

Oral Health-Related Quality of Life and Symptom Burden in Patients Receiving Palliative Care: Implications for Integrated Nursing Practice

Laura Mendez^{1*}, Hiroshi Sato², Anna Kowalczyk³, David Chen⁴

¹*Department of Palliative Nursing and Oral Health, IE Business School, Madrid, Spain.*

²*Department of Palliative Dentistry and Oral Medicine, Keio University, Tokyo, Japan.*

³*Department of Nursing and Oral Care, University of Warsaw, Warsaw, Poland.*

⁴*Department of Dental Sciences and Palliative Care, National University of Singapore, Singapore.*

Abstract

Oral symptoms are common in advanced illness, yet their clinical significance cannot be inferred from symptom counts or oral findings alone. Xerostomia, salivary dysfunction, oral pain, mucosal injury, dysphagia, altered taste, infection, and communication difficulties can interfere with eating, drinking, speech, sleep, self-care, social interaction, and other activities that remain important to patients receiving palliative care. These effects may substantially influence oral health-related quality of life (OHRQoL), but identical symptom profiles can produce very different burdens depending on functional consequences, patient priorities, illness trajectory, treatment burden, and available support. This conceptual article develops a symptom–quality-of-life integration framework for palliative care that keeps symptom presence, symptom severity, patient-valued function, OHRQoL, treatment burden, and clinical escalation analytically distinct while explaining how they interact. Evidence from palliative care, supportive oncology, oral-health research, head-and-neck cancer, patient-reported outcome research, and nursing literature is integrated to examine symptom recognition, functional translation, professional responsibility, and decision-making. The framework proposes that oral symptoms become clinically meaningful through their effects on functions and experiences valued by the patient, while their interpretation is modified by temporal change, care context, individual goals, and the burden of intervention. Nursing assessment therefore requires more than identifying oral abnormalities; it requires determining what the problem changes for the patient and whether that change warrants supportive care, reassessment, or multidisciplinary escalation.

Keywords: Oral health-related quality of life, Palliative care, Oral symptom burden, Xerostomia, Nursing assessment, Supportive oral care

Introduction

Palliative care for people with cancer is increasingly understood as a multidimensional form of care that addresses physical symptoms, psychosocial concerns, communication, treatment burden, and goals that matter to patients and families [1]. Yet oral symptoms may receive less attention than pain, dyspnea, nausea, fatigue, or other routinely assessed palliative symptoms.

One reason is that oral problems are often recorded as isolated findings. OHRQoL provides a patient-centered way of understanding that meaning because it concerns how oral conditions influence experienced function and well-being rather than simply whether disease is clinically present [2-4].

The central difficulty is that advanced illness produces many overlapping sources of burden. A low OHRQoL score therefore cannot automatically be attributed to one oral symptom, and an apparently severe oral abnormality does not necessarily produce equivalent quality-of-life impairment in every patient.

Corresponding author: Laura Mendez

Address: Department of Palliative Nursing and Oral Health, IE Business School, Madrid, Spain.

E-mail: ✉ laura.mendez@ie.edu

Received: 11 September 2024; **Revised:** 15 November 2024;

Accepted: 13 December 2024

How to Cite This Article: Mendez L, Sato H, Kowalczyk A, Chen D. Oral Health-Related Quality of Life and Symptom Burden in Patients Receiving Palliative Care: Implications for Integrated Nursing Practice. *J Integr Nurs Palliat Care*. 2024;5(2):376-85. <https://doi.org/10.51847/XJEo7hRv1D>

This article develops a symptom–quality-of-life integration framework for interpreting these relationships. It also incorporates patient priorities, treatment burden, professional roles, and escalation decisions so that oral problems are interpreted for the individual rather than through symptom counts alone.

Conceptual approach

The framework begins with the premise that oral symptoms, oral pathology, functional consequences, and OHRQoL describe different kinds of information. Measurement research demonstrates considerable variation among OHRQoL instruments in their conceptual coverage and psychometric properties [5, 6].

Five analytical questions are therefore kept separate. The first asks what oral symptom or abnormality is present. The second concerns severity, persistence, frequency, or temporal change. The third examines what activity or function has been affected. The fourth concerns the patient-perceived effect on OHRQoL. The fifth asks whether the resulting burden justifies a change in supportive care, clinical investigation, or multidisciplinary management. These domains often interact, but the framework does not assume that they move in parallel. A patient may report severe xerostomia without major disruption of valued activities. Such differences should be interpreted rather than treated as inconsistency.

Temporal context also matters. Oral symptoms may be transient, progressive, treatment-related, persistent, or intermittent. Their importance may change as overall function declines or as care goals shift.

Oral health in the context of palliative care

Recognition is the first challenge. In an inpatient palliative-care unit, the reported prevalence of dry mouth differed markedly depending on which version of the Edmonton Symptom Assessment System was used, with substantially higher identification when dry mouth was explicitly listed [7]. This finding shows that symptom documentation depends partly on assessment architecture. A problem that is not routinely asked about may remain clinically invisible.

Patient reports illustrate why this matters. People with advanced disease have described dry mouth as interfering with talking, eating, tasting, swallowing, and sleep [8]. These consequences extend beyond oral discomfort. They affect functions that may influence dignity, social interaction, nutrition, communication, and comfort.

