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PROBLEMAS BUCAIS NO CÂNCER AVANÇADO E NOS CUIDADOS PALIATIVOS: PREVALÊNCIA, MANEJO ORIENTADO AO CONFORTO E TOMADA DE DECISÃO CLÍNICA

ORAL PROBLEMS IN ADVANCED CANCER AND PALLIATIVE CARE: PREVALENCE, COMFORT-ORIENTED MANAGEMENT, AND CLINICAL DECISION-MAKING

ORAL PROBLEMS IN ADVANCED CANCER AND PALLIATIVE CARE: PREVALENCE, COMFORT-ORIENTED MANAGEMENT, AND CLINICAL DECISION-MAKING

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RESUMO

Objetivo: Revisar os principais problemas bucais que afetam pacientes com câncer avançado em cuidados paliativos e discutir estratégias de manejo orientadas por evidências, com foco no conforto e considerando carga de sintomas, prognóstico, condição funcional, tolerância ao tratamento e objetivos individuais de cuidado. **Métodos:** Foi realizada uma revisão narrativa utilizando PubMed/MEDLINE e Google Scholar para identificar revisões sistemáticas, estudos clínicos, recomendações de especialistas e declarações de prática clínica relacionadas aos problemas bucais em pacientes com câncer avançado recebendo cuidados paliativos ou de fim de vida. A literatura foi organizada segundo o tipo de problema bucal, suas causas relacionadas à doença ou ao tratamento, impacto clínico e estratégias de manejo. Foram priorizadas recomendações contemporâneas e estudos que avaliaram qualidade de vida relacionada à saúde bucal. A busca bibliográfica foi atualizada até 5 de setembro de 2026. Por se tratar de uma revisão narrativa, não foi realizada síntese quantitativa nem avaliação formal de risco de viés. **Resultados:** Problemas bucais são frequentes em pacientes com câncer avançado e podem envolver sintomas, condições clínicas e limitações funcionais. Boca seca, alterações do paladar, dificuldades de deglutição, dor ou desconforto oral, halitose, candidíase, doença dentária, mucosite e comprometimento da higiene oral podem interferir na alimentação, hidratação, comunicação, interação social e qualidade de vida. Suas causas podem

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variar conforme a neoplasia, tratamentos antineoplásicos, medicamentos, desidratação, redução da ingestão oral, declínio funcional e doenças bucais preexistentes. O manejo deve, portanto, começar pela identificação do problema bucal e de causas potencialmente reversíveis, seguida da avaliação do desconforto, impacto funcional, prognóstico, carga terapêutica e preferências do paciente. As evidências disponíveis apoiam cuidados bucais individualizados, estimulação salivar ou umidificação quando apropriadas, controle de sintomas, tratamento de infecções clinicamente relevantes, adaptação da higiene oral, educação dos cuidadores e abordagem multidisciplinar de problemas funcionais, como a disfagia. Evidências clínicas recentes também sugerem que a integração do cirurgião-dentista às equipes de cuidados paliativos pode estar associada à melhora da qualidade de vida relacionada à saúde bucal e da carga de sintomas. **Conclusão:** Os problemas bucais devem ser reconhecidos como componente integral do cuidado de suporte e paliativo em pacientes com câncer avançado. O cuidado odontológico não deve ser automaticamente equiparado nem ao tratamento restaurador abrangente nem ao minimalismo terapêutico. Em vez disso, deve ser proporcional ao benefício esperado, à carga do tratamento, ao tempo necessário para obtenção do benefício, ao prognóstico, à tolerabilidade e aos objetivos individuais de cuidado. Propõe-se um framework de decisão clínica baseado em evidências para auxiliar o planejamento e a reavaliação do cuidado odontológico ao longo da trajetória paliativa.

Palavras-chave: Câncer avançado; Cuidados paliativos; Saúde bucal; Problemas bucais; Xerostomia; Dor oral; Qualidade de vida; Odontologia.

ABSTRACT

Objective: To review the main oral problems affecting patients with advanced cancer receiving palliative care and to discuss evidence-based management strategies focused on comfort while considering symptom burden, prognosis, functional status, treatment tolerance, and individual goals of care. **Methods:** A narrative review was conducted using PubMed/MEDLINE and Google Scholar to identify systematic reviews, clinical studies, expert recommendations, and clinical practice statements addressing oral problems in patients with advanced cancer receiving palliative or end-of-life care. The literature was organized according to the type of oral problem, disease- or treatment-related causes, clinical impact, and management strategies. Contemporary recommendations and studies assessing oral health-related quality of life were prioritized. The literature search was updated through September 5, 2026. As this was a narrative review, no quantitative synthesis or formal risk-of-bias assessment was performed. **Results:** Oral problems are common among patients with advanced cancer and may involve symptoms, clinical conditions, and functional limitations. Dry mouth, taste alterations, swallowing difficulties, oral pain or discomfort, halitosis, candidiasis, dental disease, mucositis, and impaired oral hygiene may interfere with eating, hydration, communication, social interaction, and quality of life. Their causes may vary according to the malignancy, anticancer treatments, medications, dehydration, reduced oral intake, functional decline, and pre-existing oral diseases. Management should therefore begin with identification of the oral problem and potentially reversible causes, followed by assessment of discomfort, functional impact, prognosis, treatment burden, and patient preferences. Available evidence supports individualized oral care, salivary stimulation or humidification when appropriate, symptom control, treatment of clinically relevant infections, adaptation of oral hygiene practices, caregiver education, and multidisciplinary management of functional problems such as dysphagia. Recent clinical evidence also suggests that integrating dentists into palliative care teams may be associated with improvements in oral health-related quality of life and symptom burden. **Conclusion:** Oral problems should be recognized as an integral component of supportive and palliative care for patients with advanced cancer. Dental care should not be automatically equated with either comprehensive restorative treatment or therapeutic minimalism. Instead, care should be proportionate to the expected benefit, treatment burden, time required to achieve benefit, prognosis, tolerability, and individual goals of care. An evidence-based clinical decision-making framework is proposed to support the planning and reassessment of dental care throughout the palliative trajectory.

