Table des matières

1. Revues systématiques et méta-analyses 1
1.1. Generic Acupuncture 1
1.1.1. Shrateh 2025 1
1.2. Al Hamad 2019 Ø 1
1.2.1. Assy 2018 Ø 2
1.2.2. Gil-Montoya 2016 Ø 3
1.2.3. Furness 2014 Ø 3
1.2.4. Jedel 2005 Ø 5
1.3. Special Clinical Forms 5
1.3.1. Xerostomia in Advanced Cancer Patients. 5
1.3.1.1. Hanchanale 2015 ☆ (Radiation-Induced Xerostomia excluded) 5
1.3.2. Radiation-Induced Xerostomia in Cancer Patients 6
1.3.3. Sjögren's Syndrome 6
2. Overviews of systematic reviews 6
2.1. Conte 2025 6

Xerostomia

Xérostomie : évaluation de l'acupuncture

Articles connexes: - conduites thérapeutiques - pathologie - acupuncture expérimentale - qigong -

1. Revues systématiques et méta-analyses

1.1. Generic Acupuncture

1.1.1. Shrateh 2025

Shrateh ON, Habib A, Shamsi HUR, Kumar KA, Omar BMM, Mansour A, Mohsen M, Hamad AM, Mair M, Sahota B. Treatment options for radiation-induced xerostomia in patients with head and neck cancer: a systematic review and meta-analysis. Br J Oral Maxillofac Surg. 2025 Oct 28:S0266-4356(25)00584-4. https://doi.org/10.1016/j.bjoms.2025.10.003

Background	Radiation-induced xerostomia is a frequent and debilitating complication in patients undergoing radiotherapy for head and neck cancer. This study aimed to compare the effectiveness of available treatment modalities in preventing or managing radiation-induced xerostomia and associated complications in head and neck cancer patients.
Methods	A detailed search of PubMed and Google Scholar was conducted. Only randomised controlled trials (RCTs) involving radiotherapy-treated head and neck cancer patients were included. The interventions that were analysed encompassed pharmacological agents (for example, pilocarpine, and amifostine), antioxidants, herbal formulations, **acupuncture**, low-level laser therapy (LLLT), and regenerative approaches. Primary outcomes included severity of xerostomia, rates of salivary flow, mucositis, oral pain, dysphagia, and fatigue. Thirty-one randomised clinical trials met the inclusion criteria.
Results	Pooled analysis showed no significant reduction in severity of xerostomia at weeks 3, 4, or 6, or 6 months. Stimulated salivary flow did not significantly improve (mean difference (MD): 0.22; $p = 0.15$), while unstimulated salivary flow showed a significant benefit (MD: 0.13; 95% CI: 0.09 to 0.17; $p < 0.00001$). A significant reduction in the severity of oral pain was also noted (MD: -2.25; $p < 0.0001$). No significant differences were found for the incidence or duration of mucositis, dysphagia, or fatigue. Considerable heterogeneity was observed across the studies and no single intervention demonstrated consistent efficacy in managing radiation-induced xerostomia.
Conclusion	Some therapies have shown promise in improving unstimulated salivary flow and reducing oral pain; however, the overall evidence remains inconclusive. To address this persistent clinical challenge, future trials should adopt standardised outcome measures, assess combination therapies, and investigate novel regenerative strategies.

1.2. Al Hamad 2019 Ø

Al Hamad A, Lodi G, Porter S, Fedele S, Mercadante V. Interventions for dry mouth and hyposalivation in Sjögren's syndrome: A systematic review and meta-analysis. Oral Dis. 2019;25(4):1027-1047. [204003]. DOI

Objectives	Systematic review with meta-analysis of interventions for dry mouth symptoms and hyposalivation of Sjögren's syndrome (SS).
Materials and methods	We searched MEDLINE, Cochrane Central and EMBASE up to February 2018 for randomized trials of interventions for dry mouth and hyposalivation of SS. The primary outcome was the mean change in xerostomia symptoms. The secondary outcomes included changes in salivary flow and quality of life. We used the Cochrane risk of bias tool for individual studies and the GRADE method to summarize the quality of evidence across studies for the included outcomes.
Results	Thirty-six studies (3,274 patients) were included in the systematic review. Results from the meta-analyses showed high-quality evidence that pilocarpine was superior to placebo in reducing dry mouth symptoms. We found moderate quality of evidence that pilocarpine, rituximab and interferon-alpha were more effective than placebo in increasing salivary flow, with the relevant effect size being large for pilocarpine, and notably smaller for rituximab and interferon-alpha.
Conclusion	Clinicians should be very confident in the beneficial effects of pilocarpine upon dry mouth symptoms of SS and moderately confident that pilocarpine, rituximab and interferon-alpha can have beneficial effects upon salivary flow. Adverse events are common. The use of other treatment modalities cannot be supported on the basis of current evidence.
Acupuncture	the present systematic review suggests that there is no evidence that the use of DMARDs, acupuncture, laser acupuncture (2 studies), infliximab, etanercept and other interventions (gamma-linolenic acid, dehydroepiandrosterone, omega-3/vit E, nizatidine, a traditional chinese medicine compound) can reduce symptoms of dry mouth or increase salivary flow in individuals with SS.

