



UNIVERSIDADE FEDERAL DE UBERLÂNDIA

FACULDADE DE ODONTOLOGIA

Késia Lara dos Santos Marques

**PERCEPÇÃO DOS PAIS/CUIDADORES SOBRE O IMPACTO DO
TRATAMENTO ODONTOLÓGICO SOB ANESTESIA GERAL NA
QUALIDADE DE VIDA RELACIONADA À SAÚDE BUCAL
(QVRSB) DE PESSOAS COM DEFICIÊNCIA**

Tese apresentada à Faculdade de Odontologia da Universidade Federal de Uberlândia, para obtenção do Título de Doutora em Odontologia – Área de Clínica Odontológica Integrada.

Uberlândia
2020

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Perception of parents / caregivers about the impact of dental
treatment under general anesthesia on quality of life related to oral
health (HRQoL) of disabled people

Tese apresentada à Faculdade de
Odontologia da Universidade
Federal de Uberlândia, para
obtenção do Título de Doutora em
Odontologia – Área de Clínica
Odontológica Integrada.

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DEDICATÓRIA

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EPÍGRAFE

“Conheça todas as teorias, domine todas as técnicas, mas ao tocar uma alma humana, seja apenas outra alma humana.”

Carl Jung

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LISTA DE ABREVIATURAS E SIGLAS

OMS- Organização Mundial da Saúde

IBGE- Instituto Brasileiro de Geografia e Estatística

GLM- General Linear Model

QV- Qualidade de vida

QVRSB- Qualidade de vida relacionada à saúde bucal

HRQoL- Quality of life related to oral health

AG - Anestesia geral

P-CPQ- Parental-Caregiver Perceptions Questionnaire

ECOHIS- Early Childhood Oral Health Impact Scale

FIS-Family Impact Scale AG - Anestesia geral

DMFT- The Decayed, Missing, Filled index to the permanent dentition

Dmft - decayed (d), missing (m), or filled (f) to the primary dentition

SPSS- Statistical Package for the Social Sciences

SM- Salário mínimo

IPC- Índice Periodontal Comunitário

PIC- Perda de Inserção Clínica

PB- Profundidade da bolsa

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Resumo

Objetivo: Avaliar o impacto do tratamento odontológico sob anestesia geral (AG) na qualidade de vida relacionada à saúde bucal (QVRSB) de pessoas com deficiência, segundo a percepção dos pais / cuidadores. **Material e Método:** Este estudo observacional transversal consistiu de uma amostra de 104 pais / cuidadores de pessoas com deficiência. Foram coletados dados sociodemográficos / socioeconômicos e parâmetros dos exames clínicos orais. A QVRSB foi mensurada utilizando o Parental Caregiver Perceptions Questionnaire (P-CPQ) antes e após o tratamento. As principais variáveis independentes foram a experiência de cárie dentária, oclusão e condição periodontal diagnosticada de acordo com os critérios da Organização Mundial da Saúde. A análise estatística foi realizada no software SPSS, versão 24.0. Foram aplicados os testes Kolmogorov Smirnov, exato de Fisher e modelo linear geral univariado ($p < 0,05$). **Resultados:** O tratamento odontológico no GA foi eficiente em reduzir o impacto e melhorar a QVRS em todos os domínios avaliados ($p < 0,001$), com menor redução na dimensão do bem-estar social. Foi observada correlação estatisticamente significativa entre o escore total do *P-CPQ* e o CPO-D / ceo-d basal ($r = 0,26$; $p = 0,007$), no entanto, apenas os domínios dos sintomas orais ($r = 0,42$; $p < 0,001$) e limitação funcional ($r = 0,34$; $p < 0,001$) mostraram correlação com a experiência de cárie antes do tratamento. Em relação à oclusão, houve diferença significativa entre a classificação de Angle e limitação funcional ($p = 0,01$), bem-estar emocional ($p = 0,003$)

e escore total do *P-CPQ* ($p = 0,003$). Não houve diferença significativa associada ao overjet e mordida cruzada posterior; no entanto, para a sobremordida, houve diferença estatística nos deltas dos domínios emocional ($p = 0,03$) e social ($p = 0,003$). Em relação à doença periodontal, todos os escores apresentaram redução significativa após o tratamento, exceto no domínio da escala de impacto familiar ($p = 0,10$).

Conclusão: O tratamento odontológico na AG melhorou a QVRS de pacientes com deficiência.

Palavras chave: Saúde bucal, Qualidade de vida, Pessoas com deficiência, Anestesia geral.

Abstract

Objective: To evaluate the impact of dental treatment under general anesthesia (GA) on the quality of life related to oral health (HRQoL) of disabled people according to the perception of parents/caregivers. **Material and Method:** This cross-sectional observational study consisted of a sample of 104 parents/caregivers of disabled people. Socio-demographic/socioeconomic data and parameters of oral clinical examinations were collected. HRQoL was measured using the Parental Caregiver Perceptions Questionnaire (*P-CPQ*) before and after the treatment. The main independent variables were the experience of dental caries, occlusion and periodontal condition diagnosed according to the criteria of the World Health Organization. Statistical analysis was performed using SPSS software, version 24.0. The Kolmogorov Smirnov, Fisher's Exact and the univariate General Linear Model tests ($p < 0.05$) were applied. **Results:** Dental treatment under GA was efficient in reducing the impact and improving HRQoL in all domains evaluated ($p < 0.001$), with less reduction in the social well-being dimension. Statistically significant correlation was observed between the total P-CPQ score and the baseline DMFT/dmft ($r = 0.26$; $p = 0.007$), however, only the oral symptoms domains ($r = 0.42$; $p < 0.001$) and functional limitation ($r = 0.34$; $p < 0.001$) showed a correlation with the experience of caries before the treatment. Regarding to occlusion, there was a significant difference between the Angle classification and functional limitation ($p = 0.01$), emotional well-being ($p = 0.003$) and total P-CPQ score ($p = 0.003$). There was no significant difference associated with overjet, and posterior crossbite, however for the overbite there was a statistical

difference in the deltas of the emotional ($p = 0.03$) and social wellbeing domains ($p = 0.003$). Regarding to periodontal disease, all scores had a significant reduction after treatment, except for the family impact scale domain ($p = 0.10$). **Conclusion:** Dental treatment in GA improved the HRQoL of disabled patients.

Keywords: Oral health, Quality of life, People with disabilities, General anesthesia.

Introdução

A Convenção sobre os Direitos das Pessoas com Deficiência da Organização das Nações Unidas considera que pessoas com deficiência são aquelas que têm impedimentos de longo prazo de natureza física, mental, intelectual ou sensorial, os quais, em interação com diversas barreiras ambientais, podem obstruir sua participação plena e efetiva na sociedade em igualdade de condições com as demais pessoas [1]. Estima-se que existam em todo mundo mais de um bilhão de pessoas com deficiência, o que corresponde a aproximadamente a 15% da população Mundial (OMS, 2011) e segundo o Instituto Brasileiro de Geografia e Estatística (IBGE), 45,6 milhões de pessoas (23,9% da população brasileira) tem algum tipo de deficiência (auditiva, visual, física e/ou intelectual) [2].

Pessoas com deficiências intelectuais e em desenvolvimento, geralmente, apresentam uma saúde bucal precária e necessitam de tratamento odontológico extenso [3] na maioria das vezes, esse quadro clínico, isolado ou, associado a síndromes, a comorbidades sistêmicas, a alterações comportamentais e ao alto índice de ansiedade, contribui para que a intervenção odontológica sob anestesia geral (AG) seja o tratamento de escolha [4].

A qualidade de vida relacionada à saúde bucal (QVRSB) refere-se ao impacto que a saúde ou a doença bucal tem no funcionamento diário, no bem-estar psicológico, no bem-estar social ou na qualidade de vida (QV) do indivíduo [5,6]. Ao investigar a QVRSB em indivíduos com algum tipo de deficiência, vários fatores devem ser considerados [7,8,9]. A severidade da cárie dentária e outros distúrbios bucais, as

limitações devido comprometimento físico, a capacidade de comunicação limitada, as condições sistêmicas sócioeconômicas podem estar associados ao impacto negativo na QVRSB de pessoas com deficiência e suas famílias [10,11,12,13,14,15].

Na odontologia, vários indicadores sociodentais específicos, validados em vários idiomas, têm sido utilizados para medir o quanto as condições bucais afetam a QV e o bem-estar psicossocial dos indivíduos, entre outros, a *Early Childhood Oral Health Impact Scale (ECOHIS)* [16], o *Parental-Caregiver Perceptions Questionnaire (P-CPQ)* [18,19,20,21] e a *Family Impact Scale (FIS)* [22].

Alguns estudos [23,24] avaliaram as percepções dos pais sobre a condição bucal da criança e os fatores correlacionados e concluíram que a doença real e as necessidades percebidas estão associadas significativamente com as percepções dos pais sobre a saúde bucal da criança.

Entretanto, existem poucos relatos na literatura com foco no impacto da QVRSB de pessoas com deficiência, principalmente na idade adulta [25,26]. Considerando que: a cárie dentária, as más oclusões, os problemas periodontais, entre outros distúrbios orais são condições bucais comuns, não apenas entre crianças pré-escolares, mas também em adolescentes e adultos com deficiência, e podem ter consequências tanto físicas quanto psicossociais e grande impacto na QVRSB das pessoas com deficiência e suas famílias e que o entendimento de como os pais e/ou responsáveis cuidadores percebem a saúde bucal se torna imprescindível para auxiliar nas ações voltadas para a melhoria da QV desta população, que inclui o tratamento odontológico sob anestesia geral, quando indicado, este estudo teve como objetivo avaliar a percepção de pais/cuidadores sobre o impacto do tratamento odontológico

sob AG no funcionamento diário, no bem-estar psicológico, no bem-estar social ou na QV de pessoas com deficiência e sua famílias, através da utilização do questionário P-CPQ. A hipótese testada foi de que o tratamento odontológico sob AG diminui significativamente o impacto da condição de saúde bucal na QVRSB de pessoas com deficiência.

Material e Métodos

Considerações éticas

O estudo foi aprovado pelo Comitê de Ética em Pesquisa em Seres Humanos da Universidade Federal de Uberlândia, MG, Brasil (Número do Parecer: 1.688.273, CAAE: 55178015.0.0000.5152). Os pais/ cuidadores pelas pessoas com deficiência incluídos no estudo assinaram um Termo de Consentimento Livre e Esclarecido em duas vias e todos os procedimentos inerentes ao estudo foram claramente explicados aos participantes.

Desenho do estudo e caracterização da amostra

Este estudo observacional transversal consistiu de uma amostra de 104 pais/cuidadores de pessoas com deficiência de ambos os sexos, submetidas ao tratamento odontológico sob AG em centro odontológico especializado da Universidade Federal de Uberlândia, Minas Gerais, Brasil, que concordaram em participar do estudo e responderam o questionário *P-CPQ* (versão brasileira), no período entre abril de 2017 a abril de 2018.

Para o cálculo da amostra foram considerados os seguintes parâmetros: tamanho de efeito a ser detectado de no mínimo 0,35 entre os escores iniciais e finais

obtidos dos questionários [27], nível de significância de 5% e poder do teste estatístico fixado em 80% (n=104).

O recrutamento da amostra foi realizado quando a pessoa com deficiência foi encaminhada para tratamento sob anestesia geral.

Critérios de inclusão e exclusão

Foram incluídos pais/ cuidadores de pessoas com deficiência que em função de alterações comportamentais, intelectuais e/ou déficit cognitivo foram submetidas ao tratamento odontológico sob AG. Os questionários incompletos e/ou aqueles em que pais/cuidadores não responderam o *P-CPQ*, quatro semanas após o tratamento, foram excluídos.

Estudo piloto

Foi realizado um estudo piloto com pais/ cuidadores de pessoas com deficiência (10% da amostra), que não foram incluídos no estudo principal, com o objetivo de testar a compreensão do questionário autoaplicado *P-CPQ*. Os resultados mostraram que mudanças no protocolo de coleta de dados, eram desnecessárias.

Calibração

O exercício de calibração consistiu em etapas teóricas e clínicas. O passo teórico envolveu uma discussão sobre os critérios de diagnóstico do Índice de Dentes Cariados, Perdidos e Obturados (CPO-D para dentes permanentes/ ceo-d para dentes decíduos), má oclusão e condições periodontais. Essas etapas foram revisadas e discutidas pelo examinador e por um cirurgião-dentista experiente, considerado padrão-ouro. A etapa clínica foi realizada com dez indivíduos, em duas ocasiões, com

intervalo de duas semanas entre os exames. Os resultados de cada exame foram comparados aos anteriores. Esses indivíduos não foram incluídos na amostra principal.

O coeficiente Kappa intraexaminador foi calculado para todos os parâmetros clínicos. Os valores de Kappa variaram de 0,82 a 1,00 e foram considerados satisfatórios, de acordo com os critérios adotados pela Pesquisa Nacional de Saúde Bucal [28].

Coleta de dados não clínicos

Os dados não clínicos foram coletados por meio de entrevistas presenciais antes dos exames clínicos. Os instrumentos utilizados nas entrevistas foram um questionário sociodemográfico e a versão brasileira do instrumento *P-CPQ* [21,20].

O questionário sociodemográfico incluiu perguntas sobre sexo, idade, escolaridade, renda familiar mensal, número de pessoas com renda na família, idade materna no parto, tipo de parto, número de filhos, núcleo familiar (sim ou não), número de pessoas no núcleo familiar, posição na família (ordem de nascimento) e acesso ao serviço de saúde. A escolaridade foi avaliada em número de anos de estudo, agrupada da seguinte forma: até 8 anos, de 9 a 12 anos e > 12anos.

A renda familiar foi categorizada em termos do salário mínimo mensal brasileiro (SM), que correspondia a US\$ 249,36 no momento do estudo e foi estabelecido como a renda mensal de todos os membros economicamente ativos da família. Para análise estatística, a renda familiar foi categorizada da seguinte forma: pais/cuidadores de pessoas com deficiência cujas famílias têm renda mensal igual ou inferior a 1 SM, >1 a ≤3 SMs, >3 a ≤5 SMs ou superior a 5 SMs.

O *P-CPQ* é um questionário autopreenchível, validado e disponibilizado para uso em vários idiomas, incluindo a língua portuguesa do Brasil [21,20], composto de 35 questões que avaliam as percepções dos pais/ cuidadores sobre os impactos das doenças bucais (por exemplo, cárie, maloclusão) na QVRSB [18] bem como uma escala de avaliação, composta de 14 questões que avaliam os efeitos das desordens orais no funcionamento familiar [29]. As questões 1 e 2 referem-se à percepção global dos responsáveis sobre a saúde bucal e o bem-estar geral, apresentam opções de resposta que variam de zero (0) a quatro (4). As demais questões dividem-se em quatro amplas categorias: sintomas orais (questões 3 a 8), limitações funcionais (questões 9 a 16), bem-estar emocional (questões 17 a 24), bem-estar social (questões 25 a 35). As questões 36 a 49 referem-se aos impactos das desordens orais no bem-estar da família. As opções de resposta variam de zero a cinco pontos (0 = nunca; 1 = uma ou duas vezes; 2 = algumas vezes; 3 = frequentemente; 4 = todos os dias ou quase todos os dias; 5 = não sei). A pontuação total é obtida pela soma dos escores de todas as questões. Quanto maior a pontuação, maior o impacto das doenças bucais na QVRSB. Neste estudo o questionário *P-CPQ* foi autoaplicado em dois momentos, antes e quatro semanas após o tratamento odontológico sob anestesia geral.

Coleta de dados clínicos

Os exames clínicos foram realizados para coletar dados da saúde bucal com relação à experiência de cárie (índice CPO-D/ceo-d), oclusão e condição periodontal, segundo diretrizes adaptadas da Organização Mundial de Saúde (OMS).

O exame intraoral foi realizado em cada paciente, por um único examinador calibrado, utilizando um espelho bucal plano (Duflex, SS White LTDA, Rio de Janeiro, Brasil) e uma sonda periodontal (Duflex, SS White LTDA, Rio de Janeiro, Brasil).

