Xerostomia care in palliative patients: a scoping review protocol

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Study protocol

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Protocol

Xerostomia care in palliative patients: a scoping review protocol

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Abstract:

Background Oral problems are very common in palliative patients and have a huge impact on the quality of life of patients and families. A common complication in these patients and one of the most prevalent and significant problems is xerostomia. Xerostomia influences the taste and tolerance of some foods impacting the appetite and the ability to talk and social interaction, inducing distress. In this context, healthcare professionals should promote oral care to relieve and control symptoms to comfort palliative patients. This study aims to map the literature on how patients receiving palliative care are treated for xerostomia.

Methods Scoping review will be carried out according to Joanna Briggs Institute methodology. A set of relevant electronic databases and grey literature will be searched. This scoping review will consider any quantitative, qualitative, mixed-methods study and systematic review designs for inclusion, focusing on how palliative care patients are treated for xerostomia.

Conclusion This scoping review will be the first to map evidence on xerostomia in palliative patients, specifically how to diagnose and treat these patients. Moreover, the review will also take a wide variety of healthcare settings, interventions and their characteristics, and study designs into account.

Keywords end of life care; hospice; palliative care; review; xerostomia

Background

Oral problems are very common in palliative patients and are associated with hydration status and disease or treatments such as chemotherapy or radiation. Have a huge impact on the quality of life and well-being of patients and families, and consequences at different levels, namely physical, functional, psychological and social.

Symptoms such as xerostomia, candidiasis, mucositis, stomatitis, ulceration, and taste alterations are often present [1–5]. Aside from an increased risk of dental caries, infections, and osteoradionecrosis, xerostomia can cause oral difficulties such as discomfort, dysphagia, speech difficulty, altered or diminished taste, and osteoradionecrosis. One of the top 5 most severe symptoms described by long-term oropharyngeal cancer patients is xerostomia [6] . Assessment of these symptoms, early diagnosis and treatment are crucial in palliative care, given the emphasis on promoting a person's well-being and quality of life [5, 7]. However, despite their high prevalence, oral complications tend to be underreported and underdiagnosed because the person and family often consider them an inevitable consequence of the treatment [8].

A common complication and one of the most prevalent and significant problems in a palliative patient is xerostomia, which is characterized by the sensation of a dry mouth due to changes in saliva quality/quantity, particularly in volume, pH or consistency, with special emphasis on the decrease and/or thickening of saliva [9, 10]. Previous studies identify a prevalence of around 50% in cancer patients undergoing chemotherapy or on haemodialysis, increasing to over 80% in patients under head and neck radiotherapy [10–12]. In terminally ill cancer patients, one study even identified a prevalence of salivary hypofunction in 98% of patients (61% moderate to severe dysfunction) [3].

Xerostomia influences the taste and tolerance of some foods, such as spicy, acids, and crunchy foods, impacting appetite. Chewing and swallowing are also compromised and may influence tolerance to dental prostheses [9–11].

In this context, healthcare professionals should promote oral care to relieve and control symptoms to comfort palliative patients [13]. Interventions can include routine oral care, administration of oral mucosa lubricants/saliva substitutes, and the use of chewing gum or acid candy, among others [2, 14].

However, despite the negative impact of oral health problems on palliative patients' well-being and quality of life, these are not always assessed and valued by professionals. This reality conditions adequate diagnosis and intervention due to scarce human resources, lack of knowledge or low patient compliance [3, 8, 13, 15].

This scoping review aims to map the treatment for xerostomia in palliative care patients and is guided by the JBI methodology. There are presently no scoping reviews or systematic reviews about this topic that have been published or are in progress, according to a preliminary search of MEDLINE (Pubmed), the JBI Evidence Synthesis, the Cochrane Database of Systematic Reviews, PROSPERO, and Open Science Framework (O.S.F.) [16–18].

This scoping review seeks to answer the following questions:

1. What interventions are implemented in a palliative patient with xerostomia?
2. What are the characteristics (duration, responsible for implementation, follow-up/evaluation, material/product used) of these interventions?
3. In what context (e.g., home care, palliative care unit, hospice) are these interventions implemented?
4. In what area (oncology, non-oncology) are these interventions implemented?

Methods

The protocol for this scoping review will be developed in accordance with the most recent JBI methodology guidance [16–18]. The final review will be reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines [19]. This review protocol was registered in the Open Science Framework (https://osf.io/rjfpu/).

