percepção do impacto do tratamento oncológico na Qualidade de vida durante a infância e adolescência. In: 39ª Reunião da Sociedade Brasileira de Pesquisa Odontológica, 2022, Campinas - SP. Brazilian Oral Research, 2022. v. 36.

- Santos AMC; Bittencourt, JM; Mattos, FF; Correa, NMO; Moura, RNV, Drummond, AMA; Paiva, SM. Severity and impact of early childhood caries on the quality of life of deprived preschool children in Diamantina, Brazil. In: 20th Congress of the International Association of Paediatric Dentistry, 2021. International Journal of Paediatric Dentistry, 2021.
- Santos, AMC; Perazzo, MF; Pordeus, IA; Granville-Garcia, AF; Paiva, SM. Associação entre satisfação com o curso de Odontologia e satisfação com a vida, fatores sociodemográficos e profissionais. In: 38ª Reunião Anual Virtual da Sociedade Brasileira de Pesquisa Odontológica - Virtual, 2021. Brazilian Oral Research, 2021. v. 35.
- Santos AMC; Perazzo, MF; Pordeus, IA; Granville-Garcia, AF; Paiva, SM. Associação Entre Satisfação Com O Curso De Odontologia E Satisfação Com A Vida, Fatores Sociodemográficos E Profissionais. In: 56ª Reunião Anual da Associação Brasileira de Ensino Odontológico, 2021. Revista da Abeno. v. 21.
- Santos AMC; Maia, CA; Maia, GA; Fernandes, AM; Paiva, SM; Fernandes, ML.MF. Avaliação Da Eficácia E Do Tempo De Instrumentação De Diferentes Técnicas Endodônticas Em Molares Decíduos. In: Xv Encontro Científico Da Faculdade De Odontologia Da Ufmg, 2021. Arquivos em Odontologia, 2021. v. 57.
- Santos, AMC; Maia, CA; Maia, GA; Fernandes, AM; Paiva, SM; Fernandes, ML.M. Análise da eficácia e do tempo de instrumentação de três técnicas endodônticas para molares decíduos. In: 52o Encontro do Grupo Brasileiro de Professores de Ortodontia e Odontopediatria, 2021, evento online. Pesquisa Brasileira em Odontopediatria e Clínica Integrada 2021 (Suplemento 1 - GRUPO), 2021. v. 21.

Apresentações de Trabalho

- Pimenta, B V; Silva, AVMV; Santos, AMC; Freitas, IZ; Silva, BPG; Perazzo, MF, Paiva, SM. Associação entre Hábitos de Higiene Bucal e Qualidade de Vida Relacionada à Saúde de Crianças e Adolescentes em tratamento oncológico, 2024.
- Silva, BPG; Silva, AVMV; Pimenta, BV; Santos, AMC; Freitas, IZ; Perazzo, MF; Paiva, SM. Fatores associados ao impacto do câncer infantil na qualidade de vida das famílias destas crianças/adolescentes, 2024.
- Silva, AVMV; Santos, AMC; Freitas, IZ; Pimenta, BV; Silva, BPG; Perazzo, MF; Paiva, SM. Impacto do Tratamento Oncológico na Qualidade de Vida Geral e na Relacionada à Saúde Bucal em Crianças e Adolescentes, 2024.
- Santos, AMC; Silva, AVMV; Freitas, IZ; Perazzo, MF; Paiva, SM. Qualidade de Vida Relacionada à Saúde Bucal de Crianças e Adolescentes com leucemia: Um estudo transversal comparativo, 2024.
- Silva, AVMV; Santos, AMC; Freitas, IZ; Perazzo, MF; Paiva, SM. Associação entre Fatores Socioeconômicos e QVRSB em Crianças e Adolescentes com e sem Leucemia, 2024.
- Freitas, IZ; Silva, AVMV; Santos, AMC; Perazzo, MF; Paiva, SM. Fatores associados à qualidade de vida relacionada à saúde de crianças e adolescentes com leucemia/linfoma, 2023.
- Silva, AVMV; Santos, AMC; Freitas, IZ; Perazzo, Matheus F; Paiva, SM. Impacto da leucemia na qualidade de vida relacionada à saúde: Autopercepção de crianças/adolescentes e percepção materna, 2023.