Keywords: Advanced cancer; Palliative care; Oral health; Oral problems; Xerostomia; Oral pain; Quality of life; Dentistry.

RESUMEN

Objetivo: Revisar los principales problemas orales que afectan a pacientes con cáncer avanzado que reciben cuidados paliativos y discutir estrategias de manejo basadas en la evidencia, con énfasis en

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el confort y considerando la carga de síntomas, el pronóstico, el estado funcional, la tolerancia al tratamiento y los objetivos individuales de cuidado. **Métodos:** Se realizó una revisión narrativa utilizando PubMed/MEDLINE y Google Scholar para identificar revisiones sistemáticas, estudios clínicos, recomendaciones de expertos y declaraciones de práctica clínica relacionadas con los problemas orales en pacientes con cáncer avanzado que reciben cuidados paliativos o de final de vida. La literatura se organizó según el tipo de problema oral, sus causas relacionadas con la enfermedad o el tratamiento, su impacto clínico y las estrategias de manejo. Se priorizaron recomendaciones contemporáneas y estudios que evaluaron la calidad de vida relacionada con la salud oral. La búsqueda bibliográfica se actualizó hasta el 5 de septiembre de 2026. Debido a que se trató de una revisión narrativa, no se realizó una síntesis cuantitativa ni una evaluación formal del riesgo de sesgo. **Resultados:** Los problemas orales son frecuentes en pacientes con cáncer avanzado y pueden involucrar síntomas, condiciones clínicas y limitaciones funcionales. La sequedad bucal, las alteraciones del gusto, las dificultades para tragar, el dolor o malestar oral, la halitosis, la candidiasis, las enfermedades dentales, la mucositis y el deterioro de la higiene oral pueden interferir con la alimentación, la hidratación, la comunicación, la interacción social y la calidad de vida. Sus causas pueden variar según la neoplasia, los tratamientos antineoplásicos, los medicamentos, la deshidratación, la reducción de la ingesta oral, el deterioro funcional y las enfermedades orales preexistentes. Por lo tanto, el manejo debe comenzar con la identificación del problema oral y de las causas potencialmente reversibles, seguida de la evaluación del malestar, el impacto funcional, el pronóstico, la carga terapéutica y las preferencias del paciente. La evidencia disponible respalda un cuidado oral individualizado, la estimulación salival o la humidificación cuando sean apropiadas, el control de los síntomas, el tratamiento de infecciones clínicamente relevantes, la adaptación de las prácticas de higiene oral, la educación de los cuidadores y el abordaje multidisciplinario de problemas funcionales, como la disfagia. La evidencia clínica reciente también sugiere que la integración del odontólogo en los equipos de cuidados paliativos puede asociarse con mejoras en la calidad de vida relacionada con la salud oral y en la carga de síntomas. **Conclusión:** Los problemas orales deben reconocerse como un componente integral de los cuidados de soporte y paliativos en pacientes con cáncer avanzado. La atención odontológica no debe equipararse automáticamente ni con el tratamiento restaurador integral ni con el minimalismo terapéutico. Por el contrario, debe ser proporcional al beneficio esperado, la carga del tratamiento, el tiempo necesario para obtener el beneficio, el pronóstico, la tolerabilidad y los objetivos individuales de cuidado. Se propone un marco de toma de decisiones clínicas basado en la evidencia para apoyar la planificación y reevaluación de la atención odontológica a lo largo de la trayectoria paliativa.

Palabras clave: Cáncer avanzado; Cuidados paliativos; Salud oral; Problemas orales; Xerostomía; Dolor oral; Calidad de vida; Odontología.

1. INTRODUCTION

Palliative care may be integrated into the management of advanced cancer throughout the trajectory of illness and should not be considered synonymous with the last days or hours of life. The goals of care, expected survival, functional status, treatment burden, symptom severity, and patient preferences may change substantially over time, and oral management should adapt accordingly (JONES et al., 2022).

Patients with advanced cancer frequently experience oral problems that may be overlooked when systemic symptoms receive greater clinical attention. These problems include dry mouth, taste alteration, oral pain or discomfort, swallowing difficulties, oral candidiasis, mucositis, halitosis, dental disease, and impaired oral hygiene. An integrated systematic review identified xerostomia, oral candidiasis, and dysphagia among the most frequently reported oral conditions in palliative and

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terminally ill populations, while emphasizing substantial heterogeneity and limitations in the available evidence (VENKATASALU et al., 2020).