Advanced-cancer oral-care guidance likewise emphasizes repeated assessment, individualized management, and access to oral-health expertise when problems become complex [9, 10]. The implication for palliative practice is that oral health should not be divided into either “nursing care” or “dental care.” Routine recognition and supportive management can occur within nursing practice, while complex pathology, diagnostic uncertainty, persistent symptoms, or specialist treatment needs may require dental or medical involvement.

The analytical distinctions required before integrating oral symptoms with quality of life are shown in **Table 1**.

Table 1. Analytical distinctions required before integrating oral symptoms with quality of life in palliative care

Analytical unit	Primary question	What it captures	What it must not automatically represent	Relevance to nursing practice
Oral symptom presence	What is the patient experiencing?	Dryness, pain, taste disturbance, swallowing difficulty, communication difficulty, or other oral complaint	Functional loss or quality-of-life impairment	Establishes the problem requiring clarification
Symptom severity and persistence	How intense, frequent, or persistent is the symptom?	Magnitude and temporal pattern	Patient priorities or treatment need by itself	Supports monitoring and recognition of deterioration
Clinical or biological abnormality	What can be observed or measured?	Mucosal injury, salivary dysfunction, infection, dental pathology, other oral findings	Subjective symptom burden	Supports diagnosis and targeted management
Patient-valued function	What meaningful activity has become difficult?	Eating, drinking, speaking, sleeping, oral self-care, social interaction	Overall OHRQoL	Links oral symptoms to personally important consequences
OHRQoL	How does oral health affect experienced well-being?	Functional, physical, psychological, and social oral-health impact	A total symptom count	Provides a patient-centered outcome perspective
Treatment burden	What burden would additional care impose?	Effort, discomfort, travel, medication burden, procedures, repeated assessment	Disease severity	Supports proportional decision-making

Escalation need	Is broader expertise needed?	Complexity, persistence, functional compromise, uncertainty, failure of basic measures	A universal numerical threshold	Guides multidisciplinary coordination
-----------------	------------------------------	--	---------------------------------	---------------------------------------

Oral health-related quality of life as a multidimensional construct

OHRQoL is useful because it captures aspects of oral health that clinical examination alone may miss. Systematic evidence shows that patient-perceived oral function is an important dimension of OHRQoL and does not necessarily correspond directly with objective measures of physical oral function [11, 12]. Psychosocial effects also constitute a distinct dimension, extending the consequences of oral health into emotional, interpersonal, and social experience [13, 14].

These distinctions become especially relevant in palliative care. The oral-health consequence that matters most to a patient may be the loss of a particular ability rather than the severity of pathology. A relatively limited lesion may be highly burdensome if it prevents eating a preferred food, speaking comfortably, or maintaining oral hygiene. Conversely, clinically significant oral disease may be experienced as less important if other symptoms dominate the patient's priorities.

OHRQoL therefore functions most appropriately as a multidimensional patient-reported construct rather than as a proxy for disease burden. It should complement clinical assessment, not replace it, and should be interpreted alongside symptom severity, functional consequences, and individual goals.

Oral symptom burden in advanced illness

Oral symptom burden refers to the number, intensity, persistence, and interaction of oral problems experienced during advanced illness. It is useful for describing what the patient is dealing with, but it should not be equated with OHRQoL. Several mild symptoms may generate little functional disruption, while a single symptom may profoundly affect communication, eating, or comfort.

Evidence on xerostomia in advanced cancer illustrates this distinction. A scoping review identified a substantial body of literature describing xerostomia and its complications, but the evidence was heterogeneous in population, measurement, and clinical context [15, 16]. This variability makes a single expected oral-symptom profile inappropriate for palliative care.

Symptom burden is also influenced by whether clinicians actively look for particular problems. The assessment findings reported with different Edmonton Symptom Assessment System versions demonstrate that recorded burden partly reflects what the assessment instrument allows clinicians and patients to report [7, 17]. Oral symptom burden should therefore be interpreted as a clinically observed and patient-reported state shaped by measurement, not as a complete representation of lived experience.

378

Xerostomia and salivary dysfunction

Xerostomia provides a particularly clear example of the need to separate symptom experience from biological dysfunction. Advanced-cancer evidence identifies dry mouth as a common and clinically relevant problem with multiple potential consequences [15]. In qualitative research involving people receiving palliative care, xerostomia affected speech, physical functioning, daily activity, and psychological well-being [18, 19].

These patient reports demonstrate why clinical significance should be interpreted through function. Dryness may interfere with swallowing medication, eating small meals, talking with relatives, sleeping comfortably, or maintaining oral hygiene. The value attached to those functions differs among patients, so identical symptom ratings may have very different consequences.

Clinical guidance also distinguishes subjective xerostomia from objective salivary gland hypofunction [20]. The two may coexist but are not synonymous. A patient can experience severe subjective dryness despite limited measurable change, while another may have measurable salivary dysfunction but report less distress.

Management should consequently remain individualized [21, 22]. Strategies may differ according to symptom cause, residual salivary function, treatment history, oral condition, medication exposure, hydration, tolerance, and patient preference.

