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IASMINY SOARES DE OLIVEIRA

IMPLICAÇÕES DOS CUIDADOS ODONTOLÓGICOS EM ONCOPEDIATRIA

Juiz de Fora

2019

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Dissertação apresentada ao Programa de Pós-graduação em Odontologia, da Faculdade de Odontologia da Universidade Federal de Juiz de Fora, como requisito parcial para obtenção do título de Mestre em Clínica Odontológica. Área de concentração em Patologia.

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SUMÁRIO

1 INTRODUÇÃO	5
2 PROPOSIÇÃO	7
3 MATERIAL E MÉTODOS	8
3.1 Delineamento do estudo	8
3.2 Aspectos éticos	8
3.3 População do estudo	9
3.3.1 Critérios de inclusão	9
3.3.2 Critérios de exclusão	9
3.4 Coleta de dados	10
3.4.1 Avaliação odontológica	12
3.4.2 Tratamento odontológico	12
3.5 Riscos	14
3.6 Análise estatística	15
4 ARTIGOS	16
5 CONSIDERAÇÕES FINAIS	48

1 INTRODUÇÃO

Pacientes pediátricos acometidos pelo câncer necessitam de cuidados multiprofissionais específicos (ZIMMERMANN, 2015). Neste contexto, a odontologia baseada na promoção de saúde tem papel fundamental no restabelecimento da saúde geral e, conseqüentemente, na qualidade de vida dessas crianças (MARANGONI-LOPES, 2016).

A proliferação desordenada de determinado grupo de células anormais e com capacidade de disseminação a distância, é característica do câncer infanto-juvenil, constituído por um grupo de várias doenças. Diferentemente do câncer do adulto, o câncer infanto-juvenil geralmente afeta as células do sistema sanguíneo e os tecidos de sustentação. Os tumores mais frequentes na infância e na adolescência são as leucemias, os tumores do sistema nervoso central e os linfomas, neuroblastoma, tumor de Wilms, retinoblastoma, tumores de células germinativas, osteossarcoma e sarcomas de partes moles. No Brasil, o câncer representa a primeira causa de morte por doença entre crianças e adolescentes de 1 a 19 anos, com 2704 mortes em 2015. As estatísticas revelam uma estimativa de surgimento, de 12.500 novos casos por ano (INCA, 2018). Mais de 80 % das crianças que são tratadas com abordagem multidisciplinar em países de alta renda ficarão curadas (GALINDO, 2015).

Os recentes avanços no uso dos medicamentos quimioterápicos e o emprego de esquemas combinados de drogas permitiram elevar a sobrevivência de crianças com neoplasias além de fatores como diagnósticos mais precoces e maior sucesso nas intervenções terapêuticas (radioterapia, quimioterapia, cirurgia, transplante de medula óssea) (BARBOSA, 2010; PERES, 2013). A função principal das terapias antineoplásicas é a destruição das células malignas, preferencialmente quando estão na fase de mitose. Entretanto, células da mucosa bucal e gastrointestinal, medula e pele também apresentam grau de atividade mitótica semelhante e são especialmente propensas a manifestar os efeitos secundários dos agentes antineoplásicos (CURRA, 2018; KWON, 2016). Portanto, durante o tratamento antineoplásico, as alterações na cavidade bucal são frequentes (SONIS, 1996; VELTEN, 2017).

Os principais efeitos colaterais do tratamento antineoplásico são a mucosite, a xerostomia temporária e a imunodepressão, possibilitando infecções dentárias ou oportunistas (SASADA, 2015). Observam-se também hemorragias gengivais decorrentes da plaquetopenia e distúrbios na formação dos germes dentários quando a quimioterapia é administrada na fase de odontogênese (BARBOSA, 2010). Ainda, alterações no paladar, disfagia, trismo, alterações no ligamento periodontal, alterações microvasculares, cárie de radiação e osteoradionecrose (PERES, 2013) dor, disgeusia e desnutrição (VELTEN, 2017; LOPES, 2012). Dentre as sequelas bucais tardias ocasionadas pela terapia antineoplásica destacam-se a agenesia dentária, a erupção dentária tardia, a malformação radicular, a hipoplasia de esmalte, a microdontia e distúrbios no crescimento facial (PERES, 2013).

Algumas das complicações descritas acima podem causar dores oral de intensidades diversas, chegando a ser intoleráveis, resultando em problemas na mastigação, deglutição e fala. Os danos causados podem demandar medidas agressivas, como a alimentação parenteral, a colocação de tubos de alimentação gástrica e a interrupção dos tratamentos oncológicos (ROLDAN, 2018).

Estas complicações agudas e crônicas da cavidade bucal já estão bem estabelecidas na literatura científica, porém, algumas condições bucais, muitas vezes são insidiosas e comumente negligenciadas pelos pacientes e pela equipe de saúde (SALAMONE, 2013). Assim, um protocolo clínico de avaliação odontológica pode contribuir para maior eficácia no tratamento oncológico, evitando interrupções causadas por efeitos colaterais bucais, além de possibilitar o diagnóstico de afecções bucais insidiosas.

Desta forma, a participação do Cirurgião-Dentista na equipe multiprofissional de atendimento oncopediátrico, pode favorecer a uma maior eficácia no tratamento clínico antineoplásico e melhor abordagem clínica odontológica. Adicionalmente, contribui na promoção da saúde bucal, redução dos custos junto ao sistema de saúde, melhora do bem-estar geral e qualidade de vida do paciente.

2 PROPOSIÇÃO

O objetivo deste trabalho é avaliar, diagnosticar e intervir nas possíveis complicações odontológicas durante a terapia para o câncer no paciente pediátrico através de um protocolo de avaliação sistemática. Além disso, pretende-se estabelecer um protocolo de cuidados odontológicos preventivos e terapêuticos, conscientizar e envolver a equipe multiprofissional hospitalar acerca da saúde bucal e suas repercussões no tratamento oncopediátrico.

3. MATERIAL E MÉTODOS

3.1 Delineamento do estudo

Este é um estudo experimental, longitudinal prospectivo, no qual objetivou-se, através da escuta atenta e cuidadosa dos pacientes oncopediátricos, conhecer e tratar as queixas odontológicas e diagnosticar possíveis complicações bucais durante esse período de tratamento. A equipe multiprofissional envolvida era composta por psicólogos, médicos, enfermeiros, técnicos em enfermagem, nutricionistas, fisioterapeutas e assistentes sociais capacitados para avaliar e tratar esse perfil de pacientes.

Os dados foram coletados através de questionários e exame clínico por um cirurgião-dentista que compõe a equipe da pesquisa, previamente treinado, para abordar os pacientes dentro do contexto biopsicossocial. Toda a abordagem na avaliação do paciente atentou para complicações bucais comumente encontradas e, aquelas subjugadas pelos pacientes ou subdiagnosticadas.