2.1. Inclusion criteria

Based on the JBI recommendations mnemonic "P.C.C." for scoping review, the inclusion criteria are: **Participants -** The review will consider studies that include palliative patients 18 years or over. **Concep**t - This review will consider studies about the care health care professionals provide for xerostomia. **Context -** The review will consider studies developed in all contexts of care.

Types of sources - Any qualitative, mixed-methods, or quantitative study designs will be considered for inclusion in this scoping review. Additionally, all varieties of systematic reviews will be considered for the suggested scoping review.

2.2. Search strategy

The search strategy will locate both published and unpublished primary studies and reviews.

Two reviewers developed the search strategy and peer-reviewed by the expert third one considered the Peer Review of Electronic Search Strategies (PRESS) checklist [20]. The JBI recommended three-step search strategy will be applied [16–18]. A cursory preliminary search has been conducted on MEDLINE (through PubMed) and CINAHL Complete (EBSCOhost) to discover literature on the subject. As a result, a comprehensive search strategy for MEDLINE (through PubMed) was made using the text words in the titles and abstracts

of relevant publications as well as the index keywords used to characterize the articles, as seen in table 1. The search was conducted on 29 January 2023. Lastly, any additional papers will be checked in the reference lists of the publications included in the review.

Table 1. Search strategy for MEDLINE (via Pubmed).

Search	Query	Record Retrieved
#1	(terminal care[Title/Abstract]) OR (hospice*[Title/Abstract] OR palliative*[Title/Abstract] OR "end of life"[Title/Abstract] OR end of life care[MeSH Terms] OR palliative care[MeSH Terms] OR hospice[MeSH Terms])	156,425
#2	((((((decreased saliva flow[Title/Abstract]) OR (mouth dryness[Title/Abstract])) OR (hyposalivation[Title/Abstract])) OR (asialia[Title/Abstract])) OR (dry mouth[Title/Abstract])) OR (xerostomia[Title/Abstract])) OR (Xerostomia[MeSH Terms])	25,522
#3	(((((((decreased saliva flow[Title/Abstract]) OR (mouth dryness[Title/Abstract])) OR (hyposalivation[Title/Abstract])) OR (asialia[Title/Abstract])) OR (dry mouth[Title/Abstract])) OR (xerostomia[Title/Abstract])) OR (Xerostomia[MeSH Terms])) AND ((terminal care[Title/Abstract]) OR (hospice*[Title/Abstract] OR palliative*[Title/Abstract] OR "end of life"[Title/Abstract] OR end of life care[MeSH Terms] OR palliative care[MeSH Terms] OR hospice[MeSH Terms]))	331
#4	(((((((decreased saliva flow[Title/Abstract]) OR (mouth dryness[Title/Abstract])) OR (hyposalivation[Title/Abstract])) OR (asialia[Title/Abstract])) OR (dry mouth[Title/Abstract])) OR (xerostomia[Title/Abstract])) OR (Xerostomia[MeSH Terms])) AND ((terminal care[Title/Abstract]) OR (hospice*[Title/Abstract] OR palliative*[Title/Abstract] OR "end of life"[Title/Abstract] OR end of life care[MeSH Terms] OR palliative care[MeSH Terms] OR hospice[MeSH Terms])) Filters: in the last 10 years, English, Portuguese, Spanish	126

To ensure a high-quality selection process and data extraction, studies will only be conducted in the authors' native English, Spanish, and Portuguese languages. Document studies in other languages, excluded based on language, will be stated for transparency in the scoping review report.

Additionally, we determined that the most appropriate methodology was to look for studies published within the last ten years. It was important to include the most recent studies since they are more likely to reflect today's world. The focus throughout the past 10 years has placed a strong emphasis on scoping reviews as a vital link between the findings of health research and the formulation of evidence-based health policies. Reviews must be reliable and valid to be useful. For this to happen, the techniques used must be reliable, and reviews must include all pertinent study findings, even the most recent information that has been published [21–23].

The databases to be searched will include MEDLINE (via PubMed), CINAHL Complete (EBSCOhost); Cochrane Central Register of Controlled Trials; Cochrane Database of Systematic Reviews; LILACS; SciELO; Scopus. The search for unpublished studies will include DART-Europe; OpenGrey.