Os índices CPO-D e ceo-d, usados neste estudo são utilizados para expressar numericamente a prevalência de cárie e foram obtidos calculando o número de dentes cariados, perdidos e obturados nas dentições permanente e decídua, respectivamente. Para crianças com dentadura mista, o índice de cárie foi obtido pelo somatório dos escores CPO-D/ceo-d. Para determinar o tipo de oclusão foram usados dados com relação à Classificação de Angle (Classe I, Classe II e Classe III), presença ou ausência de sobremordida, sobressaliência e mordida cruzada posterior.

A condição periodontal foi avaliada utilizando o Índice Periodontal Comunitário (IPC) e a Perda de inserção Clínica (PIC). Após a sondagem, foi registrada a presença ou ausência de cálculo e sangramento gengival. A distância da margem gengival livre até a base da bolsa/sulco foi definida como a profundidade da bolsa (PB). A distância entre a fixação epitelial e a junção cimento-esmalte foi usada para estimar a PIC. A combinação de $PB \geq 4$ mm e $PIC \geq 4$ mm em pelo menos um local mensurado determinou a presença de periodontite [30].

Os dados clínicos das pessoas com deficiência foram coletados no centro cirúrgico, na data prevista para o tratamento odontológico sob anestesia geral.

Análise estatística

A análise estatística foi realizada pelo *software Statistical Package for the Social Sciences* (SPSS para Windows, versão 24.0, SPSS Inc., Armonk, NY, EUA).

As variáveis contínuas foram representadas por média \pm desvio padrão (Tabela 1). Os dados contínuos foram representados em frequência absoluta e porcentual (%) (Tabela 2). O teste Exato de Fisher foi utilizado para comparar as variáveis categóricas. A distribuição dos dados foi avaliada pelo teste de Kolmogorov Smirnov. Os dados que não seguiram a curva da normalidade foram padronizados com escore Z. As correlações de Pearson foram utilizadas para avaliar os domínios da QV com o índice CPO-D/ceo-d (Tabela 3). O teste modelo linear geral univariado (GLM) foi utilizado para comparação entre as variáveis contínuas (Tabela 4). Foi considerado o nível de significância de $p \leq 0,05$.

Vale ressaltar que quanto maior o valor do escore apresentado, maior o impacto negativo na QVRSB. Os deltas na análise do GLM univariado representam as diferenças entre as médias dos escores dos domínios e P-CPQ totais, uma redução nos valores das médias dos escores, significa redução do impacto e melhora na QVRSB.

Resultados

A amostra foi composta por 104 indivíduos sendo a maioria do sexo masculino ($n = 58$; 55,2%) e idade média de 23 anos (± 13 anos). A idade materna média no momento do parto foi de 27,53 anos ($\pm 7,38$ anos) e o número de filhos 3,01 ($\pm 2,28$). A maioria dos partos foi cesárea 67 (64,4%). A média de pessoas com renda familiar foi de 1,53 ($\pm 0,72$). O número de participantes inseridos em família nuclear foi 61 (58,7%) (Tabela1).

Com relação à escolaridade do pai observou-se que a maioria, 56 (53,8%), possuía até 8 anos de estudo e da mãe a maior parte 50 (48,1%), possuía de 9 a 12 anos de estudo. Quanto ao número de pessoas no grupo familiar, a maioria era

formada por duas a quatro pessoas 86 (82,7%), grande parte com dois ou três filhos 64 (61,6%), e a pessoa com deficiência sendo o primeiro ou o segundo filho 74 (71,2%). A renda familiar da maioria, 77 (74,1%), foi de 1 a 3 SMs. Todos os 104 (100%) pais/cuidadores relataram acesso aos serviços de saúde (Tabela 2). A distribuição (absoluta e porcentual) referente ao diagnóstico de pessoas com deficiência, obtido nos registros dos prontuários odontológicos, está descrita na Tabela 3.

Com relação à condição odontológica, a média do índice de CPO-D/ceo-d encontrada foi de 12,40 ($\pm 6,85$) e dentes hígidos 15,30 ($\pm 6,35$). A maioria, 98 (94,2%), apresentou higiene bucal insatisfatória e presença de biofilme dentário visível. Com relação à oclusão, 65 (62,5%), 21 (20,2%) e 18 (17,3%) foram classificadas como Classe I, II e III, respectivamente. Foi observada sobressaliência aumentada em 45 (43,3%), normal em 38 (36,5%), mordida cruzada anterior em 11 (10,6%) e topo a topo em 10 (9,6%).

E ainda foi observado, mordida normal em 35 (33,7%), mordida aberta em 25 (24,0%), reduzida em 23 (22,1%) e profunda 21 (20,2%). A mordida cruzada posterior estava presente em 35 (33,7%) indivíduos. Pelo menos uma das características anteriores foi encontrada na maioria 76 (73,1%) das pessoas com deficiência avaliadas neste estudo.

A avaliação da condição periodontal mostrou hígidez em 15(14,4%), sangramento em 89(85,6%), cálculo em 69 (66,3%), bolsa periodontal profunda em 54 (51,9%) e rasa em 31 (29,8%). A periodontite foi observada em 28 (26,9%) dos indivíduos avaliados.

A mensuração do efeito do tratamento odontológico sob AG, aferida por meio do questionário *P-CPQ* evidenciou uma redução do impacto das condições de saúde bucal no bem-estar e vida diária. Com relação a classificação da saúde bucal, anteriormente ao tratamento odontológico a saúde bucal foi classificada principalmente como ruim ou regular (n=75; 72,1%), e, posteriormente ao tratamento, classificada principalmente como muito boa ou excelente (n=92; 88,4%). Com relação ao impacto no bem-estar também houve uma melhoria, anteriormente foi classificado como tendo afetado muito ou muitíssimo 63 (60,6%) e, posteriormente, nem um pouco ou só um pouquinho 98 (94,2 %).

Os dados da média e do desvio padrão para cada domínio, assim como o valor de significância estatística estão apresentados na Tabela 4. Houve menor redução do impacto para a dimensão bem-estar social.

As correlações de Pearson utilizadas para avaliar os domínios da QV com o índice CPO-D/ceo-d mostraram uma correlação estatisticamente significativa entre o escore geral do *P-CPQ* e o CPO-D/ceo-d ($r=0,26$; $p=0,007$). Contudo, apenas os domínios sintomas orais ($r=0,42$; $p<0,001$) e limitação funcional ($r=0,34$; $p<0,001$) mostraram correlação com a experiência de cárie antes do tratamento. Entretanto, ao avaliar os deltas dos escores, foram observadas correlações negativas significantes com o índice CPO-D/ ceo-d nos domínios: sintomas orais, limitação funcional, bem estar emocional, e *P-CPQ* após o tratamento (Tabela 5).

Os resultados do teste GLM univariado utilizado para comparação entre as variáveis contínuas, relatados a seguir, estão demonstrados na tabela 6 (em cada

coluna, letras iguais representam associação estatisticamente significativa - Post-test Bonferroni).

Com relação à oclusão, os resultados mostraram que avaliando o delta dos escores dos domínios *P-CPQ* de acordo com a classificação de Angle, houve diferença entre as classificações I vs II nos domínios: limitação funcional ($P = 0,01$), bem estar emocional ($P = 0,003$) e *P-CPQ* ($P: 0,0030$). No escore do domínio escala de impacto familiar houve diferença estatística entre as classificações III Vs II ($P = 0,01$). A avaliação do delta dos escores dos domínios *P-CPQ* com relação a sobressaliência e mordida cruzada posterior. Não houve diferença estatística (Tabela 6).

Entretanto, avaliando o delta dos escores de acordo com a classificação da sobremordida, houve diferença estatística nos deltas dos domínios bem estar emocional ($p = 0,03$) e bem estar social ($p = 0,003$) com associações do Post hoc de Bonferroni entre mordida profunda vs normal ($p: 0,02$) no delta bem estar emocional, e entre mordida profunda vs normal ($p: 0,02$)/ profunda vs reduzida ($p: 0,04$) no delta bem estar social.

Ao avaliar o delta dos escores de acordo com a presença ou ausência do sangramento, foi observada maior redução dos escores da QV nos deltas dos domínios: sintomas orais ($p = 0,001$), LF ($p = 0,05$), bem estar emocional ($p = 0,05$) e PCPQ ($0,04$). Diante da presença do cálculo, houve redução do impacto significativo nos escores de QV nos deltas de sintomas orais ($< 0,001$) limitação funcional ($< 0,001$), bem estar emocional ($0,01$), escala de impacto familiar ($0,01$) e *P-CPQ* ($< 0,001$) (Tabela 6).

A avaliação do delta dos escores de acordo com a avaliação da bolsa periodontal rasa e profunda, mostrou reduções significantes nos deltas dos domínios

sintomas orais ($<0,001$), onde foram observadas associações entre bolsa profunda vs rasa ($p=0,004$), profunda vs ausente ($p=0,001$), limitação funcional ($0,007$), com associações ausência de bolsa vs bolsa profunda ($p=0,01$), bem estar emocional ($0,005$), associações entre ausente vs profunda ($p=0,008$) e P-CPQ ($0,002$), onde foram observadas as seguintes associações: bolsa profunda vs ausente ($p=0,04$) (Tabela 6)

Ao avaliar os deltas dos escores de acordo com a presença ou ausência da periodontite, todos os escores tiveram redução após o tratamento: sintomas orais ($p<0,0001$), limitação funcional ($p=0,001$) bem-estar emocional ($p=0,02$), bem-estar social ($p=0,05$) e PCPQ total ($p=0,003$), exceto no EIF ($p=0,10$) (Tabela 6).

Cinco participantes não preencheram o questionário P-CPQ quatro semanas após do tratamento odontológico sob anestesia geral, e foram excluídos do estudo, antes da análise estatística.

Discussão

Neste estudo, pais/cuidadores relataram um grande impacto da saúde bucal na QV geral das pessoas com deficiência antes do tratamento e que diminuiu consideravelmente após o tratamento odontológico sob AG. Foi observado que o tratamento odontológico sob AG foi eficiente para a redução no impacto da saúde bucal no bem-estar e vida diária em todos os domínios avaliados.

Resultados semelhantes foram encontrados em estudos anteriores da QVRSB relacionados ao tratamento odontológico sob a AG que incluíam crianças pequenas com deficiências que apresentam múltiplas lesões de cáries dentárias e demonstraram resultados positivos desse [25,5]. Porém, estudos voltados para o impacto do

tratamento odontológico na QVRSB de adolescentes e adultos com déficits comportamentais relacionados a deficiências intelectuais e em desenvolvimento e distúrbios neurocognitivos, são limitados [31].

Estes resultados também foram encontrados em revisões sistemáticas de Jankauskiene et al.(2010) e Park et al. (2018) [37,38] que mostraram que o tratamento odontológico sob AG resulta na melhoria imediata da saúde bucal e na qualidade de vida física, emocional e social, além do impacto positivo na família de crianças sem deficiência.

Neste estudo, apenas os domínios saúde oral e limitação funcional mostraram correlação com a experiência de cárie antes do tratamento. Este resultado, em parte, está de acordo com o obtido no estudo de Baens-Ferrer et al.(2005) onde foi observado que o domínio dos sintomas orais era o mais afetado em crianças com deficiência, antes do tratamento[25]. Ao avaliar os deltas dos escores dos domínios: sintomas orais, limitação funcional, bem-estar emocional e PCP-Q total foram observadas correlações negativas significantes com o índice CPO-D/ ceo-d demonstrando que o tratamento odontológico sob AG neste estudo, de forma geral, reduziu significativamente o impacto inicial melhorando QVRS desta população.

Corroborando com os resultados encontrados, alguns estudos [5,9] também mostraram que o alto índice de cárie pode impactar negativamente não só nos domínios sintomas orais e limitações funcionais, mas também podem afetar significativamente os domínios bem-estar emocional e social. Este resultado também foi encontrado no estudo de Ridel et al. (2014) que mostraram que o tratamento

odontológico sob AG em crianças sem deficiência que apresentavam cárie severa também teve uma influência significativa na QVRS das crianças e famílias [36].

Outros estudos [39,40,41] demonstraram ainda que quanto mais grave o dano neurológico em crianças com deficiência, maior o risco de doenças bucais, com maior impacto na QVRSB. Isso ocorre não apenas devido à consistência alimentar de sua dieta e coordenação motora comprometida, mas também devido ao cuidado odontológico limitado que grande parte dessa população recebe [10]

A condição bucal pode afetar o crescimento, desenvolvimento, socialização e aprendizado de crianças com deficiência intelectual [12] Alguns estudos [42,43] mostraram que a severidade do comprometimento da capacidade cognitiva e de comunicação aumenta a dificuldade das crianças em expressar seus sentimentos, essa característica se encontra exacerbada em pessoas com deficiência de diversas faixas etárias e foi observada neste estudo. O desconforto causado pelas doenças bucais não verbalizadas faz com que os pais/cuidadores não procurem por tratamento odontológico para seus filhos em tempo hábil, esse fator pode contribuir para piora na QV desta população.

Neste estudo, não houve correlação da experiência da cárie com o impacto familiar. Entretanto, Carrada et al. (2019) relatou que a experiência de cárie dentária e as consequências clínicas da cárie dentária não tratada foram algumas das condições bucais de crianças/adolescentes com síndrome de Down associadas à percepção de seus pais/cuidadores como tendo um impacto negativo na QVRS de seus familiares [44]. Em contrapartida, em conformidade com os resultados encontrados no presente estudo, Cancio et al. (2018) ao avaliar o impacto da cárie dentária entre indivíduos com

deficiência na QVRSB de suas famílias (OHRQoL) verificou que a alta experiência de cárie e fatores socioeconômicos não foram associados a um maior impacto negativo na QV dos pais [45]. Os resultados observados mostram que as doenças bucais em pessoas com deficiência podem ter impactos variados sobre o bem-estar e QV das famílias.

Os pais/cuidadores relataram um impacto negativo da má oclusão na QV geral das pessoas com deficiência. Alinhados ao resultado do presente estudo, um pesquisador [46] e seus colaboradores verificaram que distúrbios oclusais têm um impacto relevante na QVRSB das pessoas com SD, com consequências psicossociais em função da aparência. Os distúrbios oclusais de crianças e adolescentes com SD também foi associada a um comprometimento da QV de seus pais/cuidadores em outros estudos [44,47]. Além do desconforto estético, crianças/adolescentes com deficiência, que apresentam má oclusão, podem ser afetados por limitações funcionais, como alterações na fala, mastigação e deglutição, que resultam em um cuidado mais atento por parte dos familiares como também em uma pior QV desta população.

Com relação ao impacto da condição periodontal na QVRSB observou-se que diante da presença de cálculo e de sangramento houve maior redução dos escores P-CPQ nos deltas dos domínios sintomas orais, limitação funcional, bem-estar social, escala de impacto familiar e score geral do *PCP-Q*, após o tratamento odontológico sob AG. A condição periodontal teve um grande impacto negativo na QVRSB, em função da higiene bucal insatisfatória, presença de cálculo, sangramento e periodontite encontrados na maioria das pessoas com deficiência, este resultado está de acordo com os encontrados em outros estudos [4,31,48] os quais demonstraram

que as doenças periodontais, especialmente a periodontite, estão associadas a uma pior QVRSB.

A doença periodontal é uma infecção inflamatória crônica que leva à destruição dos tecidos de suporte dos dentes, com a perda ligamentar progressiva e reabsorção óssea. Estudos [49,48] mostraram que uma vez presente, a periodontite pode interferir na condição de saúde sistêmica e suas conseqüências clínicas podem afetar a qualidade de vida envolvendo aspectos funcionais e psicossociais além de sintomas em processos agudos. Estes relatos estão de acordo com os resultados do presente estudo, que mostraram que a periodontite impactou negativamente na QVRSB antes do tratamento e que houve redução significativa deste impacto, após o tratamento odontológico sob AG. Esta redução foi observada em quase todos os escores dos deltas dos domínios, exceto para a escala de impacto familiar, demonstrando que de forma geral o tratamento odontológico sob AG foi efetivo e melhorou a QVRSB da população estudada.

A avaliação da QV desempenha um papel relevante na prática clínica como um instrumento eficaz por meio do qual, pais/cuidadores podem oferecer informações adicionais sobre o impacto psicossocial dos distúrbios orais na QVRSB de pessoas com e sem deficiência, além de contribuir para o planejamento de ações multiprofissionais integradas que visem diminuir efetivamente este impacto e conseqüentemente melhorar a QV desta população.