The distinction between oral symptoms, clinical diseases, and functional limitations is clinically important. Xerostomia refers to the subjective sensation of oral dryness, whereas salivary gland hypofunction refers to objectively reduced salivary secretion. Candidiasis is a clinical infectious condition rather than a symptom, mucositis is frequently treatment-related, and dysphagia represents a swallowing dysfunction that may involve oral, oropharyngeal, or esophageal phases. Therefore, the broader term “oral problems” more accurately encompasses the spectrum of manifestations encountered in advanced cancer (JONES et al., 2022; HONG et al., 2024).

Epidemiological evidence also needs to be interpreted according to the type of outcome assessed. A 2024 systematic review and meta-analysis involving 2,502 patients evaluated the prevalence of oral diseases in palliative care, but only five studies contributed to the quantitative meta-analysis. The pooled prevalence estimates included approximately 32% for dental caries and 17% for oral candidiasis, with substantial heterogeneity among the included studies. These findings should not be extrapolated to the prevalence of subjective symptoms such as xerostomia, dysgeusia, oral pain, dysphagia, or halitosis (SILVA et al., 2024).

More direct information regarding symptom burden is available from advanced cancer populations. The MASCC/ISOO expert opinion reports a cohort of 250 patients with advanced cancer receiving specialist palliative care in which dry mouth, taste alteration, swallowing difficulty, oral pain or discomfort, and halitosis were reported in 83.5%, 55.5%, 34.5%, 30.5%, and 16.5% of patients, respectively. These figures should be interpreted specifically as findings from an advanced cancer cohort rather than universal prevalence estimates for all palliative populations (JONES et al., 2022).

The causes of oral problems in advanced cancer are multifactorial. Manifestations may result from the underlying malignancy, chemotherapy, radiotherapy, other antineoplastic therapies, medications, immunosuppression, dehydration, reduced oral intake, functional decline, or pre-existing dental and periodontal disease. Consequently, symptom-oriented treatment without appropriate clinical assessment may fail to address reversible causes or may expose patients to unnecessary treatment burden (VENKATASALU et al., 2020; JONES et al., 2022).

The central challenge in palliative dentistry is therefore not simply deciding whether an intervention is technically possible, but determining whether it is

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proportionate to the patient's current goals and clinical circumstances. A patient with an expected survival of months or years may benefit from preventive, periodontal, restorative, endodontic, or prosthetic treatment when these interventions provide meaningful functional or symptomatic benefit. Conversely, during the last days of life, oral care may appropriately prioritize moisture, removal of distressing secretions, lip comfort, pain control, odor management, and procedures that are easily tolerated (JONES et al., 2022).

The objective of this narrative review was to review common oral problems affecting patients with advanced cancer receiving palliative care and discuss evidence-informed, comfort-oriented management strategies according to symptom burden, prognosis, functional status, treatment tolerance, and individual goals of care.

2. MATERIALS AND METHODS

This study was designed as a narrative review focused specifically on oral problems in patients with advanced cancer receiving palliative or end-of-life care.

A narrative literature search was conducted using PubMed/MEDLINE and Google Scholar. The search strategy combined terms related to the population and clinical topic, including combinations of: (“palliative care” OR “end of life” OR “advanced cancer”) AND (“oral health” OR “oral problems” OR xerostomia OR “salivary gland hypofunction” OR candidiasis OR mucositis OR dysgeusia OR dysphagia OR “oral pain” OR halitosis OR “oral care” OR dentistry).

The literature search was updated during the manuscript revision process in September 2026. Because this was a narrative review and the original search process did not prospectively record the number of retrieved and excluded records, no numerical flow of studies is reported. The review therefore does not claim to be exhaustive or systematic.

Eligible literature included systematic reviews, meta-analyses, clinical studies, qualitative studies, clinical practice statements, expert recommendations, and relevant narrative reviews addressing oral problems in adults with advanced cancer receiving palliative or end-of-life care. Publications in English were prioritized, and studies were considered according to their clinical relevance to oral symptom burden, oral disease, oral function, quality of life, oral care, and proportionate management.

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Sources were interpreted according to their function within the evidence base, including epidemiological studies, systematic reviews, clinical practice statements or expert guidance, observational and clinical intervention studies, qualitative research, and contextual narrative reviews. Particular attention was given to contemporary MASCC/ISOO recommendations and studies directly involving patients with advanced or terminal cancer.

The narrative synthesis was organized into epidemiology and symptom burden, clinical assessment and differential diagnosis, problem-specific management, caregiver-assisted oral care, dental integration and therapeutic proportionality, and considerations according to the stage of the palliative trajectory. The methodological principles of the Scale for the Assessment of Narrative Review Articles (SANRA) were considered in the organization of the review, particularly regarding justification, objectives, literature search, referencing, scientific reasoning, and presentation of relevant outcome data (BAETHGE; GOLDBECK-WOOD; MERTENS, 2019).

3. RESULTS

3.1 Epidemiology and oral symptom burden

The available literature indicates that oral problems constitute an important component of symptom burden in patients with advanced and terminal cancer. However, prevalence estimates vary according to the population studied, stage of disease, treatment exposure, definitions used, and whether outcomes represent subjective symptoms, objectively diagnosed oral diseases, or functional limitations (VENKATASALU et al., 2020; SILVA et al., 2024).