2.3. Study selection

All the records identified over database searching will be retrieved and stored in the Mendeley® V1.19.4 (Mendeley Ltd., Elsevier, Netherlands), and duplicates will be removed. The titles and abstracts will be reviewed separately by two reviewers. A pilot test will be used to confirm that the inclusion requirements have been met. Whether they fulfil the inclusion requirements, the abstract is ambiguous, or the study's applicability is

questionable, potentially eligible papers will be supplied in full text. Second, the two separate reviewers will carefully evaluate the complete text of the chosen citations in relation to the inclusion criteria. If full-text studies don't fit the inclusion criteria, they will be excluded. The exclusionary factors will also be listed in an appendix to the scoping review's final report. The references of all the studies included in the review will be manually searched. At each level of the selection procedure, disagreements between the two reviewers will be resolved through conversation or with the help of a third reviewer. If the whole article is unavailable, the author will be contacted.

The search results will be detailed in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews (PRISMA-ScR) flow diagram [19].

2.4. Data extraction

The two independent reviewers will chart the extracted data from the included publications using the JBI's suggested template [16–18] and aligned with the goals and research questions. In Table 2, a draft extraction tool is shown. While extracting data from each included publication, the draft data extraction tool may need to be modified as appropriate. Levac, Colquhoun, and O'Brien [24] suggested that to ensure consistency of data extraction, a priori pilot charting of the first five to ten studies will be made by two reviewers, independent of each other. The judgment of a third reviewer will resolve any discrepancies in data extraction.

If any data are missing, the study authors will be approached for more information. Reviewers will decide to submit the primary study in the event of data duplication since review studies will be included.

Table 2 – Data extraction tool.

Scoping review details	
Scoping review title	Xerostomia care in palliative patients: a scoping review protocol
Review objective(s)	To describe how patients receiving palliative care are treated for xerostomia
Review question(s)	1. Which health care professional performs the diagnosis of xerostomia on a palliative patients? 2. What interventions are implemented for xerostomia in palliative patient? 3. What are the characteristics (duration, responsible for implementation, follow-up/evaluation, material/product used) of these interventions? 4. In what context (e.g.,home care, palliative care unit, hospice) are these interventions implemented? 5. Which types of patients (oncology, non-oncology) are these interventions implemented?
Inclusion/exclusion criteria	
Population	Palliative patients 18 years or over
Concept	The care health care professionals provide for xerostomia
Context	All contexts of care
Types of evidence source	Any qualitative, mixed-methods, or quantitative study designs. Additionally, all varieties of systematic reviews.
Evidence source details and characteristics	
Author(s)	
Year of publication	

Origin/country of origin (where the source was published or conducted)	
Aims/purpose	
Population and sample size	
Details/Results extracted from the source of evidence (concerning the concept of the scoping review)	
Who performs the diagnosis	
Interventions implemented	
Characteristics of interventions	
Context of implementation	
Type of disease	

2.5 Data analysis and presentation

Depending on what is more suited for the goal of this review, the data will be presented in tabular form (table 3). Regarding the charting result, a detailed description will be given under the goal of this scoping review [16–18].

Table 3 – Data collection in tabular form.

		Study 1	Study 2	Study 3	…
Who performs the diagnosis					
Interventions implemented					
Characteristics of interventions	Duration				
	Responsible for implementation				
	Material/product used				
	Follow-up/evaluation				
	Frequency				
	Dose				
	…				
Context of implementation (e.g., home care, palliative care unit, hospice)					
Type of disease (oncology, non-oncology)					

Discussion

To our knowledge, this will be the first scoping review to map published evidence on xerostomia among palliative patients, namely how to diagnose and intervene in these patients. We also anticipate that our work will provide continuity and coherency to a global research agenda on palliative care. Moreover, the review will consider a broad range of healthcare settings, interventions and study designs. In addition to these strengths, probable limitations must also be considered. Consistent with the limits of a scoping review, we will not synthesize the effectiveness of implementation strategies described in the studies we review; however, this is a potential avenue for future systematic reviews and meta-analyses. As such, neither will this review report on the methodological quality of the included studies. This scoping review will only consider English, Portuguese, and Spanish studies, which can be registered as potential study limitations.

Conclusion

This scoping review will provide comprehensive knowledge on diagnosing and treating xerostomia in palliative patients and may guide healthcare professionals in palliative settings. Additionally, this scoping will also reveal any possible gaps in future research work.

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Author´s contributions
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Validation: AC, AM, TN, IM, AR, SG and VP
Writing—initial draft preparation: AC, AM, TN and VP
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