3.2 Aspectos éticos

A pesquisa está de acordo com as normas e diretrizes da Resolução 196/96 do Conselho Nacional de Saúde (CNS), que regulamenta a pesquisa que envolve seres humanos, e foi avaliada pelo Comitê de Ética em Pesquisa da Universidade Federal de Juiz de Fora (UFJF). A Instituição hospitalar autorizou a realização desse estudo em suas dependências.

Os pacientes receberam informações verbais e escritas sobre a pesquisa, foram convidados a participar da mesma e assinaram o Termo de Assentimento Livre e Esclarecido (TALE) quando capazes de assinar e, os responsáveis pelos pacientes assinaram o Termo de Consentimento Livre e Esclarecido (TCLE).

3.3 População do estudo

Amostra: 52 pacientes, com idade de 3 a 18 anos, em regime de internação na Pediatria de um hospital de referência para casos de alta complexidade, que realiza assistência municipal e regional, para tratamento oncológico na cidade de Juiz de Fora, Minas Gerais (MG), Brasil.

3.3.1 Critérios de inclusão

Pacientes de 03 a 18 anos diagnosticados com neoplasia e em tratamento oncológico.

3.3.2. Critérios de exclusão

Pacientes com distúrbios neurológicos graves que dificultem a participação nas abordagens preconizadas, com déficits cognitivos e aqueles cuja gravidade da doença contraindique os procedimentos odontológicos de acordo com a avaliação do médico responsável.

3.4 Coleta e obtenção dos dados

- A. Obtenção da história médica através do prontuário médico, para coleta de dados relativos a condição sistêmica e de tratamento.
- B. Ficha clínica para a obtenção de dados demográficos e queixas odontológicas do paciente. A ficha também avalia o sistema estomatognático, a partir dos dados de história odontológica e exame físico orofacial sistemático (Siqueira, 2001).
- C. Índice de dentes cariados, perdidos e obturados (CPO-D) (WHO, 1997).
- D. Avaliação periodontal: índice gengival (IG) (SILNESS e LÖE, 1964), índice de placa (IP) (AINAMO e BAY, 1975), índice de sangramento (IS) à sondagem (O'LEARY, 1967) avalia, através destes parâmetros clínicos o grau de comprometimento periodontal e atividade de doença. O IG registra alterações da forma e contorno dos tecidos periodontais, onde IG 0 corresponde a gengiva normal; IG 1, gengiva com moderada inflamação, discreta mudança de cor, discreto edema, sem sangramento a sondagem; IG 2 significa gengiva com moderada inflamação, vermelhidão, edema e com sangramento a sondagem e IG 3 equivale a gengiva com inflamação acentuada, vermelhidão, edema, ulcerações e sangramento espontâneo. O IP é utilizado para avaliar a condição de higiene bucal, calculado pelo número de superfícies dentárias coradas por pastilhas evidenciadoras de placa, multiplicado por 100 e dividido pelo número total de superfícies. A inflamação gengival é avaliada pelo índice de sangramento gengival (IS), determinada pelo número de superfícies sangrantes após sondagem com sonda periodontal, multiplicado por 100 e dividido pelo número total de superfícies.
- E. Avaliação da mobilidade e função mandibular através do índice de Helkimo (HELKIMO, 1974). Esse índice é subdividido em 3 índices: o anamnético, onde os pacientes podem apresentar sintomas leves de disfunção, sintomas graves de disfunção ou não apresentarem nenhum sintoma de disfunção; o índice de disfunção clínica, com pontuações iguais a 0 (sem sintomas clínicos), de 1 a 4 (disfunção leve), de 5 a 9 (disfunção moderada) e de 10 a 25 (disfunção grave). O cálculo é feito através da soma das pontuações recebidas pelos sintomas:

comprometimento do índice de mobilidade mandibular, comprometimento funcional da ATM, dor muscular, dor em ATM, dor em movimentos mandibulares. O último índice avaliado é o de mobilidade mandibular, com pontuações iguais a 0 (mobilidade mandibular normal), de 1 a 4 (mobilidade ligeiramente comprometida) e de 5 a 20 (mobilidade gravemente comprometida). Os movimentos avaliados são a abertura bucal máxima, lateralidades direita e esquerda e protrusão.

- F. Dosagem do fluxo salivar, com e sem estimulação salivar prévia (MIGUEL, 2006). O paciente ficará por um minuto com dois roletes de algodão na região sublingual. O estímulo é feito com ácido cítrico a 2%. O fluxo é estimado comparando-se o peso dos tubos antes e após a coleta em ml/min.
- a) Questionário do perfil de impacto de saúde bucal (Oral Health Impact Profile – OHIP), criado por Slade e Spencer (SLADE E SPENCER, 1994) amplamente utilizado em diferentes culturas e perfis sociodemográficos. É composto de 14 questões que abrangem: limitação funcional, dor física, desconforto psicológico, incapacidade física, incapacidade psicológica, incapacidade social e deficiência, de acordo com os pesos para as respostas. A escala de respostas (0 = nunca, 1 = dificilmente, 2 = às vezes, 3 = quase sempre, 4 = sempre) é multiplicada pelo peso correspondente, sendo assim calculado o impacto de cada dimensão. O impacto é considerado fraco entre 0 e 9, médio entre 10 e 18 e forte entre 19 e 28.
- G. Questionário sócio econômico (ABEP, 2014). O Critério Brasil é o padrão estabelecido pela Associação Brasileira de Empresas de Pesquisa (Abep) e adotado para classificar os estratos sociais. Na formulação do critério, foram consideradas 35 variáveis. Entre as variáveis estão a posse de bens duráveis (carro, TV, etc), condições de moradia (como número de banheiros), nível de escolaridade do chefe da casa e oferta de serviços públicos (água, luz, etc). A esses quesitos são atribuídos pontos para se concluir a qual classe a família pertence, sendo a classe mais alta nomeada A, seguida de B1, B2, C1, C2 e por último D-E.

3.4.1 Avaliação odontológica

Realizamos a avaliação em dois momentos diferentes:

1ª. Avaliação: Avaliação sistemática da saúde bucal, índice de dentes cariados, perdidos e obturados, avaliação periodontal, avaliação da mobilidade e função mandibular, dosagem do fluxo salivar, questionário socioeconômico, avaliação da qualidade de vida relacionada à saúde bucal no dia da internação. Esta avaliação foi realizada durante a internação dos pacientes para tratamento antineoplásico através de quimioterapia. Alguns pacientes encontravam-se em tratamento e outros estavam em fase inicial de quimioterapia. Assim foram abordados em diferentes ciclos.