Evidence from head-and-neck cancer survivors provides further support for the connection between xerostomia and patient-perceived oral health. Post-radiotherapy xerostomia has been associated with poorer OHRQoL [23]. However, survivorship findings cannot be transferred quantitatively to palliative populations because prognosis, treatment exposure, stage of illness, and competing symptoms differ.

Oral pain and mucosal injury

Pain represents another direct pathway through which oral problems may affect quality of life. Systematic evidence across orofacial pain conditions demonstrates substantial OHRQoL consequences [24]. In cancer care, pain may arise from mucositis, infection, ulceration, treatment-related injury, dryness, trauma, dental disease, or combinations of these processes.

Biological and clinical findings provide useful information but do not determine patient burden by themselves. Prospective research has identified associations between salivary inflammatory mediators and chemotherapy-related oral mucositis [25]. Other clinical evidence shows that mucositis occurrence and severity vary with treatment and patient factors [26].

Importantly, downstream functional consequences are not uniform. In hospitalized cancer populations, chemotherapy-related ulcerative mucositis was associated with dysphagia in specified groups, whereas radiotherapy-related ulcerative mucositis did not show the same statistically significant relationship in one subgroup [27]. The broader implication is that tissue injury should not be converted automatically into a predetermined functional consequence.

Table 2. Divergent pathways linking oral pain and mucosal injury with patient-valued function

Oral problem pattern	Clinical dimension	Patient-experienced dimension	Potential functional consequence	Interpretation boundary	Clinical implication
Pain with limited visible injury	Symptoms may exceed visible pathology	Persistent soreness or burning	Eating, speaking, sleep, and oral care may be affected	Visible pathology does not determine perceived burden	Assess severity, triggers, function, and treatment response
Mucosal injury with severe pain	Tissue damage may coexist with intense symptoms	Contact pain or burning	Reduced intake and difficult oral hygiene	Tissue injury does not produce identical burden in all patients	Evaluate comfort, intake, oral care tolerance, and need for escalation
Mucosal injury with limited pain	Clinical abnormality may exceed subjective burden	Relatively little discomfort	Function may remain preserved	Clinical and patient-reported burden may diverge	Do not dismiss pathology solely because pain is low
Pain with dysphagia	Multiple mechanisms may coexist	Swallowing becomes difficult or distressing	Avoidance of foods, drinks, or medication	Dysphagia should not be attributed automatically to mucositis	Broader swallowing assessment may be needed
Dryness with mucosal pain	Friction and reduced lubrication may coexist with injury	Sticky, painful, difficult mouth movement	Speech, swallowing, eating, and oral care may worsen	Xerostomia and salivary dysfunction remain distinct	Combine symptom questioning with oral examination
Persistent symptoms despite routine care	Ongoing injury, infection, treatment effect, or another cause may remain	Continued burden	Progressive restriction of valued activity	Failure of basic care changes the clinical meaning	Reassess cause and consider specialist input

Dysphagia and eating difficulties

Dysphagia deserves separate consideration because it represents a functional consequence rather than simply another oral symptom. Late radiation-associated dysphagia can persist after treatment for head-and-neck cancer, with considerable heterogeneity in definition, severity, and detection [28, 29].

Service-evaluation evidence further suggests that active questioning may identify swallowing and eating concerns that are incompletely represented in routine records [29]. These findings have particular relevance for palliative nursing because swallowing difficulty may remain unnoticed when patients do not spontaneously report it or when attention is directed toward more obvious symptoms.

Dysphagia should also not be attributed automatically to mucosal injury. The treatment-specific differences identified in mucositis-related swallowing outcomes suggest that fibrosis, neuromuscular impairment, anatomical changes, dryness, pain, fatigue, generalized weakness, or other disease processes may contribute independently [27].

For palliative assessment, the clinically relevant question is therefore not only whether dysphagia exists but how it affects the patient's remaining priorities: comfort, medication administration, enjoyment of food, hydration, social eating, or the ability to make independent choices about intake.

Infection, taste disturbance, and communication

Oral symptoms that are less visible than pain or mucositis may still have important consequences. Taste alteration during cancer treatment is multifactorial and may arise from treatment effects, changes in saliva, oral disease, sensory alteration, medications, or other processes [30].

Taste disturbance can affect food selection and the pleasure associated with eating even when swallowing remains mechanically intact. This distinction matters in palliative care because food may carry emotional, social, and symbolic significance in addition to nutritional value.

Persistent taste and smell disturbance is also heterogeneous. Evidence after immune-checkpoint inhibitor therapy indicates that clinically important dysfunction occurs only in a subset of patients [31]. This variability reinforces the need for direct assessment rather than assumptions based on treatment exposure.

Communication may also be affected by oral symptoms. Qualitative palliative-care evidence shows that xerostomia can interfere with speaking [18]. In circumstances where communication with family or participation in care decisions is particularly important, an apparently modest oral symptom may therefore become a high-priority problem.

Pathways from oral symptoms to quality of life

The relationship between oral symptoms and OHRQoL is best represented as a set of conditional pathways. Pain may affect eating and sleep. Xerostomia may affect swallowing and speech. Taste disturbance may alter food enjoyment. Dysphagia may reduce intake and social participation. Mucosal injury may make oral care difficult. Several pathways may operate simultaneously.

Longitudinal evidence from patients receiving radiotherapy for head-and-neck cancer demonstrates that oral health-related outcomes can change across time rather than remaining static [32]. Although this evidence arises from a different clinical population, it supports the broader principle that oral symptom effects should be interpreted longitudinally.

