

INPLASY

A Systematic Review of Clinical Efficacy, Acceptance, and Public Health Integration middle eastern countries

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ADMINISTRATIVE INFORMATION

Support - Library access.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202610063

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 January 2026 and was last updated on 19 January 2026.

INTRODUCTION

Review question / Objective What is the clinical efficiency, level, of acceptance, and extent of public health integration of oral health interventions implemented in Middle Eastern countries?

Rationale Oral diseases remain among the most prevalent non-communicable diseases worldwide, with dental caries and periodontal diseases continuing to impose a substantial health and economic burden. Middle Eastern countries experience a particularly high prevalence of preventable oral diseases due to rapid urbanization, dietary transitions, socioeconomic disparities, and variability in access to preventive dental services.

Over the past two decades, many countries in the Middle East have introduced a range of oral health interventions, including school-based dental screening programs, fluoride varnish applications, supervised toothbrushing initiatives, and

community oral health promotion strategies. Despite these efforts, the effectiveness, population acceptance, and degree of integration of these interventions within national public health systems remain inconsistently documented.

Existing studies in the region are fragmented, vary in methodological quality, and often focus on isolated clinical outcomes without evaluating community acceptance or sustainability within public health frameworks. Furthermore, there is limited regional synthesis examining how oral health interventions align with public health policies and long-term preventive strategies.

To date, no comprehensive systematic review has simultaneously assessed clinical efficacy, acceptance by target populations, and public health integration of oral health interventions across Middle Eastern countries. Addressing this gap is essential for informing evidence-based policy development, optimizing resource allocation, and strengthening preventive oral health strategies at national and regional levels.

This systematic review aims to provide a comprehensive synthesis of available evidence to support policymakers, public health planners, and healthcare professionals in improving oral health outcomes and advancing sustainable, integrated oral health systems in the Middle East.

Condition being studied This review addresses preventable oral health conditions, including dental caries and periodontal diseases, which constitute a significant public health burden in Middle Eastern populations, particularly among children and vulnerable groups.

METHODS

Participant or population The population includes children, adolescents, adults, and special-needs individuals in Middle Eastern countries who participate in community-based, school-based, or public oral health interventions.

Intervention Preventive and public health oral health interventions, including fluoride varnish, sealants, school dental screening, supervised toothbrushing, oral health education, and public preventive dental services.

Comparator No intervention, usual dental care, or alternative oral health interventions.

Study designs to be included Randomized controlled trials, quasi-experimental studies, non-randomized intervention studies, cohort studies, cross-sectional studies, mixed-methods studies, and program evaluations.

Eligibility criteria Studies conducted in Middle Eastern countries evaluating oral health interventions with reported clinical or public health outcomes, published in English or Arabic from 2000 onwards. Laboratory studies, case reports, and non-public health-related studies will be excluded.

Information sources PubMed/MEDLINE, Scopus, Web of Science, Embase, and Cochrane Library. Grey literature from WHO EMRO and Ministry of Health reports will also be searched.

Main outcome(s) Clinical oral health outcomes, including dental caries prevalence and incidence, DMFT/dmft scores, and oral hygiene and gingival health indicators.

Quality assessment / Risk of bias analysis Risk of bias will be assessed using Cochrane RoB 2 for

randomized trials, ROBINS-I for non-randomized studies, and JBI tools for observational studies.

Strategy of data synthesis Data will be synthesized narratively. Where appropriate, meta-analysis using a random-effects model will be conducted. Heterogeneity will be assessed using I^2 , with subgroup and sensitivity analyses performed when feasible.

Subgroup analysis Subgroup analyses will be performed by age group, intervention type, setting, and geographic region where data permit.

Sensitivity analysis Sensitivity analysis will be performed by excluding studies with high risk of bias to assess the robustness of the results.

Country(ies) involved The United Arab Emirates - Mohamed Bin Rashid University Of Medicine and Health Science (MBRU).

Keywords Oral health; dental caries; preventive dentistry; school-based oral health; fluoride varnish; public health dentistry; oral health programs; Middle East; community.

Contributions of each author

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