In the 2024 systematic review and meta-analysis of oral diseases in patients receiving palliative care, the pooled prevalence of dental caries was approximately 32% and that of oral candidiasis approximately 17%. Because the quantitative synthesis included only five studies and demonstrated substantial heterogeneity, these estimates should be regarded as disease-specific pooled findings rather than representative prevalence estimates for all oral problems (SILVA et al., 2024).

In advanced cancer, symptom-specific evidence is more directly applicable to the population addressed by the present review. The MASCC/ISOO expert opinion reported high frequencies of dry mouth, taste alteration, swallowing difficulty, oral pain

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or discomfort, and halitosis in a cohort of patients with advanced cancer receiving specialist palliative care (JONES et al., 2022).

Oral problems may also coexist and interact. Xerostomia can increase mucosal discomfort and predispose to oral infection, while pain, candidiasis, mucositis, dental disease, or poorly fitting prostheses may further impair oral intake and hygiene. In terminally ill cancer patients, dry mouth, stomatitis, and candidiasis have been associated with poorer oral intake, emphasizing the importance of accurate diagnosis and individualized oral care (NAKAJIMA, 2017).

3.2 Clinical assessment and identification of reversible causes

Clinical assessment should distinguish between the oral manifestation experienced by the patient and its underlying cause. Oral pain, for example, may result from mucositis, candidiasis, ulceration, dental disease, prosthetic trauma, tumor involvement, neuropathic mechanisms, or severe oral dryness. Treatment directed solely at analgesia may therefore be insufficient when a reversible local cause is present (JONES et al., 2022).

A similar principle applies to dry mouth. Xerostomia represents a subjective sensation of oral dryness, whereas salivary gland hypofunction refers to objectively reduced salivary secretion. The two may coexist but should not be considered synonymous. Contemporary MASCC/ISOO recommendations emphasize individualized management according to whether residual salivary gland function is present and whether the predominant need is stimulation of endogenous saliva or artificial moistening of the oral and lip surfaces (HONG et al., 2024).

The clinical assessment should also consider treatment-related toxicity, medication effects, dehydration, reduced oral intake, immunosuppression, functional decline, and pre-existing dental disease. This distinction is particularly important for mucositis, which is predominantly associated with specific cancer treatments, including chemotherapy and radiotherapy, rather than being a nonspecific manifestation of advanced cancer itself (LALLA; SAUNDERS; PETERSON, 2014).

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3.3 Xerostomia and salivary gland hypofunction

Dry mouth is among the most frequently reported and distressing oral problems in patients with cancer. It may interfere with speaking, swallowing, mastication, sleep, denture retention, and oral comfort, and may be associated with treatment exposure, medication use, dehydration, and salivary gland dysfunction (JONES et al., 2022; HONG et al., 2024).

Management should first establish whether residual salivary gland function is present. Patients with preserved secretory capacity may benefit from salivary stimulation, whereas patients with marked glandular hypofunction may require primarily artificial moistening or saliva replacement. Non-pharmacological approaches include regular moistening of the oral mucosa and lips and other individualized measures; pharmacological interventions may be considered according to clinical circumstances and local availability (HONG et al., 2024).

Water may provide temporary relief, but repeated oral moistening should not be equated with correction of salivary gland hypofunction. The choice of products should also consider tolerability and the patient's clinical condition, avoiding potentially irritating or inappropriate preparations. Contemporary guidance therefore supports a distinction between salivary stimulation and surface wetting rather than a single universal approach to dry mouth (HONG et al., 2024).

3.4 Oral pain and treatment-related mucositis

Oral pain requires etiological assessment because several different oral problems may produce similar symptoms. Potential causes include mucositis, candidiasis, ulceration, dental disease, trauma, tumor involvement, neuropathic pain, and severe xerostomia (JONES et al., 2022).

Mucositis should be considered primarily in relation to cancer treatment. Chemotherapy and radiotherapy may cause mucosal injury, pain, ulceration, impaired eating, and difficulty maintaining oral hygiene. Consequently, management should be adapted to the treatment context and should not be presented as a generic intervention for all patients with advanced cancer (LALLA; SAUNDERS; PETERSON, 2014).

Basic oral care, avoidance of local irritants, appropriate analgesia, and treatment of identified causes may contribute to symptom relief. The intensity and

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invasiveness of intervention should remain proportional to the patient's prognosis, treatment tolerance, expected benefit, and goals of care (JONES et al., 2022).

3.5 Oral candidiasis and other oral infections

Oral candidiasis is a clinical infectious condition and should be distinguished from asymptomatic Candida colonization. In patients with cancer, candidiasis may be favored by immunosuppression, xerostomia, antimicrobial exposure, corticosteroid use, and compromised oral hygiene and may manifest with burning, pain, erythema, altered taste, or difficulty eating (VILA et al., 2020).

When candidiasis is clinically relevant and treatment is consistent with the patient's goals, antifungal therapy may provide symptom relief. The choice of treatment should take into account the clinical presentation, swallowing capacity, medication interactions, oral dryness, denture use, treatment burden, and patient preferences rather than following a uniform regimen for all patients (JONES et al., 2022; VILA et al., 2020).