Function is therefore treated as an important bridge between symptoms and OHRQoL, but not as the only explanation. Systemic disease burden, treatment effects, psychological state, fatigue, social circumstances, prognosis, and changing goals may influence the same outcome.

Interactions with nutrition, hydration, and functional capacity

Eating and drinking bring several oral pathways together. Patients with xerostomia may experience difficulty eating, tasting, swallowing, or maintaining comfort [8, 15]. Dysphagia can make intake effortful or unsafe, while taste disturbance may reduce food enjoyment even when physical swallowing is preserved [28, 30].

These relationships require careful interpretation. Reduced intake should not automatically be attributed to oral symptoms because advanced illness itself may cause anorexia, cachexia, nausea, weakness, altered metabolism, or changing preferences. Similarly, taste disturbance should not be equated directly with nutritional deficiency unless nutritional consequences are assessed.

Functional capacity can alter the importance of the same oral symptom. A patient who is still eating, conversing, and independently performing oral care may experience even moderate oral symptoms as a significant threat to valued abilities. A patient with profound systemic decline may prioritize comfort over restoration of oral function. The practical question is therefore what the patient is trying to preserve and whether the oral problem meaningfully interferes with that goal.

Patient priorities and treatment burden

Symptom severity alone cannot determine whether treatment is worthwhile. Research on cancer pain goals shows that patients frequently value outcomes such as function, alertness, medication minimization, independence, and everyday activity in addition to reduction in symptom intensity [33].

This principle is highly relevant to oral care. A patient may prefer a simple intervention that improves speech or comfort over a more burdensome procedure intended to correct a clinical abnormality. Another may prioritize the ability to eat a small preferred meal over an objective improvement in oral findings.

Priorities may also change. Longitudinal evidence in advanced cancer demonstrates that goals of care evolve over time [34]. Oral-care decisions should therefore be revisited rather than based on assumptions that a previous preference remains unchanged.

Treatment burden becomes part of the decision itself. Additional investigations, dental appointments, medications, procedures, transportation, discomfort, or repeated assessments may have different value depending on prognosis and patient preference.

Nursing assessment and recognition

Nurses are often best positioned to identify emerging oral problems because they observe changes in eating, drinking, speech, comfort, self-care, sleep, and symptom expression. Palliative nursing competency literature emphasizes multidimensional assessment, communication, coordination, and management of complex patient needs [35].

Within oral care, assessment should distinguish four observations: the symptom reported by the patient, the oral finding observed clinically, the functional consequence, and the effect on quality of life. These observations may support one another, but none should automatically substitute for another.

Purposeful questioning is particularly important because assessment structure influences recognition [7]. Asking whether the mouth is dry may identify one problem; asking whether dryness affects speaking, swallowing, sleep, medication use, or oral care reveals its functional significance.

Nursing responsibility within the framework is therefore recognition, interpretation, supportive intervention where appropriate, reassessment, communication, and escalation when the problem exceeds routine management.

Dental and multidisciplinary integration

Oral-health needs frequently cross professional boundaries [36]. A large retrospective cancer cohort demonstrated substantial dental treatment needs among patients referred before therapy [37]. Although this population differs from palliative patients, it illustrates that oral pathology can require expertise that is not automatically available through general medical care.

In terminally ill cancer patients, both nurse-led oral care and dental-professional-led management produced improvements in several assessed oral-health domains, although some improvements differed between pathways [38]. These findings support differentiated responsibilities rather than competition between professions.

Nurses can provide routine oral care, monitor symptoms, identify functional consequences, and recognize deterioration. Dental professionals may be required for complex lesions, dental pathology, persistent symptoms, procedural management, or diagnostic uncertainty.

Advanced-cancer guidance similarly supports multidisciplinary oral-health involvement when complexity exceeds routine care [9]. Escalation should therefore depend on clinical need, expected benefit, patient preference, treatment burden, and available resources.

Proposed oral symptom–quality-of-life framework

The proposed framework integrates five domains.

The first is the oral symptom state, including xerostomia, salivary dysfunction, pain, mucosal injury, dysphagia, taste disturbance, infection, and communication difficulty.

The second is functional translation. Symptoms acquire clinical significance through their effect on eating, drinking, speaking, sleeping, oral self-care, social participation, and other valued activities.

The third is patient-valued OHRQoL, encompassing physical discomfort, functional limitation, psychological impact, and interpersonal consequences.

The fourth is patient priorities and treatment burden, which modify the meaning of the same symptom profile.

The fifth is clinical response, including nursing recognition, supportive management, reassessment, and multidisciplinary escalation.

The framework does not propose that every relationship is causal or universal. Evidence-supported relationships and proposed conceptual links must remain distinguishable.