2ª. Avaliação: Avaliação sistemática da saúde bucal, índice de dentes cariados, perdidos e obturados, avaliação periodontal, avaliação da mobilidade e função mandibular, dosagem do fluxo salivar, avaliação da qualidade de vida relacionada à saúde bucal. Esta reavaliação ocorreu entre 14 a 20 dias após a instituição dos cuidados odontológicos.

No intervalo entre as avaliações os pacientes foram acompanhados e estimulados a manter os cuidados odontológicos instituídos.

3.4.2 Tratamento odontológico

De acordo com o diagnóstico odontológico, foi definido o plano de tratamento individualizado para cada paciente. Os procedimentos odontológicos são amplamente preconizados na literatura científica como os mais indicados para cada situação a ser

abordada, sofrendo apenas adaptações para a situação de atendimento em leito. Este plano terapêutico foi determinado juntamente com equipe multiprofissional:

- A. **Escovação dentária e/ou higienização:** Limpeza da cavidade bucal da região posterior em direção à região anterior, buscando-se evitar a translocação bacteriana da cavidade bucal para a orofaringe (quando possível) e da língua (quando possível), pelo menos 3 x ao dia, principalmente após refeições principais (a escova de dentes deve ter cerdas macias, e/ou gaze macia). Além disso, indicamos o uso de gluconato de clorexidina a 0,12% sem álcool (solução aquosa) 2x ao dia, para descontaminação das superfícies bucais em caso de impossibilidade de higiene dental convencional e/ou em presença de sinais clínicos de inflamação.
- B. **Paciente com ressecamento Peri oral:** hidratação com acetato de racealfatocoferol (Vita E 400mg).
- C. **Pacientes com xerostomia:** Chás de camomila: ingerir morno, sem açúcar, durante todo o dia, sempre que tiver sede. Reter alguns segundos na boca antes de engolir; Hidratação com acetato de racealfatocoferol (Vita E 400mg): aplicação intraoral; Flúor tópico: para prevenção de cáries. Nos casos em que o paciente não puder realizar bochechos ou deglutição, umedecer a cavidade bucal várias vezes ao dia com o chá de camomila sem adição de açúcar.
- D. **Pacientes com infecções herpéticas:** tratamento tópico com Aciclovir 4/4 horas, durante 7 dias, omissão da dose noturna. Podendo ser recomendado o uso sistêmico: Aciclovir (30 mg/kg/dia, divididas em três tomadas); e aplicação de laser de baixa potência (exceto na fase bolhosa da lesão herpética).
- E. **Pacientes com infecções fúngicas:** antifúngicos tópicos: bochechos (3 a 4 vezes ao dia) com 25 ml da solução de Nistatina durante 15 dias, sendo necessária a permanência do tratamento por mais 7 dias após o desaparecimento das lesões.
- F. **Pacientes com infecção odontogênica aguda:** definição diagnóstica e aspectos clínicos gerais do doente; caracterização da fase do processo infeccioso: inicial, intermediário ou final; definição da antibioticoterapia; drenagem: de acordo com as possibilidades do doente e do local (via canal, via sulco gengival ou cirúrgica); analgésicos e antipiréticos.

- G. **Pacientes com disfunção temporomandibular:** aplicação de medidas físicas locais como aplicação de calor úmido, laserterapia e confecção de aparato para melhora da relação oclusal.
- H. **Pacientes com sensibilidade dentinária:** tratamento com laserterapia, aplicação tópica de flúor e de cimentos a base de hidróxido de cálcio para obliteração dos túbulos dentinários expostos. Além disto, fornecemos pasta dental para dentes sensíveis desenvolvidos pela a Faculdade de Farmácia, laboratório NUPIC e previamente testados (MOCKDECI, 2015).
- I. **Pacientes com mucosite oral:** aplicação de laser de baixa potência (660nm). Prevenção realizada através de aplicação em varredura (2J), em dias alternados, a partir do primeiro dia do tratamento antineoplásico (radio e/ou quimioterapia). Após diagnosticar a complicação bucal, tratamento através de aplicação pontual sobre a lesão (4J), em dias alternados. Quando necessário, aplicação de anestésico tópico benzocaína 20% (Benzotop®), previamente à aplicação do laser. Chás de camomila (antisséptico e anti-inflamatório): ingerir gelado, preferencialmente sem açúcar, 2x/dia, 200ml ou quantidade que conseguir ingerir. Segurar alguns segundos na boca antes de engolir. Iniciar preventivamente, a partir do primeiro dia de tratamento antineoplásico.
- J. **Pacientes com disfagia:** Chás de camomila, seguindo as instruções acima. Aplicar anestésico tópico benzocaína 20% na mucosa jugal. Fazer bochecho e gargarejo com água e cuspir. Aplicar previamente às refeições com objetivo de maior conforto e analgesia para o paciente se alimentar.

3.5 Riscos

Os riscos envolvidos consistem em: bacteremia transitória, dor e edema em caso de drenagem de infecção aguda e sangramento após os procedimentos. Aqueles pacientes com risco de complicações associadas a bacteremia serão medicados com profilaxia antibiótica (American Heart Association, 2007). Os pacientes que apresentarem dor e /ou edema serão medicados com analgésicos e/ou anti-inflamatórios a serem definidos juntamente com o médico responsável, além de

indicarmos cuidados específicos como aplicação de medidas físicas locais e uso de anestésicos tópicos. Em caso de sangramento serão realizadas manobras de hemostasia local e em caso de pacientes anticoagulados discutiremos, com o médico responsável, a adequação da dose da medicação, até completa hemostasia.

3.6 Análise estatística

Os dados quantitativos foram avaliados por análises descritivas (exemplo: frequência) e se conveniente inferência (exemplo: análise de correspondência). Os dados quantitativos serão avaliados por meio de análises descritivas (mediana, média, desvio-padrão...) e inferência (modelos lineares generalizados, estatísticas não paramétricas...). Métodos paramétricos e/ou não paramétricos serão realizados para ajustar modelos aos dados, e compreender as possíveis relações e correlações entre as variáveis observadas, permitindo assim, a comparação entre as queixas odontológicas e complicações bucais encontradas nos momentos de avaliação considerados. Em todos os testes estatísticos o nível de significância será de 5% ($p < 0,05$).