Oral hygiene and management of local predisposing factors may complement pharmacological treatment. However, infection treatment should remain proportionate to expected symptomatic benefit and should not automatically be pursued when treatment burden outweighs likely benefit (JONES et al., 2022).

3.6 Dysgeusia and nutritional impact

Taste alteration is common in patients with cancer and may result from the malignancy itself, antineoplastic therapy, radiotherapy, medications, oral infection, or reduced salivary function. Changes in taste may reduce appetite, food enjoyment, and willingness to eat and may therefore have functional and psychosocial consequences (JONES et al., 2022; SILVA et al., 2023).

Management should focus on identifying potentially reversible contributors and supporting pleasurable and tolerable oral intake. Dietary adaptation may be useful, particularly when the goal remains maintaining oral feeding and enjoyment rather than restoring normal taste sensation. Management should therefore be individualized according to nutritional goals, prognosis, and patient preferences (SILVA et al., 2023).

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3.7 Swallowing dysfunction and oral function

Swallowing difficulties in advanced cancer should be considered a functional problem rather than being automatically classified as an oral symptom. Dysphagia may involve oral, oropharyngeal, or esophageal phases and may result from neurological dysfunction, structural disease, head and neck cancer, treatment-related complications, muscle weakness, or progressive functional decline (VENKATASALU et al., 2020).

Management should be multidisciplinary, with speech-language pathology, medicine, nursing, nutrition, and dentistry contributing according to the underlying cause and goals of care. Oral moistening and oral hygiene may improve comfort and support oral function in selected patients, but they do not correct neurological or structural swallowing disorders (JONES et al., 2022).

When oral feeding remains meaningful to the patient, preservation of oral comfort and function may be particularly important. Conversely, during the final days of life, the objective may shift toward comfort and tolerability rather than nutritional rehabilitation or restoration of swallowing function (JONES et al., 2022).

3.8 Halitosis and oral malodor

Halitosis may result from tongue coating, poor oral hygiene, infection, reduced salivary flow, necrotic tissue, or tumor-related lesions. In advanced cancer, oral malodor may have social and emotional consequences for patients and family members and may therefore represent a legitimate comfort-related treatment goal (JONES et al., 2022).

Management should prioritize identification and treatment of the underlying cause when feasible, combined with gentle cleaning of the teeth, tongue, mucosa, and prostheses when tolerated. However, the evidence supporting specific interventions for halitosis in advanced cancer remains limited, and some recommendations are based primarily on expert opinion (JONES et al., 2022).

3.9 Dental disease, periodontal problems, and prosthetic difficulties

The oral health needs of patients with advanced cancer extend beyond symptoms. Dental caries, periodontal disease, fractured teeth, retained roots,

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mucosal trauma, and poorly fitting prostheses may produce pain or functional impairment and may remain clinically relevant even when comprehensive dental treatment is no longer appropriate (SILVA et al., 2024; NAKAJIMA, 2017).

The timing of treatment is therefore important. Patients with a relatively long expected survival may benefit from preventive and definitive dental treatment when these interventions are consistent with their goals and provide meaningful benefit. In patients approaching the end of life, procedures with prolonged recovery, substantial discomfort, or delayed benefit may be less appropriate than simpler symptom-oriented interventions (JONES et al., 2022).

3.10 Caregiver-assisted oral care

Progressive cancer and functional decline may reduce patients' ability to perform oral hygiene independently. Fatigue, pain, cognitive impairment, weakness, and reduced mobility may increase dependence on caregivers and health professionals (DELGADO et al., 2021).

Caregiver education should address technique, frequency, tolerability, communication, and adaptation to the patient's current condition. Oral care should not become a source of additional distress. Instead, routines should be adapted according to the patient's tolerance and goals while maintaining oral cleanliness and comfort whenever feasible (DELGADO et al., 2021; JONES et al., 2022).

3.11 Integration of dentistry and oral health-related quality of life

The integration of dental professionals into palliative care has received increasing attention. A 2024 monocentric prospective study included 103 patients admitted to an inpatient palliative care unit, with dental assessment and oral health-related quality-of-life evaluation at baseline and reassessment after one week. At follow-up, statistically and clinically significant improvements were observed in oral health-related quality of life and several oral symptom measures following bedside dental interventions (UHLIG et al., 2024).

These findings are clinically relevant because they provide measured quality-of-life outcomes rather than relying exclusively on theoretical arguments about dignity or comfort. However, the study was not a randomized controlled trial, and its design

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does not establish definitive causality. The findings should therefore be interpreted as an association between the integration of dental care and improvement in oral health-related outcomes rather than proof that dental intervention alone caused the observed changes (UHLIG et al., 2024).

3.12 Therapeutic proportionality and the palliative trajectory

The appropriate intensity of dental care changes according to prognosis and goals of care. Three broad clinical scenarios may be considered.

In patients receiving palliative care with an expected survival of months or years, preventive, periodontal, restorative, endodontic, surgical, and prosthetic interventions may remain appropriate when they provide meaningful functional or symptomatic benefits and are tolerated by the patient (JONES et al., 2022).

In patients with advanced or terminal cancer and an expected survival of weeks or months, management may increasingly prioritize symptom control, function, comfort, and avoidance of burdensome procedures. Definitive dental treatment may still be appropriate when the expected benefit is substantial and the time to benefit is compatible with prognosis (JONES et al., 2022).