1.2.1. Assy 2018 Ø

Assy Z, Brand HS. A systematic review of the effects of acupuncture on xerostomia and hyposalivation. BMC Complement Altern Med. 2018;18(1):57. [100050].

Background	Saliva is fundamental to our oral health and our well-being. Many factors can impair saliva secretion, such as adverse effects of prescribed medication, auto-immune diseases (for example Sjögren's syndrome) and radiotherapy for head and neck cancers. Several studies have suggested a positive effect of acupuncture on oral dryness.
Methods	Pubmed and Web of Science were electronically searched. Reference lists of the included studies and relevant reviews were manually searched. Studies that met the inclusion criteria were systematically evaluated. Two reviewers assessed each of the included studies to confirm eligibility and assessing the risk of bias.
Reults	**Ten randomized controlled trials** investigating the effect of acupuncture were included. Five trials compared acupuncture to sham/placebo acupuncture. Four trials compared acupuncture to oral hygiene/usual care. Only one clinical trial used oral care sessions as control group. For all the included studies, the quality for all the main outcomes has been assessed as low. Although some publications suggest a positive effect of acupuncture on either salivary flow rate or subjective dry mouth feeling, the studies are inconclusive about the potential effects of acupuncture.
Conclusions	**Insufficient evidence is available** to conclude whether acupuncture is an evidence-based treatment option for xerostomia/hyposalivation. Further well-designed, larger, double blinded trials are required to determine the potential benefit of acupuncture. Sample size calculations should be performed before before initiating these studies.

1.2.2. Gil-Montoya 2016 Ø

Gil-Montoya JA, Silvestre FJ, Barrios R, Silvestre-Rangil J. Treatment of xerostomia and hyposalivation in the elderly: A systematic review. Med Oral Patol Oral Cir Bucal. 2016;21(3):355-66. [151566].

Background	Therapeutic strategies for xerostomia, regardless of etiology, have so far not had definitive or clearly effective results.
Objectives	To systematically revise the latest scientific evidence available regarding the treatment of dry mouth, regardless of the cause of the problem.
Material and methods	The literature search was conducted in March 2015, using the Medline and Embase databases. The “Clinical Trial”, from 2006 to March 2015, was carried out in English and only on human cases. The draft of the systematic review and assessment of the methodological quality of the trials was carried out following the criteria of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) and the “Oxford Quality Scale”.
Results	Finally, a total of 26 trials were identified that met the previously defined selection and quality criteria; 14 related to drug treatments for dry mouth, 10 with non-pharmacological treatment and 2 with alternative treatments.
Conclusions	Pilocarpine continues to be the best performing sialogogue drug for subjects with xerostomia due to radiation on head and neck cancer or diseases such as Sjogren's Syndrome. For patients with dry mouth caused solely by medication, there are some positive indications from the use of malic acid, along with other elements that counteract the harmful effect on dental enamel. In general, lubrication of oral mucous membrane reduces the symptoms, although the effects are short-lived.

1.2.3. Furness 2014 Ø

Furness S, Bryan G, Mcmillan R, Birchenough S, Worthington HV. Interventions for the management of dry mouth: non-pharmacological interventions. Cochrane Database Syst Rev. 2013. [170381].

Background	Xerostomia is the subjective sensation of dry mouth. Common causes of xerostomia include adverse effects of many commonly prescribed medications, disease (e.g. Sjogren's Syndrome) and radiotherapy treatment for head and neck cancers. Non-pharmacological techniques such as acupuncture or mild electrostimulation may be used to improve symptoms.
Objectives	To assess the effects of non-pharmacological interventions administered to stimulate saliva production for the relief of dry mouth.

