REVIEW ARTICLE

The Effectiveness of Mouthwashes With Various Ingredients in Plaque Control: A Systematic Review and Meta-Analysis

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ABSTRACT

Objective • Our study sought to present a solid comprehensive overview of the efficiency of active ingredients in mouthwash to control dental plaque.

Source • Cochrane Library, the Library of Medicine, (MEDLINE-PubMed), Web of Science database core collection, the database of the American Dental Association (ADA) Center for Evidence-based Dentistry and Scopus database were used for our review and meta-analysis.

Methodology • This was a systematic review that included papers with and without a meta-analysis on the efficacy of mouthwashes with various active ingredients in the control of dental plaque. *In vitro* and animal experiments were excluded from the study. Methodologic quality assessment was carried out with AMSTAR. The estimated plausible risk of unfairness was calculated according to the recording, reporting and methodologic quality of the selected systematic reviews per the PRISMA recommendations for systematic reviews.

Results • 580 initial hits were reported and 22 papers were chosen for the overview (kappa = 0.89; good agreement). Of these, 12 studies presented moderate methodologic consistency. In these studies, chlorhexidine (CHX) was the most beneficial in monitoring dental plaque data, and 4 meta-analyses showed that essential oils (EO) also had substantial antiplaque activity.

Conclusion • Descriptive and experimental studies have shown that CHX and EO have antiplaque activity that is useful in maintaining good oral hygiene. (*Altern Ther Health Med.* 2021;27(5):52-57).

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INTRODUCTION

It is universally accepted that disease prevention and treatment are absolutely necessary, and researchers are committed to decreasing the likelihood of their occurrence. As the mouth is the main conduit for feeding, oral and dental health is of the utmost importance. Bacteria are constantly forming in the mouth; they utilize micronutrients from saliva and food to grow exponentially if their numbers are not kept in check by practicing proper oral hygiene[1] or due to a disease process, the bacteria along with leftover food particles will develop into a thin biofilm of plaque; a sticky colorless substance that forms on the surface of teeth. The prevalence of periodontal disease is on the rise worldwide; subgingival plaque[2,3] is being correlated with stenotic coronary artery plaques,[4] which implies the importance of practicing oral hygiene. Despite advances in medicine and technology, modern mechanical oral hygiene methods are insufficient.[5-7] Throughout the world research has proved that the prevalence of periodontal disease is on the rise and dental plaque is the overarching etiologic factor,[2,3] suggesting that despite the medical and technologic advancements and innovations in the field, currently applied mechanical oral hygiene practices are inadequate.[5-7] This has been attributed