Table 3. Clinical application and boundary conditions of the oral symptom–quality-of-life framework

Decision context	Information required	Interpretation	Appropriate response zone	Boundary condition
Symptom present with little functional effect	Symptom severity, patient priorities, trajectory	Clinical presence does not automatically equal major OHRQoL burden	Supportive care and monitoring	Do not escalate solely because a symptom is present
Moderate symptom with major effect on valued activity	Functional consequences, patient-defined priorities	Functional significance may exceed numeric severity	Targeted intervention and reassessment	Severity scores alone may underestimate importance
Objective abnormality with limited subjective burden	Examination findings, risk, prognosis, preferences	Clinical significance and experienced burden may diverge	Individualized monitoring or treatment	Low reported distress does not automatically make pathology irrelevant
Persistent problem despite basic supportive care	Symptom trajectory, diagnosis, previous interventions	Failure of routine care changes decision context	Medical or dental reassessment	Persistence should not be mistaken for treatment resistance without diagnostic review
Multiple interacting symptoms	Symptom pattern, function, treatment history	Effects may arise through several overlapping pathways	Coordinated multidisciplinary assessment	Avoid assigning all consequences to one symptom
High treatment burden with limited expected benefit	Prognosis, goals, intervention burden	Technical treatability does not guarantee patient value	Preference-sensitive conservative management	Benefit must remain proportionate to burden
Threat to communication, swallowing, or essential oral function	Functional change, urgency, safety, patient wishes	Functional deterioration increases clinical priority	Prompt reassessment and appropriate escalation	No single numerical symptom threshold applies across patients

The framework's relationships are summarized visually in **Figure 1**.

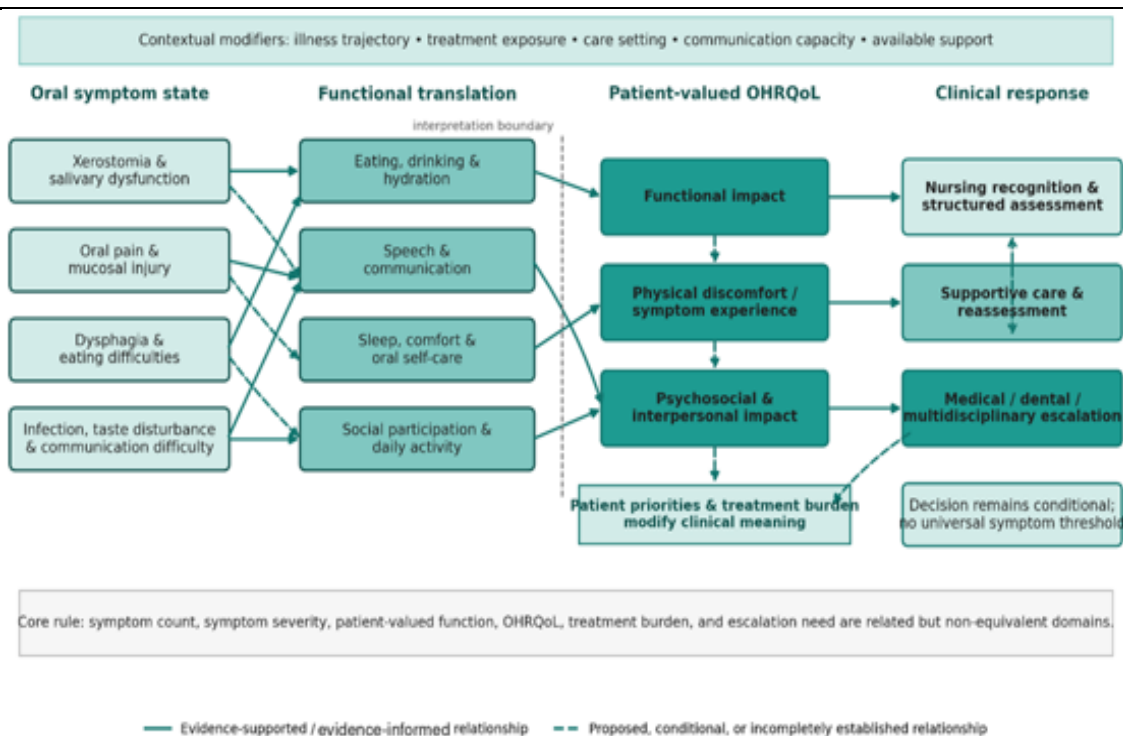


Figure 1. Oral symptom–quality-of-life integration in palliative care

Oral symptoms are interpreted through their effects on patient-valued function rather than converted directly into OHRQoL. Solid arrows represent relationships supported directly by the evidence synthesized in this review or explicitly asserted from that evidence. Dashed connectors represent proposed, conditional, or incompletely established relationships requiring further testing. Contextual modifiers include illness trajectory, treatment exposure, care setting, communication capacity, and available support. Patient priorities and treatment burden modify the clinical significance of the resulting OHRQoL impact. Clinical response progresses from nursing recognition and structured assessment to supportive management, reassessment, and, where warranted, medical, dental, or multidisciplinary escalation. Symptom count, symptom severity, function, OHRQoL, treatment burden, and escalation need remain non-equivalent domains.

Clinical decision points and escalation

Clinical decisions should therefore begin with the question: What does this oral problem change for this patient? Severity remains important, but it is interpreted alongside functional consequence, persistence, patient priorities, and treatment burden.

A symptom may warrant increased attention when it interferes with communication, swallowing, oral intake, sleep, comfort, medication use, or another valued activity. Persistent symptoms despite routine supportive measures also justify reassessment.

Subjective and objective assessments should remain distinct. Xerostomia guidance demonstrates why perceived dryness and measurable salivary dysfunction require complementary evaluation [20]. Advanced-cancer oral-care guidance similarly supports individualized management [9].