During the last days of life, the focus may shift predominantly toward comfort, oral and lip moistening, management of painful lesions, removal of distressing secretions, odor control, and procedures that are easily tolerated. This does not mean that dental care is abandoned; rather, its objectives become increasingly focused on immediate comfort and dignity (JONES et al., 2022).

The central principle is therefore proportionality rather than automatic therapeutic minimalism. The least invasive intervention is not necessarily the best intervention; the preferred approach is the intervention that offers meaningful benefit in relation to treatment burden and the patient's goals.

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Table 1. Common oral problems in advanced cancer and comfort-oriented management

Oral problem	Common clinical impact	Potential causes/contributors	Management considerations	Evidence source / key caveat
Xerostomia / salivary gland hypofunction	Dryness, difficulty speaking, eating and swallowing, mucosal discomfort	Cancer therapy, medications, dehydration, salivary gland dysfunction	Distinguish subjective xerostomia from objective hypofunction; stimulate saliva when residual function exists or provide artificial moistening when appropriate	Contemporary clinical practice statement; individualized management (HONG et al., 2024)
Oral pain	Impaired eating, drinking, speaking, hygiene and comfort	Mucositis, candidiasis, ulcers, dental disease, trauma, tumor, neuropathic mechanisms	Identify etiology before treatment; use proportional analgesic and local measures	Expert guidance; multiple possible etiologies (JONES et al., 2022)
Treatment-related mucositis	Pain, ulceration, impaired intake and hygiene	Chemotherapy, radiotherapy and other cancer treatments	Gentle oral care, avoidance of irritants and appropriate symptom control; treatment-specific guidance may be required	Treatment-related condition; evidence varies by modality (LALLA; SAUNDERS; PETERSON, 2014)

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Oral candidiasis	Burning, pain, altered taste, eating/swallowing difficulties	Immunosuppression, xerostomia, antibiotics, corticosteroids	Distinguish clinical infection from colonization; antifungal therapy according to clinical presentation and goals	Clinical evidence and expert guidance (VILA et al., 2020; JONES et al., 2022)
Dysgeusia	Reduced appetite and food enjoyment	Cancer, antineoplastic therapy, radiotherapy, medications, infection, xerostomia	Identify reversible contributors and support pleasurable oral intake	Symptom-specific evidence remains heterogeneous (JONES et al., 2022)
Swallowing dysfunction	Difficulty swallowing and reduced oral intake	Neurological, structural, tumor-related, treatment-related and functional causes	Multidisciplinary assessment; oral care supports comfort but does not correct structural/neurological dysphagia	Multidisciplinary management (VENKATASALU et al., 2020; JONES et al., 2022)
Halitosis	Social discomfort and distress	Tongue coating, poor hygiene, infection, necrosis, xerostomia, tumor	Identify underlying cause and provide gentle cleaning when tolerated	Evidence limited; some recommendations based on expert opinion (JONES et al., 2022)
Dental/periodontal disease	Pain, infection and impaired function	Caries, periodontal disease, fractured teeth, retained roots	Consider definitive treatment when prognosis and benefit justify burden	Disease prevalence evidence is heterogeneous (SILVA et al., 2024)

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Prosthetic problems	Pain, impaired chewing, speech difficulties, mucosal trauma	Poor fit, fracture, xerostomia, reduced ability to maintain prostheses	Adjust, repair or discontinue according to prognosis, function and tolerance	Clinical assessment and individualized planning
Impaired oral hygiene	Debris, discomfort, infection, odor	Functional dependence, fatigue, cognitive or neurological impairment	Caregiver-assisted hygiene adapted to tolerance	Qualitative and expert evidence (DELGADO et al., 2021; JONES et al., 2022)

4. DISCUSSION

The present review supports the recognition of oral problems as an important component of symptom burden in advanced cancer, while emphasizing that these problems cannot be understood as a homogeneous group. Symptoms, clinical diseases, treatment toxicities, and functional limitations may coexist but require different diagnostic and therapeutic approaches (VENKATASALU et al., 2020; JONES et al., 2022).

One of the principal implications of the available evidence is the need to avoid extrapolating prevalence data from one oral problem to another. The 2024 meta-analysis provides quantitative estimates for selected oral diseases, particularly dental caries and candidiasis, but does not establish prevalence estimates for xerostomia, dysgeusia, dysphagia, halitosis, or oral pain (SILVA et al., 2024). Conversely, the symptom frequencies reported in the advanced cancer cohort summarized by MASCC/ISOO provide useful context for dry mouth, taste alteration, swallowing difficulty, oral discomfort, and halitosis but should not be interpreted as universal prevalence estimates for all palliative populations (JONES et al., 2022).

The distinction between disease-related manifestations and treatment-related toxicities is equally important. Mucositis, for example, is particularly associated with chemotherapy and radiotherapy and should not be presented as a generic consequence of advanced cancer. Similarly, xerostomia may result from cancer

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treatment, medications, dehydration, or salivary gland dysfunction, while oral pain may arise from several different etiologies. This complexity reinforces the role of clinical assessment before treatment selection (LALLA; SAUNDERS; PETERSON, 2014; HONG et al., 2024).