Assim sendo, o presente estudo avaliou a percepção dos pais/cuidadores sobre o impacto do tratamento odontológico sob AG na QVRSB de pessoas com deficiência incluindo indivíduos de diferentes idades, uma vez que há escassez de estudos sobre o

tema principalmente em indivíduos na idade adulta. Da mesma forma é restrito o número de estudos que avalia o impacto da cárie na qualidade de vida das pessoas com deficiência [12]. Outros estudos foram realizados com populações específicas, como crianças com paralisia cerebral [10], Síndrome de Down [15], doença falciforme [13] Transtorno do espectro autista [14] e deficiência intelectual [31,32,11].

Segundo Pahel et al. (2017), crianças pequenas não possuem as habilidades cognitivas necessárias para avaliar sua própria QV[17]. Esta limitação também é observada em adolescentes e adultos com déficits comportamentais relacionados à deficiência intelectual e em desenvolvimento e distúrbios neurocognitivos [31]. Assim sendo, as percepções de pais/cuidadores se tornam fundamentais, não apenas por fornecer informações subjetivas sobre a saúde bucal das pessoas com deficiência e para determinar se intervenções clínicas especializadas, a exemplo do tratamento odontológico sob anestesia geral, abordado neste estudo, melhoram a qualidade de vida dos pacientes, mas também porque representam a carga do cuidador causada pela condição precária da saúde bucal desta população.

Estudos anteriores [33,34,4] mostraram concordância adequada das classificações de QVRSB feitas por pacientes e pais/cuidadores, implicando a aceitabilidade do uso de pais/cuidadores como procuradores quando a avaliação pelos próprios pacientes é inacessível. Sendo assim, neste estudo, independente da idade, mas em função da alteração comportamental e/ou déficit cognitivo que as pessoas com deficiência apresentavam, optou-se por utilizar o questionário *P-CPQ* a ser respondido pelos pais/responsáveis.

Outros estudos [5,35,36] também utilizaram o *P-CPQ* para avaliar a QVRSB de crianças e/ou adolescentes e concluíram que o tratamento odontológico sob AG para crianças pequenas com experiência de cárie dentária severa está associada a melhorias consistentes e altamente significantes em sua QVRSB e no impacto em suas famílias e ainda reafirmaram que os instrumentos P-CPQ e o FIS utilizados, mostraram-se promissores como medidas de avaliação para uso em pesquisa em serviços de saúde bucal, essa melhora significativa na QVRSB após tratamento odontológico sob AG, corroboram com achados do presente estudo realizado com pessoas com deficiência de diversas idades.

Entretanto, outros estudos voltados para a percepção dos pais/cuidadores com relação ao impacto das condições de saúde bucal e do tratamento odontológico sob AG na QVRSB de pessoas com deficiência, de diversas faixas etárias, devem ser conduzidos para confirmar os achados aqui apresentados. Também são necessários estudos longitudinais para fornecer informações sobre os efeitos em longo prazo, do tratamento odontológico sob AG desta população, segundo as opiniões de seus pais/cuidadores.

Conclusão

De acordo com a metodologia usada e os resultados obtidos, o tratamento odontológico sob AG, foi efetivo na redução do impacto da condição bucal e melhoria da QVRSB de pessoas com deficiência e de suas famílias.

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Disponibilidade de dados

Os dados utilizados para apoiar as conclusões deste estudo estão disponíveis pelo autor correspondente, mediante solicitação.

Conflitos de interesse

Os autores declaram não ter conflitos de interesse

Tabela 1: Caracterização sociodemográfica da população estudada, referente a variáveis contínuas de dados dos pais/ cuidadores e aspecto direto das pessoas com deficiência (n = 104)

	Mínimo	Máximo	Média	Desvio Padrão
Idade (anos)	6	64	23,10	13,49
Idade materna no parto (anos)	15	45	27,53	7,38
nº filhos	1	16	3,01	2,28
nº pessoas no núcleo familiar	2	7	3,57	1,10
nº pessoas com renda familiar	1	4	1,53	0,72

Tabela 2: Distribuição da frequência absoluta e percentual das características sociodemográficas da população estudada, referente a dados contínuos de responsáveis/ cuidadores e aspecto direto das pessoas com deficiência (n = 104)

Características sóciodemográficas	N	%
<i>Escolaridade (pai)</i>		
até 8 anos de estudo	56	53,8
9 a 12 anos de estudo	41	39,4
> 12 anos de estudo	7	6,7
<i>Escolaridade (mãe)</i>		
até 8 anos de estudo	43	41,3
9 a 12 anos de estudo	50	48,1
> 12 anos de estudo	11	10,6
<i>Nº de pessoas do núcleo familiar</i>		
2	19	18,3
3	31	29,8
4	36	34,6
5	18	17,3
<i>Posição na família</i>		
1	35	33,7
2	39	37,5
≥3	23	22,1

<i>Renda familiar</i>		
1 SM	3	2,9
> 1 a ≤ 3 SM	74	71,2
> 3 a ≤ 5 SM	22	21,2
>5 SM	5	4,8
Acesso serviço saúde		
Sim	104	100

Tabela 3: Dados da frequência absoluta e porcentual dos diagnósticos das pessoas com deficiência

Diagnóstico	N	%
Paralisia Cerebral	30	28,9
Transtorno do Espectro Autista	16	15,4
Síndrome de Down	12	11,6
Atraso no desenvolvimento neuropsicomotor	11	10,6
Deficiência mental	11	10,6
Doenças raras	5	4,8
Deficiências múltiplas	3	2,9
Síndrome Pierre Robin	3	2,9
Esquizofrenia	3	2,9
Hidrocefalia	2	1,9
Alzheimer	1	1,0
Microcefalia	1	1,0
Osteogênese imperfeita	1	1,0
Síndrome de DiGeorge	1	1,0
Sequela de meduloblastoma/paraplegia	1	1,0
Sequela de meningite	1	1,0
Sequela de traumatismo crânio encefálico	1	1,0
Sequela de toxoplasmose	1	1,0

Tabela 4: Escores aferidos para o impacto das condições bucais no bem-estar e vida diária por meio do questionário P-CPQ nos momentos anterior e posterior ao tratamento odontológico sob anestesia geral

Domínios do P-CPQ	Antes do Tratamento	Após o tratamento	Valor de p*
Escore Sintomas orais	13,15 ± 6,10	4,85 ± 2,10	<0,001
Escore limitação funcional	18,20 ± 8,45	11,55 ± 5,00	<0,001

Escore bem estar emocional	18,30 ± 8,10	11,40 ± 5,80	<0,001
Escore bem estar social	12,50 ± 10,60	10,70 ± 9,75	<0,001
Escore escala de impacto familiar	24,30 ± 11,10	17,35 ± 8,40	<0,001
Escore total P-CPQ	86,35 ± 34,60	55,75 ± 22,80	<0,001

*Teste GLM para medidas repetidas, $p < 0,05$

Tabela 5 - Correlação dos índices CPO-D/ceo-d com os escores do questionário *P-CPQ*

Domínios	r	Valor de p
Sintomas orais antes	0,42	<0,001*
Sintomas orais depois	0,24	0,01*
Delta sintomas orais	-0,38	<0,001*
Limitação funcional antes	0,34	<0,001*
Limitação funcional depois	0,20	0,04*
Delta limitação funcional	-0,33	<0,001*
Bem-estar emocional antes	0,170	0,07
Bem-estar emocional depois	0,030	0,76
Delta bem-estar emocional	-0,20	0,03*
Bem-estar social antes	0,050	0,59
Bem-estar social depois	0,020	0,84
Delta bem-estar social	-0,11	0,26
Escala de impacto familiar antes	0,150	0,11
Escala de impacto familiar depois	0,090	0,35
Delta escala de impacto familiar	-0,16	0,08
Escore total P-CPQ antes	0,26	0,007*
Escore total P-CPQ depois	0,110	0,23
Delta PCPQ	-0,28	0,003*

Correlação de Pearson $p < 0,05$ *

Tabela 6: Avaliação da saúde bucal de pessoas com deficiência conforme resposta ao tratamento odontológico sobre anestesia geral avaliado por meio do questionário P-CPQ

Condição bucal	Deltas dos domínios P-CPQ					
	Sintomas Oraís	Limitação funcional	Bem-estar emocional	Bem-estar social	Escala de impacto familiar	P-CPQ total
Oclusão						
Classe I (n=65)	-7,63±5,23	-5,70±5,20(a)	-5,70±5,25 (a)	-1,50 ±2,30	-6,10±4,80(a)	-26,45±19,35(a)
Classe II (n=21)	-10,61±5,32	-9,80±5,80(a)	-10,50±7,30 (a)	-3,20±5,75	-10,60±6,10(a)(b)	-44,70±25,45(a)
Classe III (n=18)	-8,10±5,00	-6,55±6,40(b)	-7,40±5,80 (b)	-1,45±2,20	-5,70±6,35(b)	-29,20±23,50(b)
Valor de p	p=0,07	p=0,01*	p=0,005*	p=0,1	p=0,003*	p=0,004*
Sobressaliência						
Aumentada (n=45)	-8,90±5,60	-7,65±6,20	-8,10±6,45	-2,35±4,20	-7,90±5,75	-34,90±24,20
Cruzada anterior (n=11)	-7,80±5,20	-6,10±6,75	-6,65±6,30	-1,45±1,90	-6,30±7,25	-28,30±25,95
Normal (n=38)	-8,10±5,10	-6,00±5,10	-5,70±5,60	-1,35±2,45	-6,50±5,10	-27,50±19,50
Topo a topo (n=10)	-7,10±5,10	-5,30±4,25	-6,70±5,35	-1,50±2,75	-5,00±5,05	-25,60±20,00
Valor de p	p=0,74	p=0,48	p=0,35	p=0,54	p=0,41	p=0,39
Sobremordida						
Mordida aberta (n=25)	-8,90±5,70	-7,10±5,95	-7,60±6,10 (a)	-1,40±1,90(a)	-6,90±5,10	-31,90±22,10
Mordida normal (n=35)	-7,45±4,60	-5,40±4,80	-4,95±4,85 (b)	-0,90±1,60(b)	-6,45±5,25	-25,20±17,40
Mordida profunda (n=21)	-9,40±5,90	-8,20±6,65	-9,60±7,30 (b)	-4,15±5,90(b)(c)	-8,50±6,60	-39,60±28,00
Mordida reduzida (n=23)	-8,00±5,30	-6,65±5,70	-6,80±5,70 (c)	-1,60±2,30(c)	-6,20±5,80	-29,20±22,50
Valor de p	p=0,54	p=0,35	p=0,03*	p=0,003*	p=0,5	p=0,06
Mordida cruzada posterior						
Não (n=69)	-8,20±5,60	-6,65±5,80	-6,70±6,10	-2,00±3,70	-6,80±5,65	-30,25±23,20
Sim (n=35)	-8,60±4,70	-6,70±5,55	-7,40±6,10	-1,45±2,40	-7,20±5,65	-30,60±22,40

<i>Valor de p</i>	p=0,72	p=0,94	p=0,58	p=0,44	p=0,72	p=0,81
Sangramento						
Não (n=15)	-4,20±3,20	-4,00±5,90	-4,20±6,60	-2,35±6,35	-5,40±8,00	-20,10±28,10
Sim (n=89)	-9,00±5,30	-7,10±5,60	-7,40±5,90	-1,70±2,55	-7,20±5,10	-32,40±21,00
Valor de p	p=0,001*	p=0,05*	p=0,05*	p=0,51	p=0,25	p=0,04*
Cálculo						
Não (n=35)	-5,05±3,20	-3,80±4,60	-5,10±6,10	-1,20±4,20	-5,10±6,10	-19,50±19,75
Sim (n=69)	-10,00±5,40	-8,10±5,70	-7,85±5,15	-2,10±2,75	-7,85±5,15	-36,25±21,65
Valor de p	p<0,001*	p<0,001*	p=0,01*	p=0,2	p=0,01*	p<0,001*
Bolsa periodontal						
Rasa (n=31)	-6,90±5,20(a)	-5,75±5,15(a)	-5,85±5,30(a)	-0,95±1,50	-6,30±5,30	-25,70±19,25(a)
Profunda (n=54)	-10,50±5,00(a)(b)	-8,20±5,65(b)	-8,65±6,00(b)	-2,35±2,90	-8,05±4,95	-37,60±20,85(b)
Ausente (n=19)	-4,55±2,90(b)	-3,80±5,50(b)	-3,90±5,95(b)	-1,70±5,70	-4,75±7,25	-18,70±25,20(b)
Valor de p	<0,001*	p=0,007*	p=0,005*	p=0,16	p=0,06	p=0,002*
Periodontite						
Não (n=76)	-7,15±4,90	-5,60±5,20	-6,10±5,60	-1,40±3,25	-6,40±5,60	-26,65±21,05
Sim (n=28)	-11,50±5,05	-9,60±6,05	-9,20±6,70	-2,85±3,30	-8,40±5,50	-41,30±22,80
Valor de p	<0,0001*	p=0,001*	p=0,02*	p=0,05*	p=0,1	p=0,003*

GLM univariado p<0,05*

Para cada variável, letras iguais na mesma coluna representam uma associação estatisticamente significativa.

Código _____

Data: ____/____/____

Anexo - Questionário de Saúde Bucal Infantil - Percepção dos pais

Instruções aos pais:

1. Esse questionário é sobre os efeitos das condições bucais no bem-estar e vida diária das crianças e desses efeitos sobre suas famílias. Nós estamos interessados em qualquer condição que envolva dentes, lábios, boca e maxilares. Por favor, responda cada questão.
2. Para responder a questão, favor colocar um **X na caixa próxima à resposta**.
3. Por favor, dê a resposta que melhor descrever a experiência de seu filho (a). Se a questão não estiver de acordo com seu filho (a), favor responder "Nunca".
4. Por favor, não discuta as questões com seu filho (a), pois estamos apenas interessados na opinião dos pais nesse questionário.

SEÇÃO 1 - Saúde Bucal e bem-estar da criança

1. Como você classificaria a saúde dos dentes, lábios, maxilares e boca de seu filho(a)?
 Excelente
 Muito boa
 Boa
 Regular
 Ruim
2. Quanto o bem-estar geral de seu filho (a) é afetado pela condição de seus dentes, lábios, maxilares ou boca?
 Nem um pouco
 Só um pouquinho
 Mais ou menos
 Muito
 MUITÍSSIMO

Para as questões de 3 a 49 as alternativas são:

- A- Nunca
- B- Uma ou duas vezes
- C- Algumas vezes
- D- Várias vezes
- E- Todos os dias ou quase todos os dias
- F- Não sei

SEÇÃO 2 - As questões a seguir são sobre sintomas e desconfortos que as crianças podem sentir devido às condições de seus dentes, lábios, boca e maxilares:

3. Seu filho (a) teve dor nos dentes, lábios, maxilares ou boca? _____
4. Seu filho (a) teve sangramentos na gengiva? _____
5. Seu filho (a) teve machucados na boca? _____
6. Seu filho (a) teve mau hálito? _____
7. Comida presa no céu da boca? _____

8. Seu filho (a) teve alimento preso dentro ou entre os dentes? _____
9. Seu filho (a) teve dificuldade de morder ou mastigar comidas como maçã, espiga de milho ou carne dura? _____

Durante os últimos 3 meses, devido aos dentes, lábios, boca ou maxilares, com que frequência:

10. Seu filho (a) respirou pela boca? _____
11. Seu filho (a) teve problemas durante o sono? _____
12. Seu filho (a) teve dificuldade para dizer alguma palavra? _____
13. Seu filho (a) demorou mais que os outros para comer uma refeição? _____
14. Seu filho (a) teve dificuldade para beber ou comer alimentos quentes ou frios? _____
15. Seu filho (a) teve dificuldade para comer alimentos de que ele/ela gostaria? _____
16. Seu filho (a) teve uma dieta restrita a certos tipos de alimentos (ex. alimentos moles)? _____

SEÇÃO 3 - As questões a seguir perguntam sobre os efeitos que a condição dos dentes, lábios, boca e maxilares de seu filho(a) podem ter no sentimento e nas atividades diárias deles

Durante os últimos 3 meses, devido aos dentes, lábios, boca ou maxilares, com que frequência:

17. Seu filho (a) se sente perturbado(a)? _____
18. Seu filho (a) se sente irritado(a) ou frustrado(a)? _____
19. Seu filho (a) se sente ansioso ou com medo? _____
20. Seu filho (a) faltou à escola (ex. dor, consultas, cirurgias)? _____
21. Seu filho (a) teve dificuldade para prestar atenção na escola? _____
22. Seu filho (a) não quis falar ou ler em voz alta na classe? _____
23. Seu filho (a) não quis falar com outras crianças? _____
24. Seu filho (a) evitou sorrir ou rir quando estava perto de outras crianças? _____
25. Seu filho (a) se preocupou que ele/ela não é tão saudável quanto outras pessoas? _____
26. Seu filho (a) se preocupou que ele/ela é diferente das outras pessoas? _____
27. Seu filho (a) se preocupou que ele/ela não é tão bonito(a) quanto outras pessoas? _____
28. Seu filho (a) agiu timidamente ou com vergonha? _____
29. Seu filho (a) foi provocado (a) ou apelidado(a) por outras crianças? _____
30. Seu filho (a) foi excluído (a) por outras crianças? _____
31. Seu filho (a) não quis ou não conseguiu passar um tempo com outras crianças? _____
32. Seu filho (a) não quis ou não conseguiu participar de atividades como esporte, grupos de atividades, teatro, música, viagens de escola? _____
33. Seu filho (a) se preocupou que ele/ela tem menos amigos? _____

Durante os últimos 3 meses, com que frequência:

34. Seu filho (a) se sentiu preocupado (a) com o que outras pessoas pensam sobre os dentes, lábios, boca ou maxilares? _____
35. Seu filho (a) foi questionado por outras crianças sobre os dentes, lábios, boca ou maxilares? _____

SEÇÃO 4 - As questões seguintes perguntam sobre efeitos que a condição bucal de seu filho (a) pode ter nos pais ou outros membros familiares

36. Você ou outro membro da família se sentiu perturbado? _____
37. Você ou outro membro da família teve o sono interrompido? _____
38. Você ou outro membro da família se sentiu culpado? _____
39. Você ou outro membro da família precisou de dispensa do trabalho (ex. dor, consultas, cirurgia)? _____
40. Você ou outro membro da família teve menos tempo para si mesmo ou para família? _____
41. Você ou outro membro da família se preocupou que seu filho (a) terá menos oportunidades na vida (ex. para namorar, casar, ter filhos, arrumar emprego)? _____
42. Você ou outro membro da família se sentiu desconfortável em lugares públicos (ex. lojas, restaurantes) com seu filho (a)? _____

Durante os últimos 3 meses, devido aos dentes, lábio, boca ou maxilares, com que frequência:

43. Seu filho (a) ficou com ciúmes de você ou de outros membros da família? _____
44. Seu filho (a) culpou você ou outra pessoa da família? _____
45. Seu filho (a) discutiu com você ou outros da família? _____
46. Seu filho (a) pediu mais sua atenção ou de outros da família? _____

Durante os últimos 3 meses, com que frequência a condição dos dentes, lábios, boca ou maxilares de seu filho(a):

47. Interferiu nas atividades da família em casa ou em outro lugar? _____
48. Causou discordância ou conflito na sua família? _____
49. Causou dificuldades financeiras para sua família? _____

SEÇÃO 5 - Gênero e idade da criança

Seu filho (a) é:

Menino

Menina

Seu filho (a) tem: Idade: _____

Questionário preenchido por:

Mãe

Pai

Outro

Data do preenchimento: ____/____/____

Legenda: sintomas orais – questões 3 a 8; limitações funcionais – questões 9 a 16; bem-estar emocional – questões 17 a 24; bem-estar social – questões 25 a 35. As questões **36 a 49** pertencem à Escala de Impacto Familiar. A cada **resposta nunca – 00 ponto; uma ou duas vezes – 01 ponto; algumas vezes – 02 pontos; várias vezes – 03 pontos; todos os dias ou quase todos os dias – 04 pontos; não sei – 05 pontos**. O escore final é o somatório dos pontos obtidos em todos os domínios.

(Barbosa et al., 2010)

Anexo 2

QUESTIONÁRIO	
Código _____	
Consulta odontológica inicial: __/__/__ __/__/__	Data de nascimento:
Idade: __a __m Masculino	Sexo: () Feminino () Masculino
Local de residência: _____	
Idade materna (no parto): _____	
Tipo de parto: _____	Número de filhos da família: _____
Posição na família: _____	
Família nuclear: () Sim () Não	Número de pessoas no núcleo familiar: _____
Grau de escolaridade do pai: (em anos de estudo) () Analfabeto () 1ºGrau incompleto () 2ºGrau incompleto () 2ºGrau completo () Superior incompleto () Superior completo () Pós-graduação	
Grau de escolaridade da mãe: () Analfabeto () 1ºGrau incompleto () 2ºGrau incompleto () 2ºGrau completo () Superior incompleto () Superior completo () Pós-graduação	
Renda familiar (SM em reais): () menos que R\$937,00 () entre R\$ 938,00 e 1874,00 ()1875,00 a 2.811,00 () de 2811,00 a 4.685,00 () acima de 4.685,00	
Número de pessoas com renda na família: _____	
Acesso aos serviços de saúde: () sim () não	

Anexo 3

Código: _____

Ficha de Exame Clínico

1-CPO-D/ceo-d

Formulário de exame em saúde bucal da OMS(adaptado)

- - - 55 54 53 52 51 61 62 63 64 65 - - -
 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38	
-	-	-	85	84	83	82	81	71	72	73	74	75	-	-	-	

1.

C	P	O	CPO	HIG	c	e	o	ceo	tp

Dentes Permanentes	Elemento de prótese ou coroa especial	Dentes Decíduos

Legenda:

C=cariados; P= perdidos (extraídos); O=obturados ; HIG= hígidos (dentes permanentes).
 c= cariados; e= extração indicada; o=obturados (dentes decíduos).

Fonte: WHO, 1997 (adaptado)

Higiene bucal*: () satisfatória () insatisfatória
 Locais de acúmulo de biofilme dentário visível:

*A higiene bucal é considerada insatisfatória quando se observa a presença de biofilme visível na superfície de um ou mais dentes decíduos e/ou permanentes.

Anexo 4

Código: _____

Data: ____/____/____

Oclusão dentária

Classificação de Angle			Sobressaliência				Sobremordida				Mordida cruzada posterior		Pelo menos uma das características anteriores	
Classe I	Classe II	Classe III	Normal	Aumentada	Topo a topo	Mordida Cruzada anterior	Normal	Reduzida	Mordida Aberta	Mordida Profunda	Ausência	Presença	Sim	Não

Anexo 5

Código: _____

Data: ____/____/____.

Medida do Índice Periodontal Comunitário (CPI) segundo sextante e condição periodontal						
Idade	Região (por sextante)	Condição periodontal				
		Hígido	Sangramento	Cálculo	Bolsa Rasa (3mm a 5mm)	Bolsa profunda (6mm ou mais)
	Superior direito					
	Superior central					
	Superior esquerdo					
	Inferior direito					
	Inferior direito					
	Inferior direito					

O índice **CPI** é utilizado para identificar a presença de sangramento e cálculo na **idade de 12 anos**, sangramento, cálculo e **bolsas periodontais rasas (de 3mm a 5mm) e profundas (6mm ou mais)** nos grupos dos **adolescentes (de 15 a 19 anos)**, dos **adultos (de 35 a 44 anos)** e dos **idosos**.

(Brasil Sorridente, 2010)

Normas da revista para submissão do artigo.

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Aprovação do estudo pelo comitê de ética em pesquisa com seres humanos



PARECER COM SUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: Impacto do tratamento odontológico, ambulatorial e sob anestesia geral, na qualidade de vida relacionada à saúde bucal de pessoas com deficiência.

Pesquisador: CÂMO Jesus do Prado

Área Temática:

Versão: 3

CAAE: 65178015.0.0000.5152

Instituição Proponente: Universidade Federal de Uberlândia/UFU/MG

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 1.688.273

Apresentação do Projeto:

Segundo os pesquisadores: A saúde bucal é parte da saúde geral e é essencial para a qualidade de vida. Todos os indivíduos devem dispor de uma condição de saúde bucal, que lhes permita falar, mastigar, reconhecer o sabor dos alimentos, sorrir, viver livre de dor e desconforto e se relacionar com outras pessoas, sem constrangimento. Crianças com cárie severa podem requerer tratamento sob anestesia geral, principalmente em situações onde há problemas de gestão comportamental, como no caso de pacientes com deficiência. "O Paciente com Necessidades Especiais (PNE), em Odontologia é todo indivíduo que apresenta determinados desvios dos padrões de normalidade, identificáveis ou não e que por isto necessita de atenção e abordagens especiais por um período de sua vida ou indefinidamente". Segundo a IADH (International Association of Dentistry for Disabilities and Oral Health), PNE são Classificados como Desvios da inteligência; Defeitos físicos; Defeitos congênitos; Desvios comportamentais; Desvios psíquicos; Deficiências sensorial ; Doenças sistêmicas crônicas (diabetes, cardiopatias, doenças hematológicas, insuficiência renal crônica, doenças auto imunes, doenças vesículo bolhosas, etc); Doenças endócrino – metabólicas; Desvios sociais; Estados fisiológicos especiais. A indicação da anestesia geral para pacientes com necessidades especiais deve basear-se nas condições gerais e/ou bucais e/ou comportamentais.

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Página 01 de 07



Continuação do Parecer: 1.688.273

De acordo com as atribuições definidas na Resolução CNS 466/12, o CEP manifesta-se pela aprovação do protocolo de pesquisa proposto.

O protocolo não apresenta problemas de ética nas condutas de pesquisa com seres humanos, nos limites da redação e da metodologia apresentadas.

Considerações Finais a critério do CEP:

Data para entrega de Relatório Parcial ao CEP/UFU: Agosto de 2017.

Data para entrega de Relatório Final ao CEP/UFU: Agosto de 2018.

OBS.: O CEP/UFU LEMBRA QUE QUALQUER MUDANÇA NO PROTOCOLO DEVE SER INFORMADA IMEDIATAMENTE AO CEP PARA FINS DE ANÁLISE E APROVAÇÃO DA MESMA.

O CEP/UFU lembra que:

- segundo a Resolução 466/12, o pesquisador deverá arquivar por 5 anos o relatório de pesquisa e os Termos de Consentimento Livre e Esclarecido, assinados pelo sujeito de pesquisa.
- poderá, por escolha aleatória, visitar o pesquisador para conferência do relatório e documentação pertinente ao projeto.
- a aprovação do protocolo de pesquisa pelo CEP/UFU dá-se em decorrência do atendimento a Resolução CNS 466/12, não implicando na qualidade científica do mesmo.

Orientações ao pesquisador:

- O sujeito da pesquisa tem a liberdade de recusar-se a participar ou de retirar seu consentimento em qualquer fase da pesquisa, sem penalização alguma e sem prejuízo ao seu cuidado (Res. CNS 466/12) e deve receber uma via original do Termo de Consentimento Livre e Esclarecido, na íntegra, por ele assinado.
- O pesquisador deve desenvolver a pesquisa conforme delineada no protocolo aprovado e descontinuar o estudo somente após análise das razões de descontinuidade pelo CEP que o aprovou (Res. CNS 466/12), aguardando seu parecer, exceto quando perceber risco ou dano não previsto ao sujeito participante ou quando constatar a superioridade de regime oferecido a um dos grupos da pesquisa que requeram ação imediata.
- O CEP deve ser informado de todos os efeitos adversos ou fatos relevantes que alterem o curso normal do estudo (Res. CNS 466/12). É papel de o pesquisador assegurar medidas imediatas

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Capítulo 1

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MEANINGS AND PRACTICES OF ORAL HEALTH: A QUALITATIVE STUDY WITH MOTHERS OF DISABLED CHILDREN

SIGNIFICADOS E PRÁTICAS DE SAÚDE BUCAL: UM ESTUDO QUALITATIVO COM MÃES DE CRIANÇAS COM DEFICIÊNCIA

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ABSTRACT: The aim of this study was to understand the meanings and oral health practices of ten mothers of disabled children between the ages of zero and three years. The

1517-9664	BIOSAÚDE (LONDRINA)	B3
0006-3568	BIOSCIENCE (WASHINGTON. PRINT)	A1
1981-3163	BIOSCIENCE JOURNAL (ONLINE)	B1
0144-8463	BIOSCIENCE REPORTS	A3
1573-4935	BIOSCIENCE REPORTS	A3
0916-8451	BIOSCIENCE, BIOTECHNOLOGY, AND BIOCHEMISTRY	B1
2079-6374	BIOSENSORS	A3
0956-5663	BIOSENSORS & BIOELECTRONICS	A1
1745-8552	BIOSOCIETIES (PRINT)	A2
1465-4644	BIOSTATISTICS (OXFORD. PRINT)	A2
0303-2647	BIOSYSTEMS (AMSTERDAM. PRINT)	A4
1537-5110	BIOSYSTEMS ENGINEERING	A1
2179-5746	BIOTA AMAZÔNIA	B4
0124-5376	BIOTA COLOMBIA	B4
1678-6424	BIOTA NEOTROPICA (EDIÇÃO EM PORTUGUÊS. IMPRESSO)	B1
1052-0295	BIOTECHNIC & HISTOCHEMISTRY	A4
0736-6205	BIOTECHNIQUES	A4
1310-2818	BIOTECHNOLOGY & BIOTECHNOLOGICAL EQUIPMENT (SOFIA)	B1
0734-9750	BIOTECHNOLOGY ADVANCES	A1
0885-4513	BIOTECHNOLOGY AND APPLIED BIOCHEMISTRY	A4
0006-3592	BIOTECHNOLOGY AND BIOENGINEERING (PRINT)	A2
1226-8372	BIOTECHNOLOGY AND BIOPROCESS ENGINEERING (SEOUL. PRINT)	B1
1754-6834	BIOTECHNOLOGY FOR BIOFUELS	A1
1860-7314	BIOTECHNOLOGY JOURNAL (INTERNET)	A2
1860-6768	BIOTECHNOLOGY JOURNAL (PRINT)	A2
0141-5492	BIOTECHNOLOGY LETTERS	A4
1573-6776	BIOTECHNOLOGY LETTERS (DORDRECHT. ONLINE)	A4

Qualis Capes B1

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ABSTRACT: The aim of this study was to understand the meanings and oral health practices of ten mothers of disabled children between the ages of zero and three years.

The qualitative method was used. The data was collected by means of a semi-structured interview and were recorded, transcribed and analysed using the Thematic Content Analysis. Regarding to the oral health care of the mothers, three reported difficult and traumatising experiences and three did not have much contact with dentists during their childhood. Regarding to the children, the age of their first visit to the dentist varied from three months to two years and six months, and the reason for this appointment for seven children was referral by their doctor or by the Association of Parents and Friends of the Exceptional.

Seven mothers reported that they brushed the teeth of their children at least twice a day and only two cited the importance of regular dental appointments. For two mothers, the meaning of oral health was to have a perfect smile and for four others, maintain oral hygiene. Half of the mothers related oral health to general health. All reported that dental caries is related to diet and lack of care regarding to oral hygiene. It was possible to conclude that for this group of mothers, oral health has an important meaning and that oral health practices are based on a healthy diet and brushing. Although mothers of disabled children have presented positive attitudes, in general, the results indicated limited knowledge about oral health. The results showed the importance of considering the point of view of the mothers as data of analysis bringing greater proximity with the reality studied. More qualitative studies should be conducted in order to collaborate with the improvement of the oral condition of disabled children.

KEYWORDS: Oral Health. Mothers. Disabled Children. Qualitative Research.

INTRODUCTION

Currently, the term used to refer to patients with special needs is “People with Disabilities”, which are those that have long-term impairments of a physical, mental, intellectual or sensorial nature, which in interaction with different obstacles, can impede their full and effective participation in society under equal conditions (ONU, 2006).

Data from the Brazilian Institute for Geography and Statistics show that 45.6 million people have some type of impairment, equating to 23.91% of the population of Brazil. In the 0 to 14 age group, this number equates to 3.459.401 people (OLIVEIRA, 2012).

Numerous studies have shown that disabled children suffer from a higher dental caries rate, when compared to the population in general (DOS SANTOS; MASIERO; SIMIONATO, 2002; RODRIGUES DOS SANTOS et al., 2003; OREDUGBA; AKINDAYOMI, 2008; GRACE; KELMENDI; FUSHA, 2014; LIU et al., 2014; SINHA et al., 2015). The study by Gaçe, Kelmender and Fusha (2014) examined prevalence of dental caries and oral health condition in children and adolescents with varying disabilities between the ages of zero and 18 years. The results showed that the prevalence of dental caries in permanent dentition for all groups was of 85.3%, and 72.0% for primary dentition, also demonstrating poor oral hygiene.