Methods	SEARCH METHODS: We searched the Cochrane Oral Health Group's Trials Register (to 16th April 2013), the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2013, Issue 3), MEDLINE via OVID (1948 to 16th April 2013), EMBASE via OVID (1980 to 16th April 2013), AMED via OVID (1985 to 16th April 2013), CINAHL via EBSCO (1981 to 16th April 2013), and CANCERLIT via PubMed (1950 to 16th April 2013). The metaRegister of Controlled Clinical Trials (www.controlled-trials.com) and ClinicalTrials.gov (www.clinicaltrials.gov) were also searched to identify ongoing and completed trials. References lists of included studies and relevant reviews were also searched. There were no restrictions on the language of publication or publication status. SELECTION CRITERIA: We included parallel group randomised controlled trials of non-pharmacological interventions to treat dry mouth, where participants had dry mouth symptoms at baseline. DATA COLLECTION AND ANALYSIS: At least two review authors assessed each of the included studies to confirm eligibility, assess risk of bias and extract data using a piloted data extraction form. We calculated mean difference (MD) and 95% confidence intervals (CI) for continuous outcomes or where different scales were used to assess an outcome, we calculated standardised mean differences (SMD) together with 95% CIs. We attempted to extract data on adverse effects of interventions. Where data were missing or unclear we attempted to contact study authors to obtain further information.
Main Results	There were nine studies (total 366 participants randomised) included in this review of non-pharmacological interventions for dry mouth which were divided into three comparisons. Eight studies were assessed at high risk of bias in at least one domain and the remaining study was at unclear risk of bias . **Five small studies (total 153 participants, with dry mouth following radiotherapy treatment) compared acupuncture with placebo. Four were assessed at high risk and one at unclear risk of bias. Two trials reported outcome data for dry mouth in a form suitable for meta-analysis. The pooled estimate of these two trials (70 participants, low quality evidence) showed no difference between acupuncture and control in dry mouth symptoms (SMD -0.34, 95% CI -0.81 to 0.14, P value 0.17, I(2) = 39%) with the confidence intervals including both a possible reduction or a possible increase in dry mouth symptoms. Acupuncture was associated with more adverse effects (tiny bruises and tiredness which were mild and temporary)**. There was a Xerostomia is the subjective sensation of dry mouth. Common causes of xerostomia include adverse effects of many commonly prescribed medications, disease (e.g. very small increase in unstimulated whole saliva (UWS) at the end of 4 to 6 weeks of treatment (three trials, 71 participants, low quality evidence) (MD 0.02 ml/minute, 95% CI 0 to 0.04, P value 0.04, I(2) = 57%), and this benefit persisted at the 12-month follow-up evaluation (two trials, 54 participants, low quality evidence) (UWS, MD 0.06 ml/minute, 95% CI 0.01 to 0.11, P value 0.03, I(2) = 10%). For the outcome of stimulated whole saliva (SWS, three trials, 71 participants, low quality evidence) there was a benefit favouring acupuncture (MD 0.19 ml/minute, 95% CI 0.07 to 0.31, P value 0.002, I(2) = 1%) an effect which also persisted at the 12-month follow-up evaluation (SWS MD 0.28 ml/minute, 95% CI 0.09 to 0.47, P value 0.004, I(2) = 0%) (two trials, 54 participants, low quality evidence).Two small studies, both at high risk of bias, compared the use of an electrostimulation device with a placebo device in participants with Sjögren's Syndrome (total 101 participants). A further study, also at high risk of bias, compared acupuncture-like electrostimulation of different sets of points in participants who had previously been treated with radiotherapy. None of these studies reported the outcome of dry mouth. There was no difference between electrostimulation and placebo in the outcomes of UWS or SWS at the end of the 4-week treatment period in the one study (very low that provided data for these outcomes. No adverse effects were reported. A single study at high risk of bias, compared the stimulatory effect of powered versus manual toothbrushing and found no difference for the outcomes of UWS or SWS.

Authors' conclusions	**There is low quality evidence that acupuncture is no different from placebo acupuncture** with regard to dry mouth symptoms, which is the most important outcome. This may be because there were insufficient participants included in the two trials to show a possible effect or it may be that there was some benefit due to 'placebo' acupuncture which could have biased the effect to the null. There is insufficient evidence to determine the effects of electrostimulation devices on dry mouth symptoms. It is well known that dry mouth symptoms may be problematic even when saliva production is increased, yet only two of the trials that evaluated acupuncture reported dry mouth symptoms, a worrying reporting bias. There is some low quality evidence that acupuncture results in a small increase in saliva production in patients with dry mouth following radiotherapy. There is insufficient evidence to determine the effects of electrostimulation devices on dry mouth symptoms or saliva production in patients with Sjögren's Syndrome. Reported adverse effects of acupuncture are mild and of short duration, and there were no reported adverse effects from electrostimulation.

1.2.4. Jedel 2005 Ø

Jedel E. Acupuncture in xerostomia - a systematic review. J Oral Rehabil. 2005;32(6):392-6. [136445].