No universal numerical escalation threshold is proposed. A reported threshold from one terminal-cancer oral-care study may be useful within that study context but should not be converted into a universal palliative-care decision rule [38].

Implications for integrated nursing practice

Integrated nursing practice requires oral health to be visible within routine palliative assessment. Documentation should extend beyond statements such as “dry mouth present” or “mucositis present” and identify the patient-relevant consequence.

For example, documenting that xerostomia prevents sustained conversation or that mucosal pain makes oral hygiene intolerable provides clinically actionable information. Such documentation also improves communication between nursing, medical, dietetic, speech and language, and dental professionals.

Palliative nursing competence already requires broad assessment and coordination [35]. Oral-health assessment can be incorporated into these existing responsibilities without suggesting that nurses independently manage every oral condition.

Evidence from integrated palliative-care interventions demonstrates that multidimensional models can improve quality-of-life outcomes in advanced cancer [39]. This does not prove that oral-health integration alone produces those improvements, but it supports the principle that complex patient needs are more appropriately managed through coordinated approaches.

Implementation should also recognize that routine quality-of-life measurement remains inconsistent across cancer and palliative-care services [40]. Making oral-health consequences visible therefore requires organizational as well as individual clinical attention.

Research propositions

Several propositions follow from the framework.

First, models of OHRQoL in palliative populations should explain more variance when they incorporate patient-valued functional disruption than when they rely solely on oral symptom counts.

Second, functional consequences such as eating difficulty, impaired communication, sleep disruption, and reduced oral self-care may mediate some associations between oral symptoms and OHRQoL.

Third, patient priorities and treatment burden may moderate the clinical importance of equivalent symptom states.

Fourth, structured oral-health questioning may increase recognition independently of underlying biological prevalence.

Fifth, professional-role models should be tested according to complexity, outcomes, appropriateness of escalation, and patient priorities rather than assuming that nursing and dental responsibilities are interchangeable.

Prospective studies should also investigate temporal changes. The same oral symptom may have different consequences as illness progresses, functional capacity changes, or care goals are revised.

Results and Discussion

The central argument of this article is that oral symptom burden in palliative care should be interpreted through integration rather than reduction. Symptoms matter because of what they do to patients, but the resulting burden cannot be predicted reliably from symptom number or clinical severity alone.

The available evidence supports several components of this approach while also demonstrating uncertainty. Palliative-care evidence shows that assessment design can strongly influence recognition of dry mouth [7]. Oral-health research establishes multidimensional OHRQoL [2, 11, 13]. Cancer supportive-care evidence demonstrates symptom-specific pathways involving xerostomia, mucosal injury, dysphagia, taste disturbance, and oral function [18].

At the same time, the evidence argues against a universal causal chain. Associations vary by treatment and population. Mucositis does not produce identical swallowing outcomes in every group [27]. Persistent taste dysfunction is not uniform following cancer treatment [31].

The framework therefore contributes an interpretive structure rather than a prediction algorithm. Its most important distinction is between having an oral problem and experiencing a patient-important consequence from that problem.

This distinction has practical consequences. If symptom severity is used alone, clinicians risk overlooking moderate symptoms that substantially restrict meaningful activities.

The framework instead positions nursing recognition, patient-valued function, and multidisciplinary response within the same decision process.

Conceptual limitations

The evidence base is not exclusively palliative. These populations provide useful conceptual and mechanistic evidence but cannot be treated as direct substitutes for palliative-care populations.

Many reported relationships are observational. Associations between symptoms and OHRQoL do not establish causality, and several variables may influence both.

Measurement is another limitation. OHRQoL instruments differ in conceptual coverage [6], while clinical oral assessments measure domains that patient-reported instruments may not capture. No single tool therefore represents the entire framework.

Professional response is also context dependent. Access to dental expertise, staffing, geography, prognosis, patient preference, and organizational resources will affect what escalation is feasible.

Finally, the framework itself remains conceptual. Its proposed relationships require prospective testing before it could support formal clinical prediction or standardized escalation algorithms.

Conclusion

Oral health in palliative care cannot be understood adequately through symptom counts or clinical findings alone. Xerostomia, oral pain, mucosal injury, dysphagia, taste disturbance, infection, and communication difficulties

matter when they alter functions and experiences that the patient values. The symptom–quality-of-life integration framework developed here therefore separates oral symptoms, functional consequences, OHRQoL, patient priorities, treatment burden, and clinical response while explaining how they interact. This approach supports nursing assessment that asks what an oral problem changes for the individual patient and uses that information to guide supportive care, reassessment, and multidisciplinary involvement. Its clinical value depends on preserving these distinctions rather than converting them into a single score or universal escalation threshold.