Even though disabled children are considered a high risk group in regard to dental caries (VOZZA et al., 2016) and have a greater need for dental treatment as well as their parents and caregivers attention (GRACE; KELMENDI; FUSHA, 2014), in fact only a few receive early, preventive dental care (HUEBNER et al., 2015).

The centres that offer dental care for disabled children between the ages of zero and three years provide an excellent opportunity for monitoring the oral health of these patients, as well as providing resources and information for the parents concerning the effective prevention of dental caries and assisting them in stablishing the necessary oral health

measures at home (ONU, 2006). These measures are fundamental for preserving the integrity of the individual and consequently influence the general state of health (COSTA; DELLA BONA; TRENTIN, 2016).

Regarding to oral health, the awareness by health professionals of the reality of their patients allows for an approach that is more tailored to their needs. This understanding can be strengthened by qualitative studies (ROBLES; GROSEMAN; BOSCO, 2010). Considering that the number of disabled children with demand dental care has increased due to the improvement in the expectation and quality of life, dental caries is the need for more prevalent unmet health care (LIU et al., 2014) and that in the literature consulted few qualitative studies on the subject were performed, it is justified to carry out studies of this nature with this specific population. As such, the present qualitative study was carried out with the objective of understanding the oral health meanings and practices of mothers of disabled children between zero and three years of age treated at the clinic of Pediatric Dentistry of the School of Dentistry of the Federal University of Uberlândia. It was assumed that for the mothers of disabled children, oral health has an important meaning and contribute to general health, but that they find difficulties in performing oral hygiene practices.

METHODOLOGY

The outline of the study was based on the qualitative method of Thematic Content Analysis (MINAYO, 2014), with convenience sampling being used. It was developed in consultation with ten mothers of disabled children of both sexes aged between zero and three years and treated at the clinic for disabled children, at the Dental Hospital of the Federal University of Uberlândia. The study included mothers of children with any type of disability (intellectual, physical, visual, hearing or multiple) aged less than or equal to three-year-old attended in clinics of pediatric dentistry in the first semester of 2016 who agree to participate.

First contact was conducted with the mothers in the waiting room, for the introduction of the researchers. After clarifications, explanation of the objectives and methods of the study, and making clear the possibility of dropping out of the study at any moment, the mothers were invited to participate in the research. After their consent, their signing of two copies of the Free and Informed Consent Form was requested. All the invited mothers agreed to participate in the study.

The data was collected via questionnaire by means of a semi-structured interview. The guiding questions were: 1. how were your experiences with dentists throughout your life? 2. nowadays, how do you take care of your teeth? 3. how do you take care of your children's teeth? 4. what is oral health for you? 5. what is the importance of oral health for the general health of your child? 6. why do you think the teeth spoil? 7. why did you seek the university clinic? 8. what have you learned about mouth care since children started treatment at the UFU School of Dentistry? (ROBLES, 2005). To maintain anonymity, the mothers were denominated as M1, M2, M3, M4, M5, M6, M7, M8, M9 and M10.

The interviews were performed individually in a reserved room, with the intent of avoiding possible embarrassments on the part of the mothers by a previously calibrated researcher (undergraduate student and female). The researcher who performed the interviews had no connection with the research participants, but also no previous knowledge, clinical or superiority relationship. The interviews were recorded, transcribed and analysed, with their consent. After being transcribed, the recordings were deleted.

Before the data collection step, a pre-test of the instrument was performed. The instrument was applied by a single researcher in interview form to two mothers selected randomly who were in a reserved waiting room. In those case where the questions were unclear, these were reformulated. The reformulation of the questions was not necessary, and these interviews were not used in the research. The interviews were held only once.

Although the study script was not changed, the two pilot interviews were excluded because they were performed for calibration of the researcher and, therefore, were not considered in the research.

For descriptive analysis, the following variables were considered: in relation to the mother: sociodemographic and socioeconomic data (age: in complete years, at the date of the interview; marital status: married, single or widow; level of education; amount of children and their age; out-of-home work and family income); in relation to the children: age (as of the date of the interview); sex; child position; age at which they started treatment at the institution; motives for the appointment; classification of the child regarding to their impairment according to Santos and Sabbagh-Haddad (2003).

The data were analysed by the Thematic Content Analysis (MINAYO, 2014; FLICK, 2019) with the objective of understanding the importance of oral health in the context of general health from the point of view of mothers of disabled children, considering from the mother's history of oral health past and present until the practices adopted in their children. Thematic analysis was performed in three stages. In the first step (Pre-analysis), initially, the transcriptions of the interviews were fully read. Then, the registration unit (keyword), the context unit (the delimitation of the context of understanding the registration unit), the cutouts, categorization form, the encoding modality and the more general theoretical concepts that guided the analysis were determined. Keywords and excerpts considered important to answer questions about the theme were highlighted in the text. In the second stage, the material was explored, consisting essentially of a classification operation in order to reach the nucleus of understanding the text. For this, the researcher sought to find categories (expressions or significant words) according to which the content of a speech will be organized. In the third and last stage, the results were obtained, and the interpretation were performed. The data were evaluated manually.

The research protocol was submitted for assessment to the Ethics in Research Committee of the Federal University of Uberlândia and approved under Certificate of Presentation for Ethical Appreciation number 45529515.9.0000.5152 and Opinion no 1.227.704.

RESULTS

Profile of the mothers and children

Table 1 shows the variables studied concerning the mothers. The age of the mothers varied between 22 and 40 years, with an average age of 29 years and two months. Eight mothers were married and five had completed secondary education. Seven mothers had two children aged between three months and six years. Only two mothers were employed, and household income varied between one to three minimum salaries.

Table 1. Profile of the interviewed mothers.

Mother	Age (years)	Marital status	Level of education	No of Children	Children Age	Working	Household Income
M1	25	Single	Secondary Education Complete	2	2 and 6 years	No	1 salary
M2	22	Single	Secondary Education Incomplete	1	1 year	No	1 salary
M3	29	Married	Secondary Education Complete	1	9 months	No	1 salary
M4	22	Married	Secondary Education Complete	1	1 year	No	1.5 salary
M5	29	Married	Higher Education Complete	2	9 months and 5 years	No	1 salary
M6	25	Married	Secondary Education Complete	2	2 and 6 years	No	3 salaries
M7	39	Married	Higher Education Complete	2	1 and 6 years	Yes	3 salaries
M8	32	Married	Secondary Education Complete	2	3 months	No	1 salary

M9	29	Married	Higher Education Complete	2	1 and 5 years	Yes	3 salaries
M10	40	Married	Secondary Education Complete	2	2 and 5 years	No	1 salary

Table 2 shows the variables studied concerning the children. The age of the children varied between nine months and two years and ten months, with an average age of 20.4 months. Seven were male and second child. The age of the children when they first started treatment at the institution varied between three and 30 months, with an average age of 12.8 months. The motive for the appointment was the routine check-up for six children, medical referral for three children, and due to difficulties in brushing teeth and bruxism for one of the children. In relation to classification, eight children were included in the Syndromes and craniofacial deformities category, with seven presenting Down Syndrome and one child with translocation of chromosomes 3 and 7. Only one child was classified as having physical impairment, due to imperfect osteogenesis. One of the children had not yet received a definitive diagnosis and was undergoing analysis.

Table 2. Child profile.

Mother	Age	Sex	Family position	Age of the beginning of dental treatment	Appointment motive	Classification
M1	2 years and 5 months	Female	2 nd child	2 years and 5 months	Routine check-up	Undergoing analysis
M2	1 year and 7 months	Female	1 st child	1 year and 7 months	Difficulties in brushing teeth and bruxism	Down Syndrome
M3	9 months	Male	1 st child	9 months	Medical referral	Down Syndrome
M4	1 year and 6 months	Male	1 st child	1 year and 6 months	Routine check-up	Down Syndrome
M5	9 months	Male	2 nd child	9 months	Medical referral	Down Syndrome

M6	2 years and 7 months	Male	2 nd child	3 months	Medical referral	Translocation of chromosomes 3 and 7
M7	1 year and 1 month	Male	2 nd child	9 months	Routine check-up	Down Syndrome
M8	2 years and 6 months	Male	2 nd child	3 months	Routine check-up	Imperfect Osteogenesis
M9	1 year	Female	2 nd child	6 months	Routine check-up	Down Syndrome
M10	2 years and 10 months	Male	2 nd child	5 months	Routine check-up	Down Syndrome

Understanding the past and present history of the oral health of the mothers

Regarding to their experiences with dentists during childhood, three mothers (M2, M7 and M9) reported that they were traumatising. “At the beginning it was difficult, when I was a child. My mother would take me...” (M7). Another three (M1, M4, and M8) said they did not have much contact with dentists throughout their lives: “I, particularly, did not have much experience with [dentists], I went very little” (M8).

Regarding to oral health care, six mothers said they brush their teeth every day, with a frequency of two to four times a day. Only one of the mothers (M2) reported that dental floss was only used when possible: “I brush my teeth every day, at least three times a day, but I floss only when I have time”. Six of the mothers did not report the use of dental floss.

Only one of the mothers (M8) indicated the avoidance of sugar because she knew of the impact it can have on dental health.

With regard to past dental history, some mothers reported that they did not have much contact with the dentist as a child. Those who remembered their experiences with dental treatment reported that they had been good, difficult or traumatizing. One participant cited the mother's role in caring for oral health. Many participants reported that they currently maintained regular dental follow-up. It was possible to observe that most mothers maintained good oral health habits, although they did not use dental floss, which demonstrates their importance in relation to oral hygiene. However, most mothers do not consider the effect of sucrose consumption on oral health.

Understanding the oral health background of the disabled children

Care taken in regard to the oral health of the children

When asked about the manner in which they took care of the oral health of their children, half of the interviewed mothers indicated the performance of oral hygiene by means of daily brushing. M2 reported difficulties in brushing the teeth of her child: "I brush only two times a day because the child will not let me". M10 reported the use of dental floss when possible.

M4 said she did not receive any orientation, and so does not perform the oral cleaning of her child. "I am still not taking care in such a way because he only has two teeth at the moment. I have not yet received any orientation".

The use of a cloth and filtered, warm water for the cleaning of the gum flanges was reported by M3. "As he is still a baby, I use a cloth soaked in warm filtered water to remove residues from the gum flanges and avoid bad breath".

M5 and M7 remembered the importance of taking the children to the dentist regularly. Control over cariogenic food was also emphasised: "attempt to eat less sugar to avoid cavities" (M5) and "I don't give them a lot of sweets, lollipops, these sweet things that are harmful, fizzy drinks..." (M8).

M9 commented that she gives her child the attention she did not receive during her childhood. She does not blame her mother, but their precarious situation. "I try to provide the best care possible, the type I did not have during my childhood... well, it was not my mother's fault... well, in the city I lived, dentists were very unreliable because they had to come from outside, so there were very few dentists. With my children, I'm a lot more attentive".

For all mothers, oral hygiene represents the most important practice related to oral health, although it is difficult to be performed. The use of the floss was neglected by the majority. In addition, the practice of oral hygiene was performed according to the absence or presence of teeth. Mothers recognize the importance of good dietary habits as well as periodic care. It is possible to identify that they did not have the same opportunity to receive dental treatment when they were children.

The meanings attributed to oral health

M10 highlighted the importance of having a healthy mouth, especially in the case of her disabled child.

On the whole, "lack of care" was the main motive pointed out by the mothers for tooth decay. For some, dental caries is associated with a sugar-rich diet, unsatisfactory cleaning and the presence of bacteria. According to M7, "through the mouth, you can acquire many bacteria".

Even though she had no knowledge concerning the factors relating to the etiology of the disease, M9 reported: “well, there is a physical, genetic question, but I believe that the lack of care is the problem”.

Other factors mentioned as the cause of tooth decay were a sugar-rich diet, the lack of night-time brushing, and the lack of regular check-up with the dental surgeon: “Lack of care, lack of brushing, eating a lot of sweets and not going to the dentist regularly” (M7); “... due to the diet as well, sweets, fizzy drinks, biscuits, these sweet things that damage the children’s teeth” (M8); “... eating sweets, going to bed without brushing” (M10).

Regarding to the meaning of oral health, the interviewed mothers were unanimous in saying that it means hygiene, care and health, health in a general sense.

The search for dental treatment at the university

Among the motives behind the decision of the interviewed mothers to look for a university clinic, the care available for the specific needs of their children, medical suggestion and/or referral, and their financial situation are points emphasised. Nonetheless, M9 said: “As I have already been doing medical follow-ups here since 2007 and trust it highly, I believe a lot in the professionals here. I follow all their instructions, so for me, this place is everything. I have a health plan, but I prefer it here”.

Learning about oral health care

In relation to the knowledge acquired about oral care during treatment at the institution, some points were generally reported: greater attention to mouth and teeth, daily brushing, use of dental floss, night-time brushing, having regular dentist appointments, pay attention to the consumption of sweet foods, the relationship between the nightly feeding bottle and tooth cavities, and the importance of cleaning the oral cavity for children with special needs. An account by M9: “Look, I have learned, as they say, a lot. But to have this kind of care, this attention, it’s... like they say, pay more attention to sweet foods, take care with sweets... especially before bed time, brush these teeth, check how the teeth are, this stricter care...well, for me, this was very enlightening”.

DISCUSSION

The main objective of the present qualitative study was to understand the oral health meanings and practices of mothers with disabled children. The qualitative research answers very particular questions. It deals, in Social Science, with a level of reality that cannot or should not be quantified. In other words, it deals with the universe of meanings, motives, aspirations, beliefs, values and attitudes. This range of human phenomena is understood here as part of social reality, given that human beings distinguish themselves not solely by their capacity for action, but by also reflecting about what they do and by interpreting their actions from within

and based on their lived and shared reality. Thus, the difference between the quantitative and qualitative approaches of social reality is a natural one, and not one of hierarchic ranking (MINAYO, 2010).

The methodology used in the present study followed the same as that used by Robles, Grosseman and Bosco (2010). These authors evaluated the practices and meanings of oral health in non-disabled children between the ages of three and ten years, treated at the Federal University of Santa Catarina. Only some guiding questions were added in the present study, directed to the selected public.

The family is the basis for the social, psychological and emotional development of the child and is the environment in which basic care is administered to the body, playing a fundamental role in promoting and maintaining its health (AGOSTINI et al., 2014; OREDUGBA; AKINDAYOMI, 2008). The mother was chosen because she has a key role in the family (MARCELINO; PARRILHA, 2007). Generally, it is responsible for the issues involving health, exercising the role of forming knowledge and habits (FIGUEIRA; LEITE, 2008).

Working with the assumption that an ideal sample is that which is capable of reflecting its population within its dimensions, the sample size was based on the saturation that considers the number of sufficient subjects when a certain repetition of information is allowed, but disregards unusual information of which explicative potential must be considered (MINAYO, 2010). Therefore, for this study ten mothers of disabled children between the ages of zero and three years were selected. In other qualitative studies (ROBLES; GROSSEMAN; BOSCO, 2010; DOMINGUES; CARVALHO; NARVAI, 2008; OLIVEIRA et al., 2010; SIMIONI; COMIOTTO; REGO, 2005), seven mothers were selected, ten mothers (DOMINGUES; CARVALHO; NARVAI, 2008), nineteen mothers (OLIVEIRA et al., 2010) and twenty mothers (SIMIONI; COMIOTTO; REGO, 2005).

No similar studies were found for a direct comparison of the results. In the literature consulted, only one qualitative study was found (OLIVEIRA et al., 2010) about the perception of parents in oral health of mothers of disabled children. Oliveira et al. (2010) investigated the perceptions of a group of mothers of children and adolescents with Down syndrome regarding the general health and oral health of their children. The results showed that for mothers, general and oral health are mainly associated with the absence of disease, the performance of daily activities and feelings of well-being. The authors concluded that factors related to financial difficulties, time and access to health referral services hinder the search for specialized dental care for disabled children and adolescents. In the present study, no mother reported financial difficulty or access to the service for dental treatment. Even, a mother reported that she had a dental agreement, but she preferred to be attended in the public service by indication of the physician accompanying the child.