ARTIGOS**Global oral evaluation in oncopediatric patients: a complex and searching approach***Iasminy Soares de Oliveira, Tereza Cristina Esteves, Maria das Graças**Afonso Miranda Chaves, Gracieli Prado Elias, José Jonas Pereira, Gisele Maria**Campos Fabri***Iasminy Soares de Oliveira** Master Student

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ABSTRACT

OBJECTIVE: to assess dental complications that were subjugated or neglected during anti-neoplastic therapy. **MATERIAL AND METHODS:** Children patients were separated in two groups: Oncological Group consisted of patients undergoing oncological treatment and Healthy Group comprised of patients referral for dental assistance at the Dentistry School. Were assessed demographic data, clinical record to evaluate the stomatognathic system(Siqueira,2001); index of decayed and missing teeth(WHO,1997); Periodontal evaluation: dental plaque index (PI)(AINAMOeBAY,1975), gingival bleeding index (GBI)(O'LEARY,1967) and gingival index (GI)(SILNESSeLÖE,1964); evaluation of mobility and mandibular function (HELKIMO,1974) and questionnaire Oral Health Impact Profile(OHIP-14)(SLADEandSPENCER,1994). **RESULTS:** demographic data showed that two groups are similar regarding age and gender. The most prevalent stratum was D-E in Oncological Group and C1 in healthy group. Groups are similar about orofacial pain, and parafunctional habits ($p=0.387$, $p=0.742$, respectively). CPO-D index (WHO,1997) revealed median values of 2.0 in the oncological group and 3.65 in the healthy group($p=0.41$). Periodontal evaluation: PI in oncological group 14.5 and healthy group 19.7($p=0.09$), GBI 0.4 in oncological group and 1.9 in healthy group($p=0.002$), twenty-eight patients were classified with GO in oncological group and fifteen in healthy group($p=0.28$). The Helkimo Index(HELKIMO,1974) revealed that healthy group presented mandibular mobility more compromised in relation to the oncological group($p=0.007$) and about clinical dysfunction there was no significant difference between the groups($p=0.074$). OHIP-14 revealed oncological group presented mean of 0.9871 and healthy group mean of 0.9380($p=0.874$), about the dimensions, oncological group suffered with functional limitation($p=0.029$). **CONCLUSION:**

Children under oncological therapy presented orofacial pain, periodontal alterations, dysgeusia and aphasia. The specific dental approach could contribute to for an integral treatment of the child in cancer therapy.

Key words: pediatrics, dentistry, Drug-related side effects and adverse reactions, quality of life, cancer.

INTRODUCTION

Pediatric patients suffering from cancer require specific multiprofessional care [1]. In this context, dentistry based on health promotion plays a fundamental role in reestablishment of general health and, consequently, in the quality of life of these children [2].

The function of antineoplastic therapies is the destruction of malignant cells, preferably, when in the mitosis phase. However, buccal and gastrointestinal mucosa cells, marrow and skin also present a degree of mitotic activity similar and are especially prone to manifest the side effects of antineoplastic agents [3,4]. Therefore, during the antineoplastic treatment, alterations in the buccal cavity are frequent [5,6].

The main side effects of antineoplastic treatment are mucositis, temporary xerostomia, immunodepression and opportunistic infections [7]. Gingival bleeding due to thrombocytopenia and disorders in the formation of dental germs is also observed when chemotherapy is administered in the odontogenesis phase [8]. In addition, alterations in the palate, dysphagia, trismus, alterations in the periodontal ligament,

microvascular changes, caries of radiation and osteoradionecrosis [9,10,11] pain, dysgeusia and malnutrition [6,12].

These acute and chronic complications of the oral cavity are already well established in the scientific literature, however, some oral conditions are often insidious and commonly neglected by patients and multidisciplinary health team [13]. Thus, a clinical watchful protocol for dental evaluation may contribute to a greater efficacy in the treatment, besides making it possible to diagnose insidious oral conditions.

Therefore, the aim of this study was to search for dental complications that were subjugated or neglected by patients during anti-neoplastic therapy, through a systematic evaluation protocol applied to oncopediatric patients.

PATIENTS AND METHODS

This study included patients who were submitted to questionnaires and clinical examination by an expert dentist. These patients were separated in two groups: Oncological Group consisted of patients undergoing oncological treatment at a referral cancer hospital therapy in Juiz de Fora, Minas Gerais, Brazil; and Healthy Group comprised of patients referral for dental assistance at the Pediatric Dentistry of the Dentistry School of Federal University of Juiz de Fora, Brazil. The local ethical committee approved this study, and an informed consent was obtained.

The specific approach in the evaluation of the patient looked for commonly encountered oral complications and those that were subjugated by patients or underdiagnosed. The inclusion criteria of oncological group were consecutives patients

aged 3 to 18 years old diagnosed with neoplasia and oncological treatment and exclusion criteria was patients with severe neurological disorders that make it difficult to participate in the recommended approaches, with cognitive deficits and those whose severity of the disease contraindicate dental procedures according to the evaluation of the physician in charge. The healthy group has as inclusion criteria patients of the similar age and gender of oncologic group, healthy and being treated for routine dental treatment at the Pediatric Dentistry Clinic of the Dentistry School of Federal University of Juiz de Fora, Brazil. The exclusion criteria to healthy group were patients with an age not applicable to the sample or with knowledge difficulties to participate in this approach.

This research was developed through the obtaining medical history contained in medical records, for the collection of data on the systemic condition and treatment. These record assessed demographic data, complaints, evaluation of stomatognathic system, based on data from dental history and physical orofacial exam [14]. Socioeconomic questionnaire [15] used to classify the social stratum. In the formulation of the criterion, 35 variables were considered. Among the variables are the possession of durable goods (car, TV, etc.), living conditions (such as number of bathrooms), level of education of the head of household and provision of public services (water, electricity, etc.). These points are assigned points to conclude which class the family belongs to, the highest stratum being A, followed by B1, B2, C1, C2 and finally D-E.

This approach was performed for both groups. Furthermore, all indices and parameters below were applied: Index of decayed, missing and filled teeth (CPO-D) [16], for periodontal assessment was applied these indexes: dental plaque index (PI) [17], gingival bleeding index (GBI) [18] and gingival index (GI) [19]. Dental PI was used to evaluate the level of oral hygiene, which was calculated according to the number of

dental surfaces stained by a dental plaque disclosing agent, multiplied by 100 and divided by the total number of surfaces [17]. GBI was used to evaluate gingival inflammation and was expressed as the number of bleeding surfaces after probing with a periodontal probe, which was then multiplied by 100 and divided by the total number of surfaces [18]. GI registers changes in the shape and contour of the periodontal tissues, where GI 0 corresponds to normal and healthy gingiva; GI 1, gingiva with moderate inflammation, discrete color change and edema, no bleeding probing; GI 2 means gingiva with moderate inflammation, redness, edema and bleeding probing and GI 3 is equivalent to gingiva with marked inflammation, redness, edema, ulcerations and spontaneous bleeding.

The mobility and mandibular function was assessed through the Helkimo index [20]. The index of clinical dysfunction has the following scores: scores of 0 (without clinical symptoms), 1 (mild dysfunction), 2 (moderate dysfunction) and 3 (severe dysfunction). The calculation is done through the sum of the scores received by the symptoms: mandibular mobility index impairment, functional impairment of temporomandibular joint (TMJ), muscular pain, TMJ pain, pain in mandibular movements. The mandibular mobility index (MMI) evaluated is mandibular mobility, with scores equal to 0 (normal mandibular mobility), 1 (slightly impaired mobility) and 2 (severely impaired mobility). The movements evaluated are maximum mouth opening, right and left lateralities and protrusion.