- Silva, AVMV; Freitas, IZ; Santos, AMC; Perazzo, MF; Paiva, SM. Avaliação do impacto psicossocial das mães/responsáveis na qualidade de vida relacionado à saúde de crianças com leucemia/linfoma, 2023.
- Maia, GA; Maia, CA; Santos, AMC; Paiva, SM; Fernandes, AM; Fernandes, MLMF. Técnicas endodônticas com instrumentos de Niti: Análise da qualidade e eficiência da instrumentação em molares decíduos, 2022.
- Santos, AMC; Freitas, IZ; Silva, AVMV; Cancela, CSP; Perazzo, MF; Paiva, SM. Qualidade de vida relacionada à saúde e experiência de cárie dentária de crianças e adolescentes em tratamento oncológico, 2022.
- Silva, AVMV; Santos, AMC; Freitas, IZ; Perazzo, MF; Paiva, SM. Percepção do impacto do tratamento oncológico na qualidade de vida durante a infância e adolescência, 2022.
- Freitas, IZ; Silva, AVMV; Santos, AMC; Perazzo, MF; Bendo, CB; Paiva, SM. Qualidade de vida relacionada à saúde de familiares de crianças/adolescentes em tratamento para leucemia e linfoma, 2022.
- Santos, AMC; Silva, AVMV; Freitas, IZ; Rodrigues, PC; Paiva, SM. Qualidade de vida relacionada à saúde de criança com Trissomia 21 e leucemia mielóide aguda: Relato de Caso, 2022.
- Silva, AVMV; Santos, AMC; Freitas, IZ; Perazzo, MF; Paiva, SM. Impacto do câncer na qualidade de vida relacionada à saúde de crianças e adolescentes em tratamento oncológico, 2022.
- Santos, AMC. Leucemia no paciente pediátrico: Atuação odontológica em mucosite, 2021.

- Santos, AMC; Bittencourt, JM; Mattos, FF; Correa, NMO; Moura, RNV; Drummond, AMA; Paiva, SM. Severity and Impact of Early Childhood Caries on the Quality of Life of Deprived Preschool Children in Diamantina, Brazil, 2021.
- Santos, AMC; Maia, CA; Maia, GA; Fernandes, AM; Paiva, SM; Fernandes, MLMF. Avaliação da eficácia e do tempo de instrumentação de diferentes técnicas endodônticas em molares decíduos, 2021.
- Santos, AMC; Perazzo, MF; Pordeus, IA; Granville-Garcia, AF; Paiva, SM. Associação entre satisfação com o curso de Odontologia e satisfação com a vida, fatores sociodemográficos e profissionais, 2021.
- Santos, AMC; Perazzo, MF; Pordeus, IA; Granville-Garcia, AF; Paiva, SM. Associação entre satisfação com o curso de Odontologia e satisfação com a vida, fatores sociodemográficos e profissionais, 2021.
- Santos, AMC; Maia, CA; Maia, GA; Fernandes, AM; Paiva, SM; Fernandes, MLMF. Análise da eficácia e do tempo de instrumentação de três técnicas endodônticas para molares decíduos, 2021.

Participação em bancas de comissões julgadoras

- Comissão online de pré-avaliação dos trabalhos científicos inscritos no XVI Encontro Científico da Faculdade de Odontologia da UFMG. 2023. Universidade Federal de Minas Gerais. 2023.

Participação em eventos, congressos, exposições e feiras

- 3º Simpósio de Odontopediatria da FACSETTE. Simped. 2024
- 41ª Reunião Anual da Sociedade Brasileira de Pesquisa Odontológica. 2024.
- CAFÉ COM PROSA: Freios Orais e Amamentação. 2024.
- 39ª Reunião Anual da Sociedade Brasileira de Pesquisa Odontológica. 2022.
- 53º Encontro do Grupo Brasileiro de Professores de Ortodontia e Odontopediatria. 2022.
- II Congresso online ABOPED-MG. 2022.
- 28th Congress of the International Association of Paediatric Dentistry. 2021.
- 38ª Reunião Anual Virtual da Sociedade Brasileira de Pesquisa Odontológica - Virtual. 2021.
- 52º Encontro do Grupo Brasileiro de Professores de Ortodontia e Odontopediatria. 2021.
- Ciclo de Estudos - Atendimento Odontopediátrico de Pacientes com Transtornos de Déficit de Atenção e Hiperatividade. 2021.
- Ciclo de Estudos em Odontopediatria - Hipomineralização Molar Incisivo. 2021.

- XV Encontro Científico da Faculdade de Odontologia da Universidade Federal de Minas. Comissão de Avaliação. 2021.
- XV Encontro Científico da Faculdade de Odontologia da Universidade Federal de Minas Gerais. 2021. (Congresso).