Objectives	The aim of this systematic review was to assess the efficacy of acupuncture in the management of xerostomia.
Methods	Assessing quality of studies aim to efficiently integrate valid information and provide a basis for sound decision making based on the best available evidence. Articles of controlled clinical trials evaluating the efficacy of acupuncture in the management of xerostomia were obtained by searching through the databases MEDLINE and Cochrane Central Register of Controlled Trials to September 2003.
Results	**Three articles met the criteria for inclusion** and a criteria list was used to assess the quality of these studies. The studies were considered to be of high quality or low quality in accordance with the criteria list utilized. The results of the trials were considered positive, negative or indifferent based on statistically significant between group differences. The criteria list utilized indicate that one of the three studies was of high quality and it presents indifferent results. One of the two studies of low quality presents positive results and one presents indifferent results. An analysis of the results degree of evidence resulted in no evidence for the efficacy of acupuncture in the management of xerostomia.
Conclusions	**This systematic review shows that there is no evidence for the efficacy of acupuncture in the management of xerostomia**. There is a need for future high quality randomized controlled trials.

1.3. Special Clinical Forms

1.3.1. Xerostomia in Advanced Cancer Patients.

1.3.1.1. Hanchanale 2015 ☆ (Radiation-Induced Xerostomia excluded)

Hanchanale S, Adkinson L, Daniel S, Fleming M, Oxberry SG. Systematic literature review: xerostomia in advanced cancer patients. Support Care Cancer. 2015 Mar;23(3):881-8. [159548]. .

Purpose	Dry mouth (xerostomia) is one of the commonest symptoms in cancer patients and can adversely affect quality of life. The aim of this review was to determine the effectiveness of pharmacological and non-pharmacological interventions in treating xerostomia in adult advanced cancer patients.
Methods	The literature search was performed in February 2014 using databases including EMBASE, MEDLINE, CINAHL, BNI and Cochrane library. The search was carried out using standard MeSH terms and was limited to adult population and English language. Studies investigating xerostomia secondary to head and neck cancer treatment and autoimmune disease were excluded. Titles and abstracts were screened and reviewed for eligibility. Only studies involving primary research were included in the analysis.
Results	Six studies met the eligibility criteria for review: three randomized controlled trials and three prospective studies. The quality assessment and reporting was performed using PRISMA, Jadad and STROBE. **These studies compared acupuncture, pilocarpine, Saliva Orthana and chewing gum with each other or with placebo. All interventions were considered effective in treating xerostomia**. However, effectiveness versus placebo could not be demonstrated for Saliva Orthana. Meta-analysis could not be performed due to heterogeneity of the study type and intervention.
Conclusion	Limited published data exists reporting the effectiveness of measures in the treatment of xerostomia in cancer patients. Based on primary research of low quality, firm conclusions cannot be drawn. However, pilocarpine, artificial saliva, chewing gum and **acupuncture can be tried based on the available data**. This highlights the explicit need to improve our evidence base. Properly constructed randomized controlled trials demonstrating effectiveness of pharmacological and non-pharmacological interventions for dry mouth are required

1.3.2. Radiation-Induced Xerostomia in Cancer Patients

See corresponding item

1.3.3. Sjögren's Syndrome

See corresponding item

2. Overviews of systematic reviews

2.1. Conte 2025

Conte DB, Marquezzan ME, Schneider LR, Gauer APM, Cattapan L, Corralo VDS, Rodrigues-Junior SA. Systematic Reviews on the Management of Xerostomia and Hyposalivation-An Umbrella Review. Gerodontology. 2025 Jun;42(2):165-176. https://doi.org/10.1111/ger.12809

Introduction	Dry mouth is moderately prevalent in the older population. Pharmacological and non-pharmacological alternatives have been assessed to manage its manifestation. This umbrella review synthesised the evidence on approaches to managing xerostomia and hyposalivation.

Material and methods	We searched for systematic reviews of interventions to manage dry mouth in Cochrane Database of Systematic Reviews, EMBASE, PubMed, Prospero and DARE databases (up to September 2023). References were managed and selected by reading titles and abstracts using Rayyan QCRI. Selection of studies, data extraction and methodological quality assessment (AMSTAR 2) were conducted independently, in duplicate. Data were extracted to a previously tested form that included information about dry mouth causes, interventions, outcomes and findings.
Results	There were 3323 records. At the end of the selection process, 48 studies were included and had data extracted. Only three high-quality systematic reviews were found to support methods for managing dry mouth. Limited evidence suggests that topical therapies offer significant palliative or stimulating effects for relieving dry mouth symptoms. Furthermore, low-quality evidence indicates a slight increase in saliva production with acupuncture, dry mouth prevention with amifostine, and saliva stimulation using pilocarpine in patients who have undergone head and neck radiotherapy.
Conclusion	Salivary substitutes and stimulants mostly acted as moisturisers and some as saliva stimulants, with short-term effect. More than 80% of the reviews were appraised as 'critically low' quality. Well-designed and well-reported systematic reviews are still needed to increase the level of evidence on dry mouth management methods.

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