Finally, for measure the dysfunction, discomfort and disability attributed to the oral condition was developed Oral Health Impact Profile (OHIP-14) [21]. This questionnaire is composed of 14 questions that cover: functional limitation, physical pain, psychological discomfort, physical incapacity, psychological incapacity, social incapacity and disability, according to the weights for the answers. The scale of

responses (0 = never, 1 = hardly, 2 = sometimes, 3 = almost always, 4 = always) is multiplied by the corresponding weight, thus the impact of each dimension is calculated. The impact is considered weak between 0 and 9, medium between 10 and 18 and strong between 19 and 28.

STATISTICAL ANALYSIS

Results are presented as median (range) for variables. For categorical variables, the results are presented as number (%). The medians were compared by the Mann-Whitney U test to evaluate the differences between oncological and healthy patients or Wilcoxon to evaluate both groups with respect to the quality of life questionnaire. For categorical variables, the differences were assessed using Fisher's exact test. $P < 0.05$ was considered significant.

RESULTS

Fifty-two consecutive patients were evaluated. The oncological group consisted of 32 children with oncological disorders and healthy group enrolled 20 healthy children. All demographic data and stratum socioeconomic was described in Table 1.

About the oncological diseases, 8 (25%) patients had lymphoma, 5 (16%) osteosarcoma, 5 (16%) leukemia, 3 (9%) glioma and the remainder received other diagnoses (malignant neoplasm of round cells, pineal tumor, neuroendocrine carcinoma, neuroblastoma, soft-tissue sarcoma, cerebral astrocytoma, malignant Leydig tumor, Ewing sarcoma).

All patients were asked about feeling pain or discomfort on the face. In the whole sample, six patients reported suffering orofacial pain: five (16%) patients in the oncological group and 1 (5%) patient in the healthy group ($p=0.387$). In the oncological group: three patients with joint Temporomandibular Disorder (TMD), one patient had a trauma in the buccal cavity and one patient with oral mucositis. In the healthy group, the patient with orofacial pain had TMD. About orofacial pain, in oncological group the duration of orofacial pain was 34 (6-90) days, being the daily frequency most reported by the patients, followed by monthly and two to three times a week. Three of them said that the pain arises spontaneously and two said it provocatively. In relation to duration most said that lasts seconds, followed by hours and even days. The most reported type of pain was in the form of a stitch, followed by continuous pain and then shocks. The mean pain obtained by the Visual Analogic Scale (VAS) is 3.8 (2-7) (Figure 1). In healthy group the duration of orofacial pain was 15 days, of weekly frequency, appears when provoke, described as sensation of weight. Based on VAS pain was classified by patient as value 5. The treatment of pain involved laser therapy, local care and proservation.

About parafunctional habits, thirteen patients in the oncological group reported grinding teeth and six in the healthy group ($p = 0.742$). They reported ranger during day or night or both, with nocturnal period being the most prevalent ($p = 0.024$). In relation to the feeling of facial fatigue, four patients reported feeling in the oncological group and one patient in the healthy group ($p = 0.637$), of these four three on waking and one in talking, and in the healthy group only one patient on waking ($p = 1.00$).

Concerning dental conditions, CPO-D index [16] showed that patients presented similar index, the median values in the oncological group were 2.0 (0-11) and in the healthy group were 3.65 (0-12), $p=0.41$.

Periodontal assessment is detailed in tables 2 and 3. The comparative PI values exhibited similar mean of biofilm surfaces in the oncological group versus healthy group ($p=0.09$). Already, the GBI revealed lower values in the oncological group compared to healthy group ($p=0.002$). About the GI there were no significant differences between the groups ($p=0.28$).

The evaluation of the Helkimo Index [20] revealed that patients in the healthy group presented mandibular mobility more compromised in relation to the oncological group ($p=0.007$). In the oncological group 1(3%) patient was classified into MMIO patient, 23 (72%) patients into MMI1 and 8 (25%) patients into MMI2. While in the healthy group 0 (0%) patients were classified into MMIO, 7 (35%) patients into MMI1 and 13 (65%) patients into MMI2. About clinical dysfunction there was no significant difference between the groups ($p=0.074$). In the oncological group 1 (3%) patients had no clinical symptoms, 20 (63%) mild dysfunction, 11 (34%) moderate dysfunction and 0 (0%) severe dysfunction. Already in the healthy group, 0 (0%) patients had no clinical symptoms, 7 (35%) mild dysfunction, 12 (60%) moderate dysfunction and 1 (5%) severe dysfunction.

The evaluation of the impact of oral health on quality of life was performed through the OHIP-14 [21] between the oncological and healthy groups. All patients, from both groups, had values that classified them with a weak impact on quality of life. Oncological group presented mean of 0.9871 and healthy group presented mean of 0.9380. Statistically, the means between the groups were similar, therefore, without significant differences ($p=0.874$) of the quality of life related to the oral condition.

When analyzing the dimensions between oncological group and healthy group, it was observed that they behaved in a similar way, there was a statistically significant difference for functional limitation ($p = 0.029$) and there was no difference physical pain

($p = 0.313$), psychological discomfort = 0.842), physical disability ($p = 0.746$), psychological incapacity ($p = 0.426$), social disability ($p = 0.786$) and disability ($p = 1.00$).

DISCUSSION

This is an original study evaluating children undergoing cancer treatment, looking for changes that were neglected or subjugated by patients, caregivers and multiprofessional team.

The specific approach of this study encompasses relevant data to draw a profile of oral conditions, such as characterization of orofacial complaints of children undergoing oncological and healthy treatment. Besides, carefully evaluating socioeconomic rank, CPO-D index, the periodontal condition and the degree of impairment of mobility mandibular. Our aim was to obtain a profile that addressed in a complex and integral through a systematic evaluation protocol applied to oncopediatric patients. The whole approach is crucial for effective therapy of these children [22].

Is relevant to note that oncological group present higher prevalence of orofacial complaint than healthy group. The orofacial pain is more prevalent in patients with systemic comorbidities possible due high levels of psychological distress (anxiety, health-seeking behavior and markers of somatization) and abnormalities in motor function, autonomic balance and sleep [23,24]. As TMD, is essential to make an early diagnosis and treat these conditions so that this condition does not progress to a state of irreversible destruction of the intracapsular structures of the TMJ [25,26] and cause abnormal craniofacial growth, as well as TMJ-related pain or mandibular dysfunction in adulthood [25,27]. Oral mucositis is lesion often that cause oral pain in cancer

treatment. The symptoms associated with erythema and ulcerative lesions, may lead to significant functional compromise affecting oral functions including nutrition [28]. This can result in weight loss that may require use of a gastrostomy tube, besides, affects significantly the quality of life making it compromised by oral mucositis [29,30,31]. The treatment performed with low intensity laser therapy provides a non-invasive treatment, with biomodulator effect, producing an analgesic effect and an anti-inflammatory action [32].