Acknowledgments: None

Conflict of interest: None

Financial support: None

Ethics statement: None

References

1. Sanders JJ, Temin S, Ghoshal A, Alesi ER, Ali ZV, Chauhan C, et al. Palliative care for patients with cancer: ASCO guideline update. *J Clin Oncol*. 2024;42(19):2336-57. doi:10.1200/JCO.24.00542
2. John MT. Foundations of oral health-related quality of life. *J Oral Rehabil*. 2021;48(3):355-9. doi:10.1111/joor.13040
3. Ding J, Le H, Zhuang X, Xu W, Wang Y, Chang F. Investigating the effectiveness of stem cells in cartilage tissue engineering. *J Biochem Technol*. 2024;15(1):1-5. doi:10.51847/cl2gvlKqdn
4. Alwabel LK. Association between dental prosthesis and oral health-related quality of life among Saudi adults: a cross-sectional study. *Ann Dent Spec*. 2025;13(2):23-9. doi:10.51847/GcfQoL9Gvr
5. Chiddarwar R, Borle A, Sathe S, Godbole S. Oral health-related quality of life following prosthetic rehabilitation in post-mucormycosis cases: a cross-sectional study protocol. *Ann Dent Spec*. 2025;13(3):82-7. doi:10.51847/YuiRhUFxYa
6. Deana NF, Pardo Y, Ferrer M, Espinoza-Espinoza G, Garin O, Muñoz-Millán P, et al. Evaluating conceptual model measurement and psychometric properties of oral health-related quality of life instruments available for older adults: a systematic review. *Health Qual Life Outcomes*. 2024;22(1):5. doi:10.1186/s12955-023-02218-7
7. Monsen RE, Lerdal A, Nordgarden H, Gay CL, Herlofson BB. A comparison of the prevalence of dry mouth and other symptoms using two different versions of the Edmonton Symptom Assessment System on an inpatient palliative care unit. *BMC Palliat Care*. 2024;23(1):75. doi:10.1186/s12904-024-01405-7
8. Fleming M, Craigs CL, Bennett MI. Palliative care assessment of dry mouth: what matters most to patients with advanced disease? *Support Care Cancer*. 2020;28(3):1121-9. doi:10.1007/s00520-019-04908-9
9. Jones JA, Chavarri-Guerra Y, Corrêa LBC, Dean DR, Epstein JB, Fregnani ER, et al. MASCC/ISOO expert opinion on the management of oral problems in patients with advanced cancer. *Support Care Cancer*. 2022;30(11):8761-73. doi:10.1007/s00520-022-07211-2
10. Chen W, Zhao M, Wang LN, Zhang H, Li J, Yu X. Patient-reported outcomes in orthodontic-periodontal interdisciplinary care. *Asian J Periodontics Orthod*. 2024;4(1):175-84. doi:10.51847/24kc17FkhQ
11. Schierz O, Baba K, Fueki K. Functional oral health-related quality of life impact: a systematic review in populations with tooth loss. *J Oral Rehabil*. 2021;48(3):256-70. doi:10.1111/joor.12984
12. Chou W, Chen S, Wang FY, You J. Mobile app-supported periodontal treatment: a randomized trial on clinical and cognitive outcomes. *Asian J Periodontics Orthod*. 2024;4(1):108-20. doi:10.51847/Ckcf2KG95v
13. Su N, van Wijk A, Visscher CM. Psychosocial oral health-related quality of life impact: a systematic review. *J Oral Rehabil*. 2021;48(3):282-92. doi:10.1111/joor.13064
14. Dubois P, Lefevre M, Moreau C, Martin J, Dupont T. Organizations as systems for collective recovery and sustainable work. *J Appl Organ Syst Behav*. 2025;5(2):51-60. doi:10.51847/K72PCsm6sj
15. Walsh M, Fagan N, Davies A. Xerostomia in patients with advanced cancer: a scoping review of clinical features and complications. *BMC Palliat Care*. 2023;22(1):178. doi:10.1186/s12904-023-01276-4
16. Khalil A, Fathy S, Adel M, Nabil H, Mostafa R. Employee well-being after continuous organizational transformation and accelerated change. *J Appl Organ Syst Behav*. 2025;5(2):104-13. doi:10.51847/9qKnG68rjL
17. Brooks D, Carter A, Moore E, Grant O. Revisiting Parkinson's disease treatment: exploring established medications and emerging therapies. *J Appl Pharm Technol Syst*. 2024;3:90. doi:10.68159/i340840675
18. Murphy Dourieu E, Lisiecka D, Evans W, Sheahan P. Xerostomia: a silent burden for people receiving palliative care—a qualitative descriptive study. *BMC Palliat Care*. 2025;24(1):1. doi:10.1186/s12904-024-01617-x