It was possible to compare the results obtained in qualitative research with children without disabilities. Although the research of Robles, Grosseman and Bosco (2010) was performed with mothers of non-disabled children older than three years, there were observable similarities between the answers obtained. This is probably because the study was conducted in clinics of public institutions in which the assisted population usually presents low socioeconomic and educational levels. This is evident when comparing the responses obtained.

While some of the interviewed subjects reported that their experiences with dentists throughout their lives were traumatising, unpleasant or bad, just the same as all interviewees in the study of Robles, Grosseman and Bosco (2010), others in the present study did not have much contact with dentists due to the precariousness of their life conditions. People who do not have periodic follow-up with the dentist, it is very common to perform invasive and complex dental treatments, such as endodontics and surgical ones, which justifies the report of negative experience.

The majority of the interviewed mothers reported the performance of daily brushing, as well as striving for regular dental treatment, differing from the study of Robles, Grosseman and Bosco (2010), where the interviewed mothers looked for treatment only when necessary. This difference could be related to the fact that in the present study, half of the mothers reported that oral health is very important for health in general and, for that reason, the search for treatment was for disease prevention and not just for treating a particular complication. It was observed a concern of the mothers regarding the oral health and their relationship with general health in agreement with another studies (OLIVEIRA et al., 2010; ROBLES; GROSSEMAN E BOSCO, 2010).

Regarding the oral hygiene of their children, as in another qualitative study with disabled children mothers tend to remain responsible for the health of their children, but many have reported difficulties in caring for their children's oral health (OLIVEIRA et al., 2010). Only one reported the use of dental floss only when possible. This data agrees with another quantitative study, the results showed that 80% of the parents do not use dental floss in the oral hygiene of people with disabilities (SOARES et al., 2013). Usually, it is very difficult to perform tooth brushing in disabled children due to behavior and also the presence of involuntary movements. The use of dental floss is still more difficult which justifies the results obtained.

The use of a cloth with warm water to clean the gum flanges of the children that did not yet have teeth was also registered, similarly to the mothers in the study of Robles, Grosseman and Bosco (2010). Cultural, social and economic factors contribute to daily brushing being the most adopted preventive measure. Oral cleaning has been recommended to all individuals, being considered an important requirement for social acceptance. The motives that lead people to perform oral cleaning are related to their wish of having a pleasant-smelling breath, of looking good, of feeling comfortable and being socially accepted (FIGUEIRA; LEITE, 2008).

Those participating in the research pointed out that the working hours, lack of time and difficulties with the cleaning process due to the impairment of their children all impacted in the care of child oral health.

During the interview with the mothers, we noted the value they attribute to brushing after meals, noting as well that they have a notion of the controls that one should have over cariogenic diets (especially in regard to sweets). Similar results were found in other studies (ROBLES; GROSSEMAN; BOSCO, 2010; SIMIONI; COMIOTTO; REGO, 2005). In the present study, one of the mothers reported paying greater attention to the oral health of her children compared to that received during her childhood. This is partly due to the fact that the child has

a disability and the mother has been oriented about the importance of care by health professionals.

It was noted in the present study that the mothers had difficulties in conceptualising oral health, similarly to the other studies (ROBLES; GROSSEMAN; BOSCO, 2010; DOMINGUES; CARVALHO; NARVAI, 2008) with mothers of disabled children. For the mothers analysed, oral health is related to habits of oral hygiene and diet as well as visiting the dentist, where the concern is placed more upon aesthetics, and little in terms of functionality (DOMINGUES; CARVALHO; NARVAI, 2008).

The results of this qualitative study are also in accordance with those observed in other studies (ALYAHYA, 2016; KUMAR et al., 2019) with different methodology (cross-sectional study) with non-disabled children in which parents showed limited to good knowledge and practice with regard to their children's oral health and positive attitude regarding the importance of role in their children's daily oral hygiene. Although, the authors (KUMAR et al., 2019) found good results about parental awareness and attitudes regarding their children's oral health, the dental caries prevalence was high contradicting the results. Other author (ALYAHYA, 2016) concluded that for non-disabled children, coordinated efforts by health professionals, including paediatric dentists and paediatricians are required to increased parental awareness regarding feeding and oral health practices and to promote early preventive visits to the dentists to improve oral health. Considering that dental caries is the most common disease in childhood; disabled children have an increased risk of caries compared to non- disabled children; few disabled children received effective preventive care early and that the disease represents a negative impact on the child's quality of life and family, a study on this topic is justified especially for this population.

Furthermore, notwithstanding their desire to take care of the health of their children in an adequate manner, they do not always have the economic and social means to put the acquired knowledge into practice (ROBLES; GROSSEMAN; BOSCO, 2010).

CONCLUSION

After analysing the results, the conclusion was reached that for this group of mothers, oral health has an important meaning, and that the practices of oral health are based on a healthy diet and the performance of brushing. Although mothers of disabled children have presented positive attitudes, in general, the observed results indicate limited knowledge about oral health. It is essential the establishment of educational interventions focused to parents, mainly mothers, of disabled children since the participation of parents can be crucial to the success of the prevention of dental caries. The results show the importance of considering the point of view of the participant as data of analysis brings a greater proximity with the reality studied. More qualitative studies should be conducted in order to collaborate with the improvement of the oral condition of disabled children.

RESUMO: O objetivo deste estudo foi conhecer os significados e as práticas de saúde bucal de dez mães de crianças com deficiência de zero a três anos de idade. Foi utilizado o método qualitativo. Os dados foram coletados por meio de entrevista semiestruturada, que foram gravadas, transcritas e analisadas pela Análise de Conteúdo Temático. Com relação aos cuidados de saúde bucal das mães, três relataram experiências difíceis e traumatizantes e três que não tiveram muito contato com o dentista na infância. Com relação às crianças, a idade da primeira visita ao dentista variou de três meses a dois anos e seis meses e o motivo desta consulta para sete crianças foi por encaminhamento médico ou da Associação de Pais e Amigos dos Excepcionais. Sete mães relataram que escovam os dentes de seus filhos pelo menos duas vezes ao dia e apenas duas citaram a importância de consultas periódicas com o dentista. Para duas mães, a saúde bucal significa ter um sorriso perfeito e para quatro ter higiene bucal. Metade das mães relacionaram a saúde bucal com a saúde geral. Todas relataram que a cárie dentária está relacionada com a dieta e com a falta de cuidado com a higiene bucal. Foi possível concluir que para este grupo de mães, a saúde bucal tem um significado importante e que as práticas de saúde bucal se baseiam em uma dieta saudável e a realização da escovação. Embora as mães de crianças com deficiência tenham apresentado atitudes positivas, em geral, os resultados indicaram um conhecimento limitado sobre saúde bucal. Os resultados evidenciam a importância de considerar o ponto de vista do participante, pois os dados de análise trazem maior proximidade com a realidade estudada. Mais estudos qualitativos devem ser conduzidos com o intuito de colaborar com a melhora da condição bucal das crianças com deficiência.

PALAVRAS-CHAVE: Saúde bucal. Mães. Criança com deficiência. Pesquisa qualitativa.

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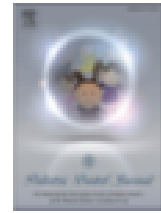
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Capítulo 2

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Case Report

Congenital mouth abnormalities: Unilateral oral synechia in infant



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The adhesion between the upper and lower alveolar ridges may interfere with feeding and sucking, leading to severe nutritional problems [2], airway compromise [4] and consequences for oral development. Oral synechia may be an isolated mouth abnormality or may more commonly associated with syndromes [7]. The syndromes which are commonly related with synechia oral are Van der Woude syndrome [8], popliteal pterygium syndrome (PPS) [7], cleft palate lateral alveolar synechia syndrome [7], orofacial digital syndrome (OFDS) [9] and Fryns syndrome [10]. The treatment consists in surgical intervention, and the goal of surgery is to divide adhesions to allow normal mouth opening and oral development, and also aids to secure the airway as well as the ability to feed [2]. The objective of this study was to report the clinical case of an infant diagnosed with unilateral oral synechia.

1. Introduction

Congenital alterations of the oral cavity are not uncommon findings at birth [1], although the true incidence is uncertain [2], the congenital anomalies has been reported as high as 1 in 100 births, with the majority being ankyloglossia [3].

The synechia is an anomaly rarely observed in the oral cavity, and may be composed of epithelial adhesions, connective tissue and muscle tissue [4]. It is a congenital oral abnormality found in newborns [5]. The etiology remains uncertain [6]. The persistence of buccopharyngeal membrane and an abnormality in the formation of the membrane subglossopalatal are the main theories accepted [4]. Generally, they are accompanied by one or more additional congenital defects such as cleft palate, cleft lip, microglossia, micrognathia, temporomandibular joint ankylosis, or limb anomalies [4].

2. Case report

A female patient, born premature with 28 weeks, delivered through a cesarean, weighing 640g, measuring 30 cm and being the third of a multiple pregnancy. During pregnancy, the mother presented with cholestasis of pregnancy and gestational diabetes. No family members had general health problems. The child was diagnosed at birth with delayed psychomotor development and presented other associated diseases, such as patent ductus arteriosus with hemodynamic repercussion, cardiac murmur without repercussion, flat hemangioma on hemithorax left, bronchopulmonary dysplasia and hearing deficit on the right side. The mother was carrying triplets, however, the other children did not present any

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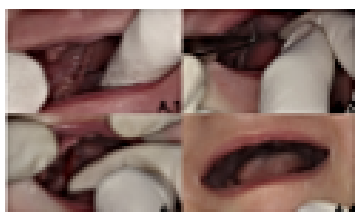


Fig. 1 – Illustration of intraoral clinical examination in which the diagnosis of the synchia was made and the surgical procedure performed on the baby. **A.1**-Frontal view of the membrane verifying its insertion in the hard palate and the buccal floor. **A.2**-Capture the membrane for later incision. **A.3**-Incision and removal of the membrane itself. **A.4**-Follow-up clinical evaluation after the total removal of the membrane.

alteration. After the birth, the patient remained in the intensive care unit for 4 months. The child was evaluated and verified the presence of a membrane between the hard palate and the mouth floor, and she was referred for dental evaluation.

At the first dental consultation, a detailed anamnesis was performed to determine the general state of health and the main issues. During intraoral examination it was observed absence of cleft palate and confirmed the presence of right side oral synchia connecting the mouth floor and hard palate with possible interference in sucking and swallowing (Fig. A.1). Due to the health condition of the child, the opinion of the pediatrician was requested.

According to the medical opinion, the infant should be submitted to a surgical procedure for removal of unilateral oral synchia. When the surgery was performed, she was 7 months, her weight was 4.300 kilograms and 53 cm of height. She did not present any changes of health beyond those that have already been reported. The procedure was performed with the use of local anesthetics, Lidocaine 2% with epinephrine (1: 100,000), according to the weight of the infant. A combined protective stabilization (active and passive) was necessary and the incision was performed with a scalpel blade, without the need of posterior suture (Figs. A.1–A.4). After seven days, during postop, was observed a proper healing and improvement in sucking and swallowing as reported by the family.

3. Discussion

In 1972, Fuhrmann et al. were the first to report the clinical cases associating cleft palate and lateral synchia. The oral synchia may be associated with other syndromes, but the alteration is most commonly associated with cleft palate [4]. In this case, the child did not present a cleft palate associated with unilateral oral synchia. This case corroborates with another case in literature, in which the female baby, with 10 months of age, presented the congenital alveolar synchia without association with cleft palate [12].

The oral synchia can bring respiratory distress, feeding difficulty and limitation of the buccal opening, these are

considered the common signs of this condition and often requires immediate intervention [5]. The suggested treatment for this case was the surgical removal of the unilateral oral synchia, because the presence of the membrane could hinder the sucking and swallowing, causing difficulties during breastfeeding. The surgical correction of this condition was the selected approach, being suggested by other studies in the literature [4–6,12].

In the present case was used local anesthetic injection and the use of combined protective stabilization during the procedure. A similar approach was adopted by another study in which it was used only local anesthesia [11]. Other studies suggest the use of resources, such as sedation associated with local anesthesia [5,6] and nasal intubation [5].

4. Conclusion

It was possible to conclude that the proposed surgical treatment was successful, because the function of sucking and swallowing were restored, bringing benefits to feed the baby.

Conflict of interest

The authors declare that there are no conflicts of interests.

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Capitulo 3 : artigo 3

Capítulo 3

Marques KLS, França K, Oliveira FS, Costa PP, Mendonça GS, Castro, Alessandra M,. Epidemiological and clinical profile of peoplewith disabilities attended at a specialized dental center

1 **PERFIL EPIDEMIOLÓGICO E CLÍNICO DE PESSOAS COM DEFICIÊNCIA ATENDIDAS EM CENTRO**
2 **ODONTOLÓGICO ESPECIALIZADO**

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EPIDEMIOLOGICAL AND CLINICAL PROFILE OF PEOPLE WITH DISABILITIES ATTENDED AT A
SPECIALIZED DENTAL CENTER

Késia Lara dos Santos, MARQUES, Kamilla FRANÇA, Fabiana Sodré de OLIVEIRA, Priscila
Paganini COSTA, Guilherme Silva MENDONÇA, Alessandra Maia de CASTRO

RESUMO

Avaliação do perfil epidemiológico e clínico das pessoas com deficiência (PD) atendidas em centro de tratamento odontológico especializado. Estudo observacional transversal retrospectivo realizado a partir da análise de 912 prontuários odontológicos de PD atendidas em Centro Odontológico Especializado da Universidade Federal de Uberlândia (COE/UFU). Foram coletados dados sociodemográficos (sexo, idade e tipo de deficiência) e clínicos (experiência de cárie, doença periodontal, traumatismos dentários, abscesso, dor, tratamento ambulatorial e/ou em centro cirúrgico e período de acompanhamento). Além da análise descritiva, o teste T-student ($p < 0,05$) foi utilizado com o programa "Statistical Package for Social Sciences" (SPSS) versão 23.0 e as associações pelo teste Qui-Quadrado ($p < 0,05$). Observou-se que 56,3% pacientes eram do sexo masculino, com idade média entre 21 e 45 anos; 77,3% apresentaram experiência de cárie ($p < 0,0001$), 74,68% faziam uso regular de medicamentos, 43,6% foram atendidos sob anestesia geral e ocorrência de traumatismo dentário em 25,7% dos pacientes. As PD atendidas no COE/UFU apresentaram uma alta prevalência de carie dentária, um menor acometimento de doença periodontal associada ao uso de antipsicóticos ($p < 0,000$), maior prevalência de traumatismo dentário em pacientes com deficiências múltiplas e neuromusculares.

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PERFIL EPIDEMIOLÓGICO E CLÍNICO DE PESSOAS COM DEFICIÊNCIA ATENDIDAS EM CENTRO ODONTOLÓGICO ESPECIALIZADO

Késia Lara dos Santos Marques, Ka...

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PERFIL EPIDEMIOLÓGICO E CLÍNICO DE **PESSOAS COM DEFICIÊNCIA ATENDIDAS EM CENTRO ODONTOLÓGICO ESPECIALIZADO**

EPIDEMIOLOGICAL AND CLINICAL PROFILE OF PEOPLE WITH DISABILITIES ATTENDED AT A
SPECIALIZED DENTAL CENTER

RESUMO

Avaliação do perfil epidemiológico e clínico das pessoas com deficiência (PD) atendidas em centro de tratamento odontológico especializado. Estudo observacional transversal retrospectivo realizado a partir da análise de 912 prontuários odontológicos de PD atendidas em Centro Odontológico Especializado da Universidade Federal de Uberlândia (COE/UFU). Foram coletados dados sociodemográficos (sexo, idade e tipo de deficiência) e clínicos (experiência de cárie, doença periodontal, traumatismos dentários, abscesso, dor, tratamento ambulatorial e/ou em centro cirúrgico e período de acompanhamento). Além da análise descritiva, o teste T-student ($p < 0,05$) foi utilizado com o programa “Statistical Package for Social Sciences” (SPSS) versão 23.0 e as associações pelo teste Qui-Quadrado ($p < 0,05$). Observou-se que 56,3% pacientes eram do sexo masculino, com idade média entre 21 e 45 anos; 77,3% apresentaram experiência de cárie ($p < 0,0001$), 74,68% faziam uso regular de medicamentos, 43,6% foram atendidos sob anestesia geral e ocorrência de traumatismo dentário em 25,7% dos pacientes. As PD atendidas no COE/UFU apresentaram uma alta prevalência de cárie dentária, um menor acometimento de doença periodontal associada ao uso de antipsicóticos ($p < 0,000$), maior prevalência de traumatismo dentário em pacientes com deficiências múltiplas e neuromusculares.