Patients are similar about demographic data. Regarding socioeconomic stratum, the most prevalent in the oncological group were the two lowest classes among all social stratus, first class D-E followed by class C2, which contrasts with low CPO-D index values. On the other hand, the healthy patients presented a better social condition being classified in a social stratum median, class C1 followed by C2, presented higher CPO-D index values in relation to cancer patients, contradicting the scientific evidence demonstrates that normally low-income individuals have more caries lesions [33].

One of the differentials of this research was the complex periodontal evaluation, analyzing both oral hygiene conditions and levels of gingival inflammation, ranging from slight changes in color and volume to spontaneous gingival bleeding and ulceration. This detailed approach showed that oncological group had GBI lower than healthy group and that oral hygiene, appearance and gingival contour conditions were similar in both groups. Contradicting a study that performed a basic periodontal assessment and gingival bleeding index and did not find differences between healthy and oncological groups [34]. Many other studies in the literature report to have found no difference in gingivitis, and the oral hygiene levels of oncological and healthy groups [35,36].

Through the Helkimo Index [20] we were able to evaluate the mandibular mobility that showed patients in the healthy group presented mandibular mobility more compromised than the oncological group ($p = 0.007$). This finding can be considered as a result of a mixed dentition phase in a large part of the sample of this group ($n = 15.75\%$) [35,37]. In the oncological group, 23 (72%) patients had slightly reduced mandibular mobility, while in the healthy group, 13 (65%) had severely reduced mobility in the healthy group. Regarding clinical dysfunction, the values were similar between groups, so in this sample the oncological patients have no more TMD than healthy patients. In the oncologic group, most of the patients 20 (63%) had mild dysfunction and in the healthy group, the majority of patients 12 (60%) had moderate dysfunction. Epidemiological studies in children and adolescents in a transition period from decidua to permanent dentition, affirm that it corresponds to the growth and development of the craniofacial complex, cooperates for adaptive physiological changes in TMJ [37]. At this stage, most of the anomalies observed may be temporary, a reflection of joint growth and remodeling [25,38].

Through the assessment of OHIP-14, this study detected an interference of dysgeusia developed after and/or during chemotherapy, in the quality of life of the sample of cancer patients evaluated. This significant association between quality of life and dysgeusia suggests the importance and the highly relevant impact of this side effect. Another study showed that patients receiving anticancer treatments that developed dysgeusia are more likely to have a poorer quality of life than patients without dysgeusia [39]. Dysgeusia can affect the emotional area causing feelings of irritation, mood swings, sadness, disappointment as well as the social aspects and self-identity of patients, limiting the ability to work and activities typical of daily life such as eating, hanging out with friends, spend free time with family and go shopping [40].

Although dysgeusia is a problem involving gustatory sensation, it can affect other aspects of everyday life, for example, role and social function [41]. In addition, altered taste affects appetite, causing food aversion, reduced food intake, weight loss and nutritional deficiency, which in some cases leads to significant morbidity [42].

Functional limitation also appeared as a significant complication in our findings and refers to the difficulty of pronouncing a word. Aphasia can be caused by xerostomia, which is a subjective sensation of dry mouth, which can affect the quality of life [43,44]. The findings of this study show that the patient with aphasia complained of xerostomia, attributing the value 4 according to the VAS in relation to the discomfort caused, affecting their quality of life. It is known that xerostomia can be caused by decreased salivary flow and its consequences are increased caries, susceptibility to oral infections, sleep disturbances, and difficulties in chewing, swallowing and speaking (Jensen, 2010).

In conclusion, the protocol of the applied systematic evaluation obtained significant findings, such as orofacial pain, periodontal alterations, dysgeusia and aphasia, among others, that emphasize the importance of a complex approach of these patients seeking an integral treatment of the child in cancer therapy. The dental approach, in addition to contributing to oral health, can still help the effectiveness of cancer therapy, ensuring that oral complications are treated without harm to the antineoplastic treatment.

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TABLES

		Oncological Group	Healthy Group	p
Gender	F	12	10	p=0.375
	M	20	10	
Age Mean(min-max)		12.16 (4 – 18)	8.80 (6 – 15)	p=0.013
Stratum socioeconomic		D-E	C1	p=0.034

Table 1: Demographic and socioeconomic data of the patients of both groups, oncological and healthy. Legend: Min: minimum and Max: maximum.

	Oncological Group (min-max)	Healthy Group (min-max)	p
PI	14.5 (0 – 46.59)	19.7 (0 – 40.91)	p=0.09
GBI	0.4 (0 – 5.36)	1.9 (0 – 9.38)	p=0.002

Table 2: Mean of periodontal parameters of Oncological Group and Healthy Group. Legend: Min: minimum and Max: maximum

		Oncological Group	Healthy Group	p
GI	G0	28	15	p= 0.280
	G1	4	5	

Table 3: Classification of patients in each group regarding Gingival Index (GI)

FIGURE



Figure 1: Visual Analogic Scale during physical examination of muscle palpation

Segue abaixo um esboço do segundo artigo extraído da pesquisa intitulada **Implicações dos cuidados odontológicos em oncopediatria**, neste esboço contém a metodologia e resultados analisados até o presente momento.

IMPACT OF DENTAL INTERVENTION IN CHILDREN UNDERGO CANCER TREATMENT

PATIENTS AND METHODS

This study included patients on oncological treatment who underwent questionnaires and clinical examination by a specialist dentist. These patients were approached during the chemotherapy treatment in a reference hospital for cancer treatment in Juiz de Fora, Minas Gerais, Brazil. The local ethics committee approved this study, and informed consent was obtained.

The specific approach in the assessment of the patient pretends to evaluate the impact, through recommended indexes in the scientific literature, of the dental intervention during the antineoplastic treatment. The inclusion criteria of the study group were consecutive patients aged 3 to 18 years with diagnosis of neoplasia and cancer treatment. The exclusion criteria were: patients with severe neurological disorders that impede participation in the recommended approaches, with cognitive deficits and those whose severity of disease contraindicated dental procedures according to the assessment of the doctor in charge.

This research included assessment of data about systemic condition and treatment contained in medical records. Furthermore, were obtained data of

demographic data, orofacial complaints, evaluation of stomatognathic system, based on data from dental history and physical orofacial exam (Siqueira, 2001). Socioeconomic questionnaire (ABEP, 2015) was used to classify the social strata. In the formulation of the criterion, 35 variables were considered. Among the variables are the possession of durable goods (car, TV, etc.), living conditions (such as number of bathrooms), level of education of the head of household and provision of public services (water, electricity, etc.). These points are assigned points to conclude which class the family belongs to, the highest rank being A, followed by B1, B2, C1, C2 and finally D-E.