Xerostomia illustrates the importance of contemporary terminology and individualized management. The distinction between subjective xerostomia and objectively reduced salivary secretion is clinically relevant because patients with residual glandular function may benefit from salivary stimulation, whereas others may require artificial moistening of the oral and lip surfaces. The 2024 MASCC/ISOO Clinical Practice Statement provides a more contemporary framework than older general reviews and should therefore form the basis for current clinical recommendations (HONG et al., 2024).

Another important issue is that palliative care should not be equated with the absence of definitive dental treatment. Patients receiving palliative care may have substantial life expectancy and may still benefit from restorative, periodontal, endodontic, surgical, or prosthetic interventions. The decision should depend on expected benefit, treatment burden, time to benefit, tolerability, prognosis, and individual goals rather than on the label “palliative” alone (JONES et al., 2022).

The opposite error should also be avoided. Early dental assessment should not automatically result in comprehensive treatment regardless of clinical condition or patient preferences. In some patients, a simple intervention such as denture adjustment, removal of a painful traumatic factor, oral hygiene support, treatment of symptomatic candidiasis, or management of xerostomia may provide greater benefit than a complex treatment plan. The appropriate goal is proportional care rather than either aggressive treatment or automatic minimalism (JONES et al., 2022).

The integration of dentistry into multidisciplinary palliative care is supported by emerging clinical evidence. Uhlig et al. evaluated 103 inpatient palliative care patients and reported improvements in oral health-related quality of life and symptom burden after dental examination and bedside interventions. Because the study was monocentric and non-randomized, these findings should be interpreted cautiously; nevertheless, they provide direct evidence that oral health-related quality of life can be measured and may improve following dental involvement (UHLIG et al., 2024).

This evidence is particularly relevant to the role of the dental professional. Dentistry in advanced cancer should not be limited to early identification of oral problems. The dental professional may contribute to differential diagnosis, control of painful dental or mucosal conditions, prosthetic adjustment, minimally invasive

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treatment, caregiver education, prevention of avoidable discomfort, and coordination with physicians, nurses, nutrition professionals, and speech-language pathologists (JONES et al., 2022; UHLIG et al., 2024).

Caregiver involvement is another essential component. As functional decline progresses, patients may become increasingly dependent on others for oral hygiene. Qualitative evidence indicates that oral care can be affected by caregiver knowledge, perceived priorities, communication difficulties, and the practical challenges of providing care to patients with advanced illness (DELGADO et al., 2021). Oral hygiene should therefore be taught as an adaptable comfort intervention rather than as a rigid protocol that may become distressing for a debilitated patient.

Reassessment should also be incorporated into oral management. The response to an intervention, treatment tolerance, adherence, changes in symptoms, and changes in goals of care should be evaluated after treatment rather than assuming that the initial plan remains appropriate throughout the disease trajectory (JONES et al., 2022).

Based on these principles, we propose an author-proposed evidence-informed framework for proportionate oral decision-making in advanced cancer. This framework is not a validated clinical guideline but a conceptual model derived from the evidence reviewed in this article.

Author-proposed evidence-informed framework for proportionate oral care

Step 1 — Identify the oral problem and potentially reversible cause. Determine whether the problem represents a symptom, clinical disease, treatment toxicity, functional impairment, or a combination of these.

Step 2 — Assess distress and functional impact. Evaluate pain, dryness, eating, drinking, speaking, swallowing, sleep, social interaction, oral hygiene, and patient-reported discomfort.

Step 3 — Clarify prognosis and goals of care. Consider expected survival, performance status, current cancer treatment, treatment burden, and what the patient considers meaningful.

Step 4 — Estimate treatment burden and time to benefit. Consider procedural discomfort, need for transportation or hospitalization, recovery time, medication burden, interactions, and the expected time required before meaningful benefit occurs.

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Step 5 — Choose the proportionate effective intervention. Select an intervention that offers meaningful benefit while remaining compatible with the patient's tolerance and goals. The least invasive treatment is not necessarily the best treatment; rather, the intervention should be proportionate.

Step 6 — Reassess comfort and tolerability. Evaluate symptom response, adverse effects, adherence, patient satisfaction, and changes in prognosis or goals of care, modifying the plan as necessary.

This framework may be particularly useful because the appropriate intensity of dental care can change rapidly in advanced cancer. A patient who initially benefits from restorative or prosthetic treatment may later require predominantly comfort-oriented care as functional status deteriorates. Conversely, a patient with relatively stable advanced cancer and a longer prognosis may benefit from conventional dental treatment that improves function and prevents future suffering (JONES et al., 2022).

The limitations of the present review should be acknowledged. This was a narrative rather than systematic review, the search was limited to PubMed/MEDLINE and Google Scholar, study selection was not performed through a formal systematic-review process, and no quantitative synthesis or formal risk-of-bias assessment was undertaken. In addition, the available evidence is heterogeneous, many studies involve oncology populations at different stages of disease, and robust interventional studies evaluating dental care in advanced cancer remain limited. These limitations reduce the certainty with which specific interventions can be recommended and reinforce the importance of individualized clinical decision-making (VENKATASALU et al., 2020; SILVA et al., 2024).

Despite these limitations, the literature consistently supports the relevance of oral assessment and proportionate oral care in advanced cancer. The strongest conceptual contribution of the present review is therefore not a universal treatment protocol, but an approach that integrates oral diagnosis, symptom burden, prognosis, functional status, treatment burden, expected time to benefit, and patient preferences into dental decision-making.