19. Benali A, Boudiaf K, Touati S. Digital firms as learning systems: continuous organizational knowledge development through data interaction and market feedback. *J Digit Bus Manag Stud.* 2023;3:26. doi:10.68159/u140122078
20. Hong C, Epstein JB, Jensen SB, Gueiros LA, van Leeuwen SJM, Kandwal A, et al. MASCC/ISOO Clinical Practice Statement: clinical assessment of salivary gland hypofunction and xerostomia in cancer patients. *Support Care Cancer.* 2024;32(8):551. doi:10.1007/s00520-024-08691-0
21. Hong C, Jensen SB, Vissink A, Bonomo P, Santos-Silva AR, Gueiros LA, et al. MASCC/ISOO Clinical Practice Statement: management of salivary gland hypofunction and xerostomia in cancer patients. *Support Care Cancer.* 2024;32(8):548. doi:10.1007/s00520-024-08688-9
22. Müller A, Weber S, Hoffmann J, Schneider L, Klein T. A conceptual theory of measurement validity for AI-generated materials properties. *J Artif Intell Mater Sci.* 2024;3:119. doi:10.68159/n351328230
23. Hoene G, Waldzus LC, Schminke B, Gruber LJ, Dröge L, Schliephake H, et al. Post-radiotherapy xerostomia and quality of life in head and neck cancer patients. *Support Care Cancer.* 2026;34(7):698. doi:10.1007/s00520-026-10948-9
24. Oghli I, List T, Su N, Häggman-Henrikson B. The impact of oro-facial pain conditions on oral health-related quality of life: a systematic review. *J Oral Rehabil.* 2020;47(8):1052-64. doi:10.1111/joor.12994
25. Yoshida K, Kiyomi A, Kurokawa A, Hoshino N, Saito C, Koga M, et al. Association between salivary inflammatory mediators and oral mucositis in patients with cancer undergoing chemotherapy. *Support Care Cancer.* 2024;32(9):625. doi:10.1007/s00520-024-08836-1
26. Abali Pilas S, Kurt S. Evaluation of oral mucositis level and affecting factors in cancer patients receiving chemotherapy. *Support Care Cancer.* 2024;32(9):597. doi:10.1007/s00520-024-08812-9
27. Mohan MP, Pili R, Epstein JB, Rudin L, Eichhorn S, Satheeshkumar PS. Cancer treatment-induced ulcerative mucositis serves as a significant predictor of burden of illness including dysphagia, and associated disparities among hospitalized cancer patients. *Support Care Cancer.* 2025;33(1):22. doi:10.1007/s00520-024-09071-4
28. Sellstrom D, Patterson JM, Finch T, O'Hara J, Haighton C. Late radiation-associated dysphagia following treatment for head and neck cancer: a scoping review. *Support Care Cancer.* 2025;33(6):493. doi:10.1007/s00520-025-09540-4
29. Rothrie S, Brady G, Roe J. A cross-sectional retrospective and prospective service evaluation of head and neck cancer patients' swallowing and quality of life concerns: are we doing enough? *Support Care Cancer.* 2026;34(7):681. doi:10.1007/s00520-026-10906-5
30. Fons A, Oreskovich D, Prioult G, von der Weid B, Lerea-Antes J. Taste alterations in patients with cancer: an overview and recommendations for future research. *Support Care Cancer.* 2025;33(9):784. doi:10.1007/s00520-025-09846-3
31. van Elst JM, Buffinga CM, Brand HS, Hijmering-Kappelle LBM, Jager-Wittenaar H, Reyners AKL, et al. Prevalence and characteristics of persistent taste and smell dysfunction after immune checkpoint inhibitor therapy for cancer. *Support Care Cancer.* 2026;34(6):564. doi:10.1007/s00520-026-10761-4
32. Patton LL, Helgeson ES, Brennan MT, Treister NS, Sollecito TP, Schmidt BL, et al. Oral health-related quality of life after radiation therapy for head and neck cancer: the OraRad study. *Support Care Cancer.* 2023;31(5):286. doi:10.1007/s00520-023-07750-2
33. Ehrlich O, Lackowski A, Glover TL, Vallerand AH. Use of goals in cancer pain management: a systematic review. *J Pain Symptom Manage.* 2024;68(3). doi:10.1016/j.jpainsymman.2024.05.026
34. Dong J, Arulsamy KK, Malhotra C, Finkelstein EA, Ozdemir S. Trajectories of goals of care among patients with advanced cancer in the last two years of life. *J Pain Symptom Manage.* 2026;71(5):659-67. doi:10.1016/j.jpainsymman.2026.01.023
35. Guo J, Dai Y, Chen Y, Liang Z, Hu Y, Xu X, et al. Core competencies among nurses engaged in palliative care: a scoping review. *J Clin Nurs.* 2024;33(10):3905-22. doi:10.1111/jocn.17294
36. Gedugova MR, Karpenko AS, Mamisheva AV, Ozdamirova LV, Arasova AR, Vasina VV, et al. Damage to the temporomandibular joint in rheumatoid arthritis and osteoarthritis: a clinical and instrumental study. *J Biochem Technol.* 2025;16(3):10-8. doi:10.51847/R21yZ4a6Ze
37. Beaumont S, Liu A, Hull K. A retrospective cohort study of the oral healthcare needs of cancer patients. *Support Care Cancer.* 2025;33(4):314. doi:10.1007/s00520-025-09314-y
38. Suzuki H, Furuya J, Hidaka R, Motomatsu Y, Hara R, Kabasawa Y, et al. Comparison of nurse-led oral health care and dental professional-led oral health management in terminally ill cancer patients receiving palliative care: a longitudinal study. *Support Care Cancer.* 2025;33(5):386. doi:10.1007/s00520-025-09453-2
39. Wang M, Ding X. Integrated palliative care improves the quality of life of advanced cancer patients. *BMC Palliat Care.* 2025;24(1):162. doi:10.1186/s12904-025-01800-8
40. Miranda R, Raemdonck E, Deliëns L, Kaasa S, Zimmermann C, Rodin G, et al. Do cancer centres and palliative care wards routinely measure patients' quality of life? An international cross-sectional survey study. *Support Care Cancer.* 2023;31(8):499. doi:10.1007/s00520-023-07964-4