These indexes below was performed in two moments: initial evaluation and reevaluation after 15 days. Furthermore, all indices and parameters below were applied: periodontal assessment: dental plaque index (PI) (AINAMO e BAY, 1975), gingival bleeding index (GBI) (O'LEARY, 1967) and gingival index (GI) (SILNESS e LÖE, 1964). Dental PI was used to evaluate the level of oral hygiene, which was calculated according to the number of dental surfaces stained by a dental plaque disclosing agent, multiplied by 100 and divided by the total number of surfaces (AINAMO e BAY, 1975). GBI was used to evaluate gingival inflammation and was expressed as the number of bleeding surfaces after probing with a periodontal probe, which was then multiplied by 100 and divided by the total number of surfaces (O'LEARY, 1967). GI registers changes in the shape and contour of the periodontal tissues, where GI 0 corresponds to normal and healthy gingiva; GI 1, gingiva with moderate inflammation, discrete color change and edema, no bleeding probing; GI 2 means gingiva with moderate inflammation, redness, edema and bleeding probing and GI 3 is equivalent to gingiva with marked inflammation, redness, edema, ulcerations and spontaneous bleeding.

Finally, for measure the dysfunction, discomfort and disability attributed to the oral condition was developed Oral Health Impact Profile (OHIP) (SLADE E SPENCER, 1994). This questionnaire is composed of 14 questions that cover: functional limitation, physical pain, psychological discomfort, physical incapacity, psychological incapacity, social incapacity and disability, according to the weights for the answers. The scale of responses (0 = never, 1 = hardly, 2 = sometimes, 3 = almost always, 4 = always) is multiplied by the corresponding weight, thus the impact of each dimension is calculated. The impact is considered weak between 0 and 9, medium between 10 and 18 and strong between 19 and 28.

STATISTICAL ANALYSIS

Results are presented as median (range) or mean (standard deviation) for continuous variables. For categorical variables, the results are presented as number (%). The medians were compared by the Mann-Whitney U test to evaluate the differences between oncological and healthy patients or Wilcoxon to evaluate both groups with respect to the quality of life questionnaire. For categorical variables, the differences were assessed using Fisher's exact test. $p < 0.05$ was considered significant.

RESULTS

Seventeen consecutive patients on cancer treatment were evaluated in two moments: at baseline and after 15 days of dental care. Regarding demographic data, 11 (65%) were male and 6 (35%) were female, $p = 0,332$. The mean age of female patients was 12 years and male was 10.64 years, $p = 0,566$. About 58.8% of the patients

came from other cities to perform cancer treatment and 41,2% were from Juiz de Fora, $p=0,629$. The most prevalent socioeconomic stratum was D-E with 8 (47%) patients, followed by stratum C1 and C2, both with 3 (18%) patients, demonstrated in table 1.

		Oncopediatric patients	p
Gender	female	6 (35%)	p=0.332
	male	11 (65%)	
Age ($\bar{x} \pm SE$)	female	12 \pm 1.713	p=0.566
	male	10.64 \pm 1.435	
Naturalness	Juiz de Fora	41.2%	p=0.629
	Others	58.8%	
Socioeconômico stratum	D-E	8 (47%)	p=0.072

Table 1: Demographic and socioeconomic data of the all sample. Legend: ($\bar{x} \pm SE$): mean more or less standard error.

The periodontal evaluation is detailed in tables 2 and 3. The comparative values of PI showed initial values higher 12.8% (0 - 31,25) than revaluation values 9.2% (0-18,49), 15 days after dental intervention ($p = 0.093$). On the other hand, the GBI revealed similar values at baseline 0.4% (0 - 5.36) and 15 days after dental care 0.4% (0 - 2.68), $p = 0.916$. Concerning GI, there was a decrease in the values of the means before and after the dental intervention ($p = 0.317$). The initial mean value was 0,06 and after the dental intervention go down 0,0. In initial evaluation 16 (94 %%) patients

were classified as G0 and 1 (6%) as G1, after dental intervention all 17 (100%) patients were classified as G0.

	Initial evaluation (min-max)	Revaluation (min-max)	p
PI	12.8 (0 – 31.25)	9.2 (0 – 18.49)	p=0.093
GBI	0.4 (0 – 5.36)	0.4 (0 – 2.68)	p=0.916

Table 2: Mean of periodontal parameters in two moments of evaluation. Legend: Min: minimum and Max: maximum

	Initial evaluation ($\bar{x} \pm SE$)	Revaluation ($\bar{x} \pm SE$)	p
GI	0.06 \pm 0.059	0.0 \pm 0.0	p=0.317

Table 3: Classification of patients in each moment regarding Gingival Index (GI). Legend: ($\bar{x} \pm SE$): mean more or less standard error.

The Oral Health Impact Profile (OHIP-14) was applied in the initial evaluation and revaluation of patients. In both evaluations, the patients showed lower values,

classified as a small impact on quality of life. Comparing the means, is evident a decrease in the quality of life ($p=0.225$), shown in table 4.

	Initial evaluation (min-max)	Revaluation (min-max)	p
OHIP	0.67 (0 – 5.43)	0.2288 (0 – 2.10)	$p=0.225$

Table 4: Values of Oral Health Impact Profile before and after dental intervention

All patients were evaluated consecutively and separated in relation to moment of the evaluation. They were approached in two different moments: first cycle and third cycle of chemotherapy. Oral complications of the antineoplastic treatment and other clinical manifestations of dental relevance diagnosed were called oral intercurrents.

Patients evaluated in first cycle of chemotherapy presented more complications than in the third cycle ($p=0,715$). Table 5 describes the moment of dental evaluation and the type of oral intercurrente diagnosed. In the first cycle we had 11 oral intercurrents: 3 (27%) oral mucositis, 2 (18%) fungal lesions, 1 (9%) ulcerated lesion, 2 (18%) herpetic lesions, 1 (9%) geographical tongue, 1 (9%) eruption cyst, 1 (9%) hemorrhagic crustal lesion. In contrast, in the third cycle we had 3 intercurrents: 1 (33,4%) oral mucositis, 1 (33,3%) fungal lesion and 1 (33,3%) mucocele.