Palavras-chave: Pessoas com Deficiência, Perfil Epidemiológico, Saúde Bucal, Assistência Odontológica.

ABSTRACT

Evaluation of the epidemiological and clinical profile of people with disabilities (PD) treated at a specialized dental care center. Retrospective cross-sectional observational study based on the analysis of 912 dental records of PD attended in Specialized Dental Center of the Federal University of Uberlândia (SDC/UFU). Sociodemographic (gender, age and type of disability) and clinical data (caries experience, periodontal disease, dental trauma, abscess, pain, outpatient and / or surgical treatment and follow-up period) were collected. In addition to the descriptive analysis, the T-student ($p < 0.05$) was used with the program "Statistical Package for Social Sciences" (SPSS) version 23.0 and the associations by the Chi-Square test ($p < 0.05$). It was observed that 56.3% patients were male, with an average age between 21 and 45 years; 77.3% had caries experience ($p < 0.0001$), 74.68% used medication regularly, 43.6% was treated under general anesthesia and dental trauma occurred in 25.7% of the patients. PD treated at SDC/UFU had a high prevalence of dental caries, a lower incidence of periodontal disease associated with antipsychotic use ($p < 0.000$), higher prevalence of dental trauma in patients with multiple and neuromuscular deficiencies.

Keywords: Disabled Persons, Health Profile, Oral Health, Dental Care.

INTRODUCTION

The concept of persons with disabilities (PD) is broad and encompasses those who have temporary or permanent impediments, whether physical, mental, intellectual or sensory, which, through interaction with existing barriers in the social environment or individually, can present difficulty or impediment of access and exercise of rights on equal terms with others^{1,2}.

The United Nations (UN)¹ estimates that 80% of people living with disabilities live in developing countries, and the incidence of temporary or permanent disabilities reaches 10% of the population. According to the 2010 census of the Brazilian Institute of Geography and Statistics (IBGE)³, the number of PD in Brazil was approximately 46 million, representing 23.92% of the population⁴. People with disabilities have a higher prevalence of oral problems, however, in Brazil, there is a lack of data on accessibility to dental care^{1,5-8}.

Dental attention to PD has its own characteristics. Although the clinical procedure is the same performed in people without disabilities, there is usually an adaptation according to the patient's need, especially regarding the use of behavioral management techniques according to the type of disability presented. Therefore, it is important to understand that different types of disabilities provide specific limitations of their nature, which represent the sum of experiences, difficulties, opportunities and intellectual formation of those who have it^{1,9}. Some require special management measures and professional adaptation to care, while others may be handled in conventional ways. In both cases, their autonomy and family aspects must be respected^{1,10}.

According to the Notebook of Primary Care of Oral Health¹¹, services should be organized to offer priority care in primary care, and there should be Specialized and Hospital Reference Units for cases of greater complexity and those requiring care in the operating room under anesthesia. overall5. Since 1988, the Specialized Dental Center of the Federal University

of Uberlândia (COE / UFU) has been providing attention at all levels of complexity in the dental area and has incorporated other health professional areas to the team - nurses, physiotherapists and nutritionists - besides having the support general and specialized physician in order to contemplate comprehensive care for PD.

In order to corroborate the construction of scientific knowledge about the guidelines of dental care to PD and to enable the planning of actions aimed at improving the care provided in specialized dental centers, the aim of this study was to know the PD attended at COE / UFU and their treatment needs from 1988 to 2018.

METHODS

The study was approved by the Human Research Ethics Committee of the Federal University of Uberlândia (REC / UFU) under the opinion number 2.570.027 / 2017. This is a retrospective observational cross-sectional study.

We analyzed 1066 dental records of PD attended from 1988 to 2018, in COE in Uberlândia, regional reference center, at medium and high complexity levels for dental care / multidisciplinary attention to PD. Data collection was performed in 2017 and 2018 by a single previously calibrated researcher. Calibration consisted of the initial interpretation of abbreviations used in COE records, analysis of records in chronological order: from 1988 to 2018 and maximum number of records per analysis day (20), minimizing observer fatigue errors.

Of the total, 912 dental records were selected that met the following inclusion criteria: completion of all data studied in the research, with legible letter, signed by the patient or a responsible person, as well as, attached to the medical record, the Consent Form (TC) used by the COE, which provides for the use of data in research. Medical records with no relevant data

for the research, no CT attached to the medical record, no patient / guardian signature or illegible letter were excluded. The medical and dental diagnoses of the patients were described according to the data found in the analyzed medical records. The personal data of the participating individuals were safeguarded, and under no circumstances were they identified in the various research phases.

Parameters

Sociodemographic data obtained from medical records of patients treated at COE included gender, age and disability classification. Clinical experience (regarding caries lesions, extractions, endodontic treatments and sealants of fissures and fissures) was evaluated by type of treated tooth, deciduous or permanent, and the most invasive treatment performed was considered the final treatment to be accounted for. Data were also collected for the presence or absence of other signs or symptoms, including pain, abscess, periodontal disease, dental trauma, and outpatient or surgical treatment; in addition to the follow-up period. The data obtained were structured in a spreadsheet (Microsoft Office Excel 2013).

To approximate a biopsychosocial analysis, disability classification was performed based on the International Functioning Classification (ICF) 1.12, physical and clinical data, and medical diagnosis provided. Patients were segregated as to whether or not to use anticonvulsants, antipsychotics, hormones, anti-hypertensives, drug combinations when at least two drugs with distinct biochemical actions were present; and in patients who did not use medications to verify drug interference in oral health. The oral condition of the patients was recorded according to the data recorded in the medical records, with the description of the specific treatment of each tooth. From the clinical examination data of all teeth was obtained the dmft caries index and DMFT of each patient.

Statistical analysis

The variables were analyzed using descriptive statistics. A t-test of a sampling between percentages was performed to determine if there was a significant difference between them. The significance level was 5% ($p < 0.05$). Bonferroni's theorem was used to adjust the significance level ($p < 0.05$) when the plan involved multiple assays of the same type. Data were evaluated using the Statistical Package for Social Sciences (SPSS) software, version 23.0 (IBM Corporation, Armonk, NY, USA). Associations were made by Chi-square test.

RESULTS

Of the 912 dental records analyzed, most patients were male, aged between 21 and 45 years (Table 1). The most prevalent groups of disabilities were multiple (MU) and neuro-musculoskeletal (NS) and movement-related disabilities, with no statistically significant differences between them, but with the other categories (Table 1). Most patients presented, as oral alteration, caries lesions and periodontal disease with statistically significant difference ($p < 0.0001$) when compared to the other alterations (Table 1). Most had a dental follow-up period of more than ten years (Table 1).

Table 2 represents, within each group, the most prevalent deficiencies, and the same patient may have more than one diagnosis. Table 3 shows that the increase in age and caries experience were directly proportional. In the age group of 6 to 12 years, the average of the index was 0.72, reaching 13.01 in patients over 45 years of age, demonstrating the cumulative effect with increasing age. Table 4 shows the number and percentage of procedures performed in the sample studied. Restoration in both primary and permanent teeth was the most prevalent treatment of choice.

There was an association between type of disability and care in the operating room (CC) under general anesthesia, with a higher percentage of indication for WC for neuromuscular (36.2%) and multiple (35.8%) disabilities, followed by mental disability (22.9%).

Most of the patients (74, 68%) were taking regular medication, which were segregated into: anticonvulsants (19.29%), antipsychotics (12.28%), hormones (5.04%), antihypertensive drugs (3.28%), drug associations (28.17%), and did not use medications (25.32%). An association between periodontal disease (PD) and the antipsychotic (AP) and anticonvulsant (CA) drug categories was identified. A specific chi-square test was performed between the presence or absence of PD and the use or not of AP and CA, even when associated with other medications. It was found a lower prevalence of PD in patients using PA ($p < 0.000$) (Chi-square test value = 14.781a) and the percentages of those who use CA and have PD are very close to those who use and do not have PD. Clinical characteristics according to mean and standard deviation are presented in Table 5.

DISCUSSION

Regarding the characteristics of the sample studied, this study presented a larger number of males, as in previous studies⁴⁻⁸, but differed from the 2010 IBGE census³. This finding may be associated with the genetic predisposition of some deficiencies. As is the case of cerebral palsy (CP), a representative portion in this sample. O, Callaghan et al.¹³ reported an association between males and CP, suggesting the influence of the X chromosome.

Like their caregivers, DPs are living longer. This is due to technological advances, genetic research, governmental incentive programs for inclusion and general care, as well as the active participation of caregivers, family members and DP in the pursuit of their rights as citizens^{1,14}. This study reaffirms the aging profile of this group in which most patients were between 21 and 45 years old, followed by the age group of 13 to 20 years, a fact consistent with previous studies^{2,5-7,15}. Aging often increases the number of comorbidities associated with disability, so the dentist should be careful in the anamnesis, checking drug interactions, requesting additional tests and medical advice when necessary.

One of the challenges of this study was the group classification of disabilities. There is no standardization among studies that address the subject, making it difficult to compare data, systematize methods and determine the oral health profile of this population. The wide variability of disabilities, the observation of more than one diagnosis per patient and the different clinical repercussions broaden the MU disability group. COE / UFU hosts many rare diseases, which are not yet fully understood, and there is still the uniqueness of the patients treated. These factors make it difficult to correlate deficiency-oral problems.

Even with these limitations a higher prevalence of oral problems was found in the NE and MU deficiency groups. Therefore, it is noteworthy that segregation of the group analyzed by disease profile would generate better correlation analysis potential.

In the literature, there are oral manifestations associated with the largest groups in this study (Table 2). In CP, malocclusion is reported in 59% to 92% of patients, high prevalence of DT, bruxism, enamel development defects, and disordered movements of the jaws, lips and tongue. In DS there are reports of orofacial abnormalities, being common malocclusion, macroglossia, cleft tongue, dental anomalies of number, shape, structure and position; and periodontal disease linked to immune system abnormalities. In autistic spectrum disorder the patient is highly susceptible to carious lesions. Oral hygiene is often poor, with presence of gingivitis and harmful habits linked to the behavioral factor. Finally, heart disease patients are more susceptible to carious lesions, hypocalcification or hypoplasia, delayed primary teeth exfoliation and eruption of permanent teeth, risk of bacterial endocarditis, and poor blood supply to the extremities, with possibility of discoloration of the tongue and gums^{14,16}.

This study presented 22 (2.4%) patients with undetermined diagnosis. The sector is composed of an integrated multi-professional team, constantly updated regarding the various deficiencies, their characteristics and associated comorbidities. It also has the role of a geneticist who assists in knowledge transfer and diagnosis determination; however other

factors such as available resources limit the clarification of the diagnosis. One of the major difficulties that PD, his family and / or his caregiver face is the search for the diagnosis. Its clarification is related to the reduction of anxiety in dealing with the clinical case, the pilgrimage in various professionals, the possibility of establishing early conduct, information regarding prognosis and the provision of a care network for the purpose and family members¹⁷.

When compared to people without disabilities, PD have a high risk of caries, more untreated and extracted teeth, poor oral hygiene, periodontal problems, and deterioration of oral health with age¹⁵. Only one study presented results that differed from those observed, indicating a low prevalence of oral diseases in PD¹⁸.

The DMFT index and the caries experience showed a cumulative increase with advancing age, reaching 13.01 and reaching 88% of PD, respectively. Several studies^{5-8,15} presented similar results: Oliveira et al.⁸ found an average DMFT index of 17.54 ± 7.13 , with 87.5% of patients with active caries; Pini et al.⁷ found a high caries index with a DMFT index > 10. The most severe problem in all age groups was dental caries, and patients aged 21 years or older were the most affected. This fact may be associated with greater difficulty for caregivers to perform oral hygiene, higher comorbidities associated with advancing age, and eating habits^{15,19,20}. Chen et al.²¹ observed a more significant incidence of malocclusion in the older age group and in complete permanent dentition (91%) compared to the younger group (35%; $p < 0.001$), which corroborates poor oral hygiene due to dental crowding due to malocclusion. The same study found a significantly higher dmft / DMFT index in the younger age group (2 to 6 years; 13.8 ± 4.3) compared to the older age group (6 to 14 years; 10.5 ± 5.3 ; $p < 0.001$), which differs from this study. In the study by Colussi et al.²², an average DMFT index of 28.9 was found, with a large percentage of extracted teeth (92.1%). In the present study, the maximum DMFT was 13.01 with the lowest participation of the extracted component (39%). This lower rate can be associated with longer follow-up, which allows the identification of oral problems

early and the least invasive intervention possible. For PD, the continuous approach and the insertion of preventive measures is a determining factor in oral health.

PD is an infectious disease that affects the support (gum) and support (cementum, periodontal ligament and bone) tissues of the teeth. The evolution of this process leads to tooth loss through bacterial action, stone accumulation and inflammation²³. Data analysis of this study showed that PD using antipsychotic drugs had a lower prevalence of PD. This fact may be linked to the immunomodulatory effect of this drug, which contributes to a decrease in the levels of pro-inflammatory mediators, and the decrease in pro-inflammatory cytokines responsible for periodontal tissue destruction may be the cause of the reduction of PD demonstrated in this study²³. Other factors such as poor oral hygiene and plaque index influence this relationship, and further studies are needed to evaluate the correlation of the factors reported above.

In this study, no statistically significant difference was found between PD taking anticonvulsants and who has PD and who uses these drugs and has no PD, and no association was found between PD and anticonvulsants. However, the study did not evaluate the degree of gingival hyperplasia, which in the literature is the most common finding associated with anticonvulsant use^{24,25,26}. The use of polytherapy, the presence of phenytoin, as well as the high index of plaque and gingivitis contribute to the increase of gingival tissue and studies suggest a relationship with the establishment of PD²⁶. Ortega et al.²⁷ demonstrated in a group of children and adolescents diagnosed with CP a higher prevalence of dental trauma (DT) when using barbiturate anticonvulsants.

DT in PD can result from intellectual deficiency, poor or absent control of motor coordination, presence of involuntary movements, pathological oral reflex, masticatory muscle spasticity or even a low reflex against an obstacle²⁸. Epileptic patients have a high prevalence of dental-facial trauma. Ghafoor et al.²⁵ observed lip and / or cheek lesions in 74% of the patients

evaluated and in the tongue in 56% of the same sample. The prevalence of DT in this group of patients ranges from 9% in the visually impaired to 57% in patients with cerebral palsy⁹. In this study, 25.7% of the patients suffered some type of DT, with a higher prevalence associated with the motor and multiple disabled groups.

An expert in PD will surely have the experience of answering DT urgency. It is important in a first consultation to guide the family as to the possibility of occurrence, care needed to reduce risks and how to act on DT. One of the measures that can be oriented is the use of VAS mat in places of greater PD circulation, since these patients present motor problems there is risk of imminent fall. In addition, increased vigilance and obstacle clearance is relevant.

In this study, regarding the procedures performed on permanent teeth, restoration was the most frequent treatment (31%), followed by extraction (22%). The opposite occurred in primary teeth, where 17% were extracted and 13% restored. This fact may be associated with the advanced stage of root resorption of the deciduous teeth, which in addition to the amount of dental remnant and the complexity of treatment may have led to the choice of deciduous tooth extraction. Previtali et al.⁵ found 54.1% of restorative procedures and 33.1% of surgical procedures. The dentist (DC) should employ the most appropriate technique for the various procedures, considering his understanding of how the family works and interferes with the patient's behavior.

The care and dental monitoring of PD should, whenever possible, be performed in primary care. However, due to the behavior, the degree of collaboration, the complexity of the clinical case, the inexperience of the CD, in many cases it is impracticable, and the patient is referred for referral and more complex care, as is the case of specialized dental centers. In the studied COE it was observed as a consequence of the patient not allowing outpatient treatment, that for 43.6% of the evaluated patients were referred to the operating room under general anesthesia, after careful clinical examination, laboratory tests, pre-anesthetic,

physician's release and consent of the guardian. There is still a high rate of patients treated under general anesthesia²¹, thus the need for early implementation of preventive measures at the primary care level to avoid the accumulation of treatment needs, painful experience and loss of the dental element. One suggestion is the investment in training of dental surgeons who have first contact with PD and also in educational activities for family members, caregivers and PD.

