

# INPLASY PROTOCOL

To cite: Song et al. Preventive effects of different mouthwashes on oral mucositis associated with radiotherapy and chemotherapy: a network Meta-analysis. Inplasy protocol 202250061. doi: 10.37766/inplasy2022.5.0061

Received: 10 May 2022

Published: 10 May 2022

**Corresponding author:**  
Song Jiating

3214753098@qq.com

**Author Affiliation:**  
Guangdong Provincial Hospital  
of Traditional Chinese  
Medicine Zhuhai Branch.

**Support:** Guangdong  
Provincial Hospital.

**Review Stage at time of this  
submission:** Preliminary  
searches.

**Conflicts of interest:**  
None declared.

## Preventive effects of different mouthwashes on oral mucositis associated with radiotherapy and chemotherapy: a network Meta-analysis

Song, J<sup>1</sup>; Chen, Q<sup>2</sup>; Jian, L<sup>3</sup>; Huang, Q<sup>4</sup>; Du, H<sup>5</sup>.

**Review question / Objective:** By using mesh meta-analysis, we can determine the most effective mouthwash during clinical care for patients with chemoradiotherapy-associated oral mucositis.

**Condition being studied:** At present, we have carried out a preliminary literature search for the identification of search terms and search formulas.

**Eligibility criteria:** Study type - RCT; study subjects: chemoradiotherapy patients with potential risk of OM, no OM before the study, unlimited age, nationality and duration; intervention: oral care liquid gargle; outcome index: incidence of OM.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 May 2022 and was last updated on 10 May 2022 (registration number INPLASY202250061).

### INTRODUCTION

**Review question / Objective:** By using mesh meta-analysis, we can determine the most effective mouthwash during clinical

care for patients with chemoradiotherapy-associated oral mucositis.

**Condition being studied:** At present, we have carried out a preliminary literature

search for the identification of search terms and search formulas.

## METHODS

**Participant or population:** Cancer patients who choose chemoradiotherapy.

**Intervention:** Choose one of the following mouthwashes: Chlorhexidine, benzendamine, thioaluminum, povidone iodine, recombinant granule-macrophage colony stimulating factor (GM-CSF), honey, allopurinol, aloe vera, curcumin, chamomile; chlorhexidine; lactobacillus brevis; sodium bicarbonate; benzalkonium chloride; 0.02% leucovorin calcium; ice thorn melon solution gargle; rehabilitation solution; Terry gargle; tea gargle; Chinese medicine gargle.

**Comparator:** Use a different mouthwash than the test group or blank control.

**Study designs to be included:** Randomized controlled trials.

**Eligibility criteria:** Study type - RCT; study subjects: chemoradiotherapy patients with potential risk of OM, no OM before the study, unlimited age, nationality and duration; intervention: oral care liquid gargle; outcome index: incidence of OM.

**Information sources:** Pub Med, Embase, The Cochrane Library, Web of science, CNKI, Vip, CBM and Wanfang databases.

**Main outcome(s):** Incidence of oral mucositis.

**Quality assessment / Risk of bias analysis:** Two pairs of investigators independently selected the studies, reviewed the main reports and supplementary materials, and extracted the relevant information from the included trials. Any discrepancies were resolved by consensus and arbitration by a panel of investigators within the review team. The baseline characteristics of the studies included in the Bayesian network analysis were extracted and included publication data (title, first author, year of

publication), study design, baseline characteristics of the participants in the studies (sample size, gender, age, total radiation dose, type and location of cancer, evaluation index, basic treatment measures), specific details of interventions, primary outcomes, duration of follow-up, and outcome data for primary outcomes. The risk of bias in the inclusion of RCTs was assessed by four investigators according to the Cochrane Handbook 5.3.0 ([https:// training.cochrane.org/handbook](https://training.cochrane.org/handbook)) using the RCT bias risk assessment tool. The evaluation included random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective reporting, and other biases.

**Strategy of data synthesis:** First, authors used a random-effects model to perform pairwise meta-analyses to compare studies with the same pair of interventions. Odds ratios (ORs) were used as effective indicators for the dichotomous variables, and the point estimated value and 95% confidence interval (CI) are given for each effect. Statistical heterogeneity among the studies included was assessed with a forest plot, and combined with quantitative determination of heterogeneity using an inconsistency statistic ( $I^2$ ) [15].  $P < 0.05$  was considered significant. The transitivity assumption underlying network meta-analysis was evaluated by comparing the distribution of clinical and methodological variables [16]. Authors did a statistical evaluation of consistency (i.e., the agreement between direct and indirect evidence) using the loop consistency test and by separating direct evidence from indirect evidence [17]. The consistency of each triangular loop was evaluated by inconsistent factors (IFs) and 95% CI. Authors expected the IF to be close to 0. Therefore, if the 95% CI for an IF did not contain the neutral value (0), it clearly indicated inconsistency. In addition, the evidence network was plotted for each mouthwash, and the three-arm trials were split into all possible combinations of the two-arm trials. Authors used comparison-adjusted funnel plots to investigate

---

whether results in imprecise trials differ from those in more precise trials [18]. Statistical evaluations of inconsistency, production of network graphs and, result figures were done using the network graphs packages in Stata (version 15).

**Subgroup analysis:** Subgroup analyses were performed at the limits of treatment time.

**Sensitivity analysis:** Literature was excluded one by one for sensitivity analysis.

**Language:** English.

**Country(ies) involved:** China.

**Keywords:** Oral Mucositis; Different mouthwash; a network Meta-analysis.

**Contributions of each author:**

**Author 1 - Song Jiating -** Mainly responsible for paper writing and data analysis.

Email: 3214753098@qq.com

**Author 2 - Chen Qi -** Mainly responsible for data extraction and quality evaluation  
Mainly responsible for data extraction.

**Author 3 - Jian Lele -** Mainly responsible for data extraction and quality evaluation.

**Author 4 - Huang Qihua -** Mainly responsible for topic guidance and conception.

**Author 5 - Du hang -** Mainly responsible for the conception and finalization of the project.