	Moment of dental evaluation		p
	1º cyle	3º cycle	

Oral mucositis	3	1	p=0.715
Fungal lesions	2	1	
Ulcerated lesions	1	0	
Herpetic lesions	2	0	
Geographical tongue	1	0	
Eruption cyst	1	0	
Mucocele	0	1	
Hemorrhagic crustal lesion	1	0	
Total	11	3	

Table 5: Description of moment of dental evaluation and the type of oral intercurrentence

After diagnosing the intercurrentences, only 3 patients of all patients with any oral intercurrentence complained of pain. Visual Analogic Scale (VAS) was used to attribute values from zero to ten, zero being no pain or discomfort and ten being the greatest pain already felt. After the institution of dental care, all patients attributed values of 0 to pain, according to the VAS, $p=0,102$.

Patient	Vas in initial evaluation	Vas in reevaluation	p
1	8	0	p=0,102
2	0	0	
3	0	0	
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	8	0	
9	6	0	

Table 6: Values attributed through VAS to oral intercurrence per patient

Segue abaixo um esboço do terceiro artigo extraído da pesquisa intitulada **Implicações dos cuidados odontológicos em oncopediatria**, neste esboço contém a metodologia e resultados analisados até o presente momento.

EVALUATION OF SALIVARY FLOW IN ONCOPEDIATRIC PATIENTS SUBMITTED TO CHEMOTHERAPY

PATIENTS AND METHODS

This study included patients who were submitted to questionnaires and clinical examination by an expert dentist. These patients were separated in two groups: Oncological Group consisted of patients undergoing oncological treatment at a referral cancer hospital therapy in Juiz de Fora, Minas Gerais, Brazil; and Healthy Group comprised of patients referral for dental assistance at the Pediatric Dentistry of the Dentistry School of Federal University of Juiz de Fora, Brazil. The local ethical committee approved this study, and an informed consent was obtained.

The specific approach in the evaluation of the patient looked for changes in salivary flow, comparing oncological and healthy patients. The inclusion criteria of oncological group were consecutives patients aged 3 to 18 years old diagnosed with neoplasia and oncological treatment and exclusion criteria was patients with severe neurological disorders that make it difficult to participate in the recommended approaches, with cognitive deficits and those whose severity of the disease contraindicate dental procedures according to the evaluation of the physician in charge. The healthy group has as inclusion criteria patients of the similar age and gender of oncologic group, healthy and being treated for routine dental treatment at the Pediatric Dentistry Clinic of the Dentistry School of Federal University of Juiz de

Fora, Brazil. The exclusion criteria to healthy group were patients with an age not applicable to the sample or with knowledge difficulties to participate in this approach.

This research included assessment of data about systemic condition and treatment contained in medical records. Furthermore, were obtained data of demographic data, orofacial complaints, evaluation of stomatognathic system, based on data from dental history and physical orofacial exam (Siqueira, 2001). Socioeconomic questionnaire (ABEP, 2015) was used to classify the social strata. In the formulation of the criterion, 35 variables were considered. Among the variables are the possession of durable goods (car, TV, etc.), living conditions (such as number of bathrooms), level of education of the head of household and provision of public services (water, electricity, etc.). These points are assigned points to conclude which class the family belongs to, the highest rank being A, followed by B1, B2, C1, C2 and finally D-E.

Index of decayed, missing and filled teeth (CPO-D) (WHO, 1997), for periodontal assessment was applied these indexes: dental plaque index (PI) (AINAMO e BAY, 1975), gingival bleeding index (GBI) (O'LEARY, 1967) and gingival index (GI) (SILNESS e LÖE, 1964). Dental PI was used to evaluate the level of oral hygiene, which was calculated according to the number of dental surfaces stained by a dental plaque disclosing agent, multiplied by 100 and divided by the total number of surfaces (AINAMO e BAY, 1975). GBI was used to evaluate gingival inflammation and was expressed as the number of bleeding surfaces after probing with a periodontal probe, which was then multiplied by 100 and divided by the total number of surfaces (O'LEARY, 1967). GI registers changes in the shape and contour of the periodontal tissues, where GI 0 corresponds to normal and healthy gingiva; GI 1, gingiva with moderate inflammation, discrete color change and edema, no bleeding probing; GI 2

means gingiva with moderate inflammation, redness, edema and bleeding probing and GI 3 is equivalent to gingiva with marked inflammation, redness, edema, ulcerations and spontaneous bleeding.

Dosage of salivary flow, with and without previous salivary stimulation (MIGUEL, 2006). The patient will stand for one minute with two cotton rollers in the sublingual region. The stimulus is made with 2% citric acid. The flow is estimated by comparing the weight of the tubes before and after collection in ml/min. The flow is estimated by comparing the weight of the tubes before and after collection, ranks as: hypo salivation < 0.7 ml/min, low flow 0.7 ml - 1.0 ml/min and normal flow 1.0 ml - 3.0 ml/min.

Finally, for measure the dysfunction, discomfort and disability attributed to the oral condition was developed Oral Health Impact Profile (OHIP) (SLADE E SPENCER, 1994). This questionnaire is composed of 14 questions that cover: functional limitation, physical pain, psychological discomfort, physical incapacity, psychological incapacity, social incapacity and disability, according to the weights for the answers. The scale of responses (0 = never, 1 = hardly, 2 = sometimes, 3 = almost always, 4 = always) is multiplied by the corresponding weight, thus the impact of each dimension is calculated. The impact is considered weak between 0 and 9, medium between 10 and 18 and strong between 19 and 28.

RESULTS

The values of salivary flow without stimulus in the cancer group are higher than in the healthy group ($p=0.573$). However, when stimulated, healthy patients respond better than oncological patients ($p=0.303$). Tables 1 and 2 show salivary flow values without and with stimulus.

	Oncological Group (min-max)	Healthy Group (min-max)	p
Salivary flow without stimulus	0.4973 (0.1103–1.6793)	0.3789 (0.0823–1.1705)	p =0,573

Table 1: Mean values of salivary flow in oncological and healthy groups without stimulus

	Oncological Group (min-max)	Healthy Group (min-max)	p
Salivary flow with stimulus	0.9562 (0.0956–2.3268)	1.2361 (0.1478–3.3635)	p=0.303

Table 2: Mean values of salivary flow in oncological and healthy groups with stimulus

CONSIDERAÇÕES FINAIS

Conclui-se que a abordagem odontológica, além de contribuir para a saúde bucal, ainda auxiliou na eficácia da terapia antineoplásica, garantindo que as complicações bucais fossem tratadas minimizando prejuízos no transcorrer do tratamento oncológico. A aplicação do protocolo de avaliação sistemática permitiu avaliar, diagnosticar e tratar em achados significativos, como dor orofacial, alterações periodontais, disgeusia e afasia, que muitas vezes são subjugados pelos próprios pacientes e equipe multidisciplinar envolvida. Tudo isso enfatiza a importância da inserção do Cirurgião-Dentista na equipe multidisciplinar, visando uma abordagem complexa e integral dos pacientes, além de fornecer qualidade de vida durante o período de tratamento antineoplásico.

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