As demonstrated by other studies²⁸⁻³⁰, most patients admitted do not allow adequate oral hygiene by the caregiver, which justifies the high prevalence of oral problems when compared to the general population. They also show that good oral hygiene habits of caregivers are prerequisites for oral health of PD and themselves^{14,15,19,20}.

Even with preventive measures, fluoride use, long-term follow-up, use of oral hygiene products, there is still a high prevalence of dental caries in PD. Perhaps oral health education for caregivers and patients, using active search techniques and positive reinforcement of self-care is a way to reduce oral problems. One way to quantify and evaluate the performance of the caregiver / patient in performing oral hygiene is supervised brushing, which also allows their orientation towards improving the technique, helps to gain confidence and independence of the caregiver / patient. It is also a suggestion of this study oral health education for caregivers to establish healthier habits is a suggestion of this study. Poor oral hygiene can lead to important consequences in areas such as nutrition, general health, future oral health and quality of life¹⁵. The progression of caries, when not treated, results in pain, which may cause increased patient anxiety and behavioral change during oral hygiene, being a subjective parameter often reported by the caregiver or the patient himself.

It was concluded that the high prevalence of caries interconnected with multifactorial factors, as well as lower PD involvement associated with antipsychotic use, and the higher prevalence of DT in patients with multiple and neuromuscular disabilities, observed in the

present study, will contribute to the planning of effective dental actions focused on comprehensive and multi-professional care for people with disabilities in specialized dental centers. Emphasis is placed on the need for future studies aimed at the elaboration of specific protocols that address the most varied types of deficiencies found. Being the preventive procedures the axis of the dental treatment the PD, as well as the early intervention when the appearance of oral diseases.

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Capítulo 4

Marques KLS, Medeiros, JBR, Prado CJ,
Soares, CJ, Oliveira FS, Ardhenghi TM
Castro AM. Cases Report: Cri-du-Chat
Syndrome.



Re: CASES REPORT: CRI-DU-CHAT SYNDROME
by Dr. Fabiana Sodré Oliveira fabianasodre@ufu.br

Dear Dr. Marques,

You have been listed as a contributing author for the above manuscript. Please verify your contribution by clicking one of the below links.

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Qualis Capes A2

CASES REPORT: CRI-DU-CHAT SYNDROME

MARQUES, K.L.S .; MEDEIROS, J.B.R. ; PRADO. C.J .; SOARES, C.J .; OLIVEIRA, F.S .; ARDHENGHI,
T.M .; CASTRO, A.M .

ABSTRACT

Objective: The aim of this study was to report three clinical cases of patients with Cri-du-chat syndrome emphasizing the cranio-skeletal and orofacial characteristics and to describe the dental treatment performed.

Study Design: Case report of three cases of patients with Cri-du-chat syndrome under dental treatment. The syndrome is an autosomal genetic disorder, which involves the partial or total deletion of the chromosome 5 (5p), considered rare, with a prevalence of 1: 15.000 and 1: 50.000 with specific alterations. The cranio-skeletal and orofacial alterations in three clinical cases were described and compared on the literature.

Results: Pathognomonic characteristics of the Cri-du-chat syndrome were found in the three cases. In one of them mosaicism karyotype was observed as the cause of deletion chromosome 5.

Conclusion: The knowledge of the syndrome's characteristics and the association of systemic and oral problems, allows greater safety when planning and executing the dental treatment.

Keywords: Cri-du-Chat Syndrome; 5p deletion syndrome; Orofacial manifestation.

INTRODUCTION

Cri-du-chat syndrome (CdCs) is a rare chromosomal anomaly caused by the partial or total deletion of the chromosome 5 short arm, thus the individual presents 46, XX, 5p- (female) and 46, XY, 5p- (male) karyotype. Because of this deletion, the syndrome is also known as Syndrome 5p-.¹⁻⁵ The syndrome was first described in 1963 and has an estimated incidence of 1: 15,000 to 1:50,000 live births, affecting more females, in a ratio of 2:1.^{2,6-9}

CdCs occurs rarely along with mosaicism (3.7%), where the person has two distinct genetic materials, one is a normal karyotype and the other is cells showing a smaller arm deficiency in the chromosome 5.¹⁰⁻¹²

The syndrome's name refers to the clinical characteristic, described as an acute and distinct monochromatic cry presented by the child at the birth. This cry resembles the cat's meow and is probably related to anomalies in the larynx and epiglottis.^{1,2,4,6-8,13-14}

The larynx and the epiglottis have its anatomy altered, the first one being small and diamond-shaped, and the second one being small and hypotonic.^{4,8,14} This cry is not present in all babies born with CdCs, however is considered a reliable and early indicator for the diagnosis.² The diagnosis of the syndrome is based on evident clinical signs and analysis of the karyotype.^{4,9,15}

Patients with CdCs presents intellectual and psychomotor disorders along with developmental delay and mental retardation.^{14,16,17} The phenotypic characteristics observed are low birth weight, microcephaly, round face, spaced eyes, low nasal bridge, low implantation ears and simian fold (only one palmar fold is present).^{1-3,6,7,18-20} Through the aging process they begin to present short stature with inadequate weight, small chin, long fingers and muscular hypotonia.^{1-2,5,18,21-22}

Most individuals diagnosed with CdCs do not develop speech, present difficulty sucking up when adults, and usually have other associated problems such as partial hearing loss, skeletal abnormalities, respiratory and hearing infections, heart diseases, kidney malformation and abdomen muscles separated.^{1-2,17-18,23-24}

The mortality rate is approximately of 10%, reaching 75% in the first months of life and 90% in the first year, however, after the first year of life the mortality rate reduced significantly.^{18,25} However, there are reports of patients with CdCs over 50 years of age.^{18,25}

The main orofacial alterations reported are perioral muscle hypotonia, class II occlusion, biprotrusion, micrognathia, anterior open bite, ogival palate, cleft palate, delayed tooth eruption, enamel hypoplasia, dental erosions caused by gastroesophageal reflux, supernumerary teeth, dental transpositions, bruxism and periodontal diseases.^{2,5,16,21,26-27}

Individuals with CdCs often have chronic periodontal disease associated with poor oral hygiene.¹⁵ However, recent study comparing bacteria present in the dental biofilm of people with CdCs and of a control group showed that both had potentially pathogenic bacteria such as *Aggregatibacter actinomycetemcomitans*, *Porphyromonas gingivales*, *Prevotella intermedia*, *Treponema denticola* and *Tanerella forsythia*.^{21,27} The amount of *Tanerella forsythia* found in the CdCs group was statistically higher than the amount found in the control group when compared to the differences obtained in the others bacterias.^{21,27}

There are few studies reporting the dental management of CdCs. This would be important to provide information that may help to tailor clinical management for care of these patients, thus improving their quality of life.

The aim of this study is to describe the cranio-skeletal and orofacial characteristics found in a case series of three patients with CdCs attending in a specialized dental service. We also compare these alterations with the most common features of the syndrome reported in the literature.

CASES REPORT

The oral and systemic analysis of three patients diagnosed with CdCs were made. These patients are periodically treated at a Dental Care Specialized Center for people with disabilities.

Case 1 (Figure 1): white female, second daughter of the family nucleus, with non-consanguineous parents, born with 32 weeks by a preterm caesarean birth, weight 1.900 g, height 45 cm. Patient present few crying and significant cyanosis at birth, and was hospital admission for five days, presented difficulty of sucking and swallowing. She

was diagnosed with CdCs at 2 years old, karyotype 46 XX, del (5), with hospitalization history of allergic reaction to Gardenal ®, and at 3 years old of chicken pox. Cardiac arrhythmia and mild aortic insufficiency were evaluated by means of complementary exams (electrocardiogram and echocardiogram), resulting in the diagnose of the ostium secundum type interatrial communication (ASD). The continuous daily use of Acetylsalicylic acid was prescribed and a periodic follow-up with geneticist, cardiologist, neurologist and hematologist were performed. In subsequent medical visits the patient presented somatic growth retardation, global hypotonia, apparent hypothyroidism, epicantho, sialorrhea, small hypoplastic lips, psychomotor retardation, fanned ears, ocular hypertelorism, small feet, and lack of alignment of the toes. The physical activity was recommended once a week, and physiotherapy treatment, when she was 2 years old. The relatives described that the sleep and the rest are regular. For dental treatment, interventions were performed only after prophylactic antibiotic prescription. During the first dental treatment, at age 3, the patient had generalized active white patch caries lesions and upper incisors mobility due to dental traumatism. A subsequent fall resulted in trauma with avulsion of the permanent maxillary central incisor. The patient has been followed up the specialized dental service, however presenting a high frequency of cavity and difficulty to perform adequate oral hygiene, leading to biofilm accumulation and gingivitis. At age of 12 years old, another trauma occurred resulting in enamel fracture and mobility of the dental element left central permanent incisor. At the age 15 years old, the cardiologist recommended only local anesthesia due to the high risk of respiratory complications, cardiac arrest and neurological sequelae. For this reason, all dental treatment was performed at the outpatient level. The patient is currently 23 years old and presents an open bite and micrognathia. She has been collaborating with the dental care and has been submitted to

periodontal, restorative and preventive treatments, followed by periodical dental monitoring every 4 months.

Case 2 (Figure 2): white female, second daughter of the family nucleus, with non-consanguineous parents, was born by caesarean, delivery at 36 weeks due to reduced amniotic fluid and umbilical cord circular, birth weight 2.600 g and height 47 cm. She was diagnosed with CdCs, at 1-year-old. Presented episodes of pneumonia at 3 months and at 1 year and 8 months old. Puberty was early (menarche at 9 years old) and during a nursing examination reported regular rest and sleep. Hydrotherapy, equine therapy and physiotherapy were performed once a week during the childhood period. Although she presents good understanding, she has difficulty speaking and swallowing. The presence of strabismus, severe scoliosis and difficulty in walking were observed during its growth. Due to the congenital heart disease, ostium secundum interarterial communication, the use of prophylactic antibiotic therapy was indicated through the dental treatment. At the first dental clinical examination, when she was 2 years and 10 months old, it was observed diastemas on maxillar and mandibular deciduous anterior teeth, the presence of enamel hypoplasia and cavities. The treatment was performed at outpatient clinic. When she was 10 years old, after orthodontic evaluation and due to the non-cooperative behavior and dental demand observed at the clinical examination, the patient underwent general anesthesia for multiple extraction of impacted tooth. Micrognathia, mouth breathing and gingivitis, due to inadequate oral hygiene were also observed. At the age of 19, she was submitted to periodontal, restorative and preventive treatments in an outpatient clinic, where she has been followed up periodically for oral health maintenance every 4 months.

Case 3 (Figure 3): white female, first daughter of the family nucleus, non-consanguineous parents, born at 24 weeks due to premature, presented laryngomalacia

with no need for surgical correction, weight 1.720 g and height 42 cm, hospitalized for 1 month and 29 days after birth. At 5 years old she was submitted to a bilateral inguinal hernia surgery. The patient was diagnosed with CdCs and mosaicism at age 7. She has been followed up with a geneticist since childhood, performing equine and occupational therapy. She had chicken pox at the age of 8 and had used Risperidone near her period (2mg at night), mineral oil twice a week due to constipation, and also the use of nebulizer to sleep. Physical examination showed scoliosis, kyphosis, physiological lordosis, acuity auditory without alterations, confirmed sinus arrhythmia with electrocardiogram and delayed neuropsychomotor development. She has insufficient chewing and difficulty to verbalize. During the first dental care, made when she was almost 7 years old, was observed anterior open bite and micrognathia, cavities and face edema in the mandibular region near the first deciduous molar. The treatment was performed at the Dental Care Specialized Center for patients with disabilities, where the patient is followed up until now. At age 11 years old, she fell of her own height and had a tooth trauma with avulsion of the element 11 which was re-implanted immediately. When she was 13 years old, she suffered another fall and had a dental trauma fracturing the element 21. The patient was treated at the emergency and the semi-rigid splinting of the fractured element was made. After one month, the Rx showed oblique external root reabsorption and apical and cervical fistulas in the elements 11 and 21, followed by the indication of their extraction. Patient had collaborative during dental care, determining the treatment performed under general anesthesia. At the age of 16 years old, a new surgical procedure was performed for the extraction of the permanent second and third mandibular molar. As the posterior mandibula was fragilized, was installed a 4-hole titanium plate and a monocortical screws to stabilize the mandibular cortical cortex to prevent fracture. Currently being more collaborative, she allowed to be submitted to

preventive treatments in an outpatient clinic, where she has been followed up periodically to maintain oral health every 4 months. The patient need received antibiotic prophylaxis before the procedures.

Insert Table 1

DISCUSSION

This study provides information on a case series of three patients with CdCs. The medical and dental records were evaluated after authorization of patient's parents through the Informed Consent Form. The three individuals with CdCs were female patients, that, is most frequent, in a 2:1 ratio.^{2,6-9}

The general characteristics described in the literature, the short stature and weight at birth, spaced eyes with diminished visual acuity, difficulty of communication, besides respiratory, and cardiovascular problems were observed in the mentioned cases of this study. The characteristic cry of the syndrome was observed only in one patient of the three who was born with laryngomalacia and was not reported by the other mothers.

The three cases presented, due to the difficulty of oral hygiene, had high prevalence of cavities, and gingival inflammation, which can be explained by the prevalence of *Tanerella forsythia* bacterium.^{21,27} Regular dental follow-up is required because these patients are more susceptible to periodontal diseases.^{21,27}

Individuals with CdCs diagnosis have motor difficulties, consequently, they are more susceptible of falling. Although there are no updated guidelines for the treatment of patients at all ages, new rehabilitation procedures and numerous tests to assess severity, type of physical and developmental disability of affected individuals has been described.²⁸ In the three cases reported in this study, as can be observed in the three cases reported in which the patients suffered dental traumatism, which requires greater attention of their caregivers.

In general, there is some difficulty in dental care for patients with CdCs due to various medical and developmental problems relevant to conducting treatment. Often, in specific cases, dental treatment is required under general anesthesia.²⁸ Medical history contains important information that contributes to the planning of dental actions. In this study, cardiac alterations were observed in the three patients, requiring the use of antibiotics before dental treatment.

Knowledge about the characteristics of the syndrome, medical problems, as well as its association with dentistry and other areas of health, allow greater security in the execution of treatment and offer peace of mind to the patient and guardians. These factors contribute to improve the quality of care provided to individuals with CdCs.

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Table 1 – Characteristics of cri-du-chat people described in the literature and those observed in the case reports.

Characteristics found in literature in people with cri-du-chat syndrome	Case 1	Case 2	Case 3
General features			
Low birth weight	+	+	+
Short stature at birth	+	+	+
Characteristic cry at birth	-	-	+

Round face	+	+	+
Short neck	+	+	+
Spaced eyes	+	+	+
Epicanthus	+	+	+
Low set ears	+	+	+
Enlarged nasal bridge	+	+	+
Facial asymmetry	-	-	-
Simian crease	+	+	+
Muscle hypotonia	+	+	+
Motor difficulty	+	+	+
Difficulty of communication	+	+	+
Congenitic cardiopatics	+	+	+
Breathing problems	+	+	+
Dental characteristics			
Temporomandibular disorders	not	reported	
Bruxism	not	reported	
Dental erosions	not	reported	
Periodontitis	+	+	+
Gingivitis	+	+	+
Enamel hypoplasia	not	reported	
Dental transposition	not	reported	
Supernumerary teeth	not	reported	
Mandibular rerognatism	+	+	+
Macroglossia	+	+	+
Open bite	+	+	+

Figures :



Case 1



Case 2



Case 3

ETHICS STATEMENT

This study was conducted with the consent of the School of Dentistry of University Federal of Uberlandia. The Informed Consent Form and photo authorization were signed by parents of participants diagnosed with Cri-du-chat syndrome who agreed to participate in the study. Patient information is kept secret and used for this case report only.

STATEMENT OF CLINICAL RELEVANCE

There are few studies reporting the dental treatment of individuals with Cri-du-chat syndrome. This study can contribute to the diagnosis, identifying new cases from the observed characteristics and assisting in clinical management during dental care of patients with CdCS.