5. CONCLUSION

Oral problems are common and clinically relevant among patients with advanced cancer receiving palliative care and may substantially affect eating, drinking, communication, social interaction, comfort, and oral health-related quality of

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life. Their causes and clinical significance vary according to the underlying malignancy, antineoplastic treatment, medications, hydration, functional status, and pre-existing oral disease.

Effective management should begin with identification of the specific oral problem and potentially reversible causes, followed by assessment of symptom burden, functional impact, prognosis, treatment burden, expected time to benefit, and individual goals of care. Xerostomia should be distinguished from salivary gland hypofunction, mucositis should be recognized primarily as a treatment-related condition, candidiasis should be differentiated from colonization, and swallowing dysfunction should be approached within a multidisciplinary framework.

Palliative dentistry should not be defined by automatic therapeutic minimalism. Patients with longer expected survival may benefit from definitive dental treatment when the expected benefits are meaningful, whereas patients approaching the end of life may benefit most from simple, tolerable interventions directed toward comfort, moisture, pain, odor control, oral hygiene, and preservation of dignity.

The integration of dental professionals into multidisciplinary palliative care is supported by emerging evidence, including studies demonstrating improvements in oral health-related quality of life and symptom burden following bedside dental care, although stronger controlled studies are still needed.

Therefore, oral care in advanced cancer should be guided by proportionality: the intervention should provide meaningful benefit in relation to its burden, the time required to achieve benefit, the patient's prognosis, tolerability, and individual goals of care. Continuous reassessment is essential because these factors may change throughout the palliative trajectory.

REFERENCES

BAETHGE, C.; GOLDBECK-WOOD, S.; MERTENS, S. SANRA—a scale for the quality assessment of narrative review articles. *Research Integrity and Peer Review*, v. 4, art. 5, 2019. DOI: 10.1186/s41073-019-0064-8.

DELGADO, M. B.; LATOUR, J.; NEILENS, H.; GRIFFITHS, S. Oral care experiences of palliative care patients, their relatives, and health care professionals: a qualitative study. *Journal of Hospice and Palliative Nursing*, v. 23, n. 3, p. 229–237, 2021. DOI: 10.1097/NJH.0000000000000745.

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Pages: 1-20

HONG, C.; JENSEN, S. B.; VISSINK, A.; et al. MASCC/ISOO Clinical Practice Statement: management of salivary gland hypofunction and xerostomia in cancer patients. *Supportive Care in Cancer*, v. 32, n. 8, art. 548, 2024. DOI: 10.1007/s00520-024-08688-9.

JONES, J. A.; CHAVARRI-GUERRA, Y.; CORRÊA, L. B. C.; et al. MASCC/ISOO expert opinion on the management of oral problems in patients with advanced cancer. *Supportive Care in Cancer*, v. 30, n. 11, p. 8761–8773, 2022. DOI: 10.1007/s00520-022-07211-2.

LALLA, R. V.; SAUNDERS, D. P.; PETERSON, D. E. Chemotherapy or radiation-induced oral mucositis. *Dental Clinics of North America*, v. 58, n. 2, p. 341–349, 2014. DOI: 10.1016/j.cden.2013.12.005.

NAKAJIMA, N. Characteristics of oral problems and effects of oral care in terminally ill patients with cancer. *American Journal of Hospice and Palliative Medicine*, v. 34, n. 5, p. 430–434, 2017. DOI: 10.1177/1049909116633063.

SILVA, A. R. P.; BODANEZI, A. V.; CHRUN, E. S.; LISBOA, M. L.; CAMARGO, A. R.; MUNHOZ, E. A. Palliative oral care in terminal cancer patients: integrated review. *World Journal of Clinical Cases*, v. 11, n. 13, p. 2966–2980, 2023. DOI: 10.12998/wjcc.v11.i13.2966.

SILVA, M.; SANTOS, E. S.; PEDROSO, C. M.; EPSTEIN, J. B.; SANTOS-SILVA, A. R.; KOWALSKI, L. P. Prevalence of oral diseases in patients under palliative care: a systematic review and meta-analysis. *Supportive Care in Cancer*, v. 32, n. 9, art. 607, 2024. DOI: 10.1007/s00520-024-08723-9.

UHLIG, S.; DOBERSCHÜTZ, F.; HALLMANN, F.; SALM, H.; SIGLE, J. M.; PINK, D. Exploring the integration of dentistry within a multidisciplinary palliative care team: does bedside dental care improve quality of life and symptom burden in inpatient palliative care patients? *Supportive Care in Cancer*, v. 32, n. 8, art. 491, 2024. DOI: 10.1007/s00520-024-08671-4.

VENKATASALU, M. R.; MURANG, Z. R.; RAMASAMY, D. T. R.; DHALIWAL, J. S. Oral health problems among palliative and terminally ill patients: an integrated systematic review. *BMC Oral Health*, v. 20, art. 79, 2020. DOI: 10.1186/s12903-020-01075-w.

VILA, T.; SULTAN, A. S.; MONTELONGO-JAUREGUI, D.; JABRA-RIZK, M. A. Oral candidiasis: a disease of opportunity. *Journal of Fungi*, v. 6, n. 1, art. 15, 2020.

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