

INPLASY PROTOCOL

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Conflicts of interest:
None declared.

INTRODUCTION

Review question / Objective: Does chemical disinfection effects the accuracy and dimensional stability of the dental impressions made from PVES elastomers?"

Rationale: Are disinfectant induced changes in accuracy and dimensional stability of the PVES are clinically significant?"

Effect of chemical disinfection on the dimensional stability of polyvinyl ether siloxane impression material: a systemic review and meta-analysis

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Review question / Objective: Does chemical disinfection effects the accuracy and dimensional stability of the dental impressions made from PVES elastomers?"

Eligibility criteria: All in vitro studies with data on the effects of disinfection on PVES were included. Studies were selected based on the following criteria: (1) studies should have comparison data between native and disinfected PVES impressions, (2) methods of disinfection should be chemical disinfectants, and (3) studies published in English.pves,

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 May 2023 and was last updated on 11 May 2023 (registration number INPLASY202350042).

Condition being studied: Disinfection of impression materials.

METHODS

Search strategy: Databases such as Google Scholar, ScienceDirect, PubMed, Scopus and Web of Science were systematically researched for relevant studies describing the effect of disinfection

on the vinyl polyether siloxane using Boolean “AND” and “OR” terms along with medical search heading (MeSH) terms.

Participant or population: None the study is only related to the materials.

Intervention: Chemical disinfection was the procedure of interest, and a research query for systemic review and meta-analysis was designed accordingly.

Comparator: Elastomeric impression materials, including PVES.

Study designs to be included: We took into account both descriptive (case control and cohort) and interventional (trials) based research that was written in English for this review.

Eligibility criteria: All in vitro studies with data on the effects of disinfection on PVES were included. Studies were selected based on the following criteria: (1) studies should have comparison data between native and disinfected PVES impressions, (2) methods of disinfection should be chemical disinfectants, and (3) studies published in English.

Information sources: Pubmed, Web of Science, Medline, Google Scholar.

Main outcome(s): PVES disinfection is an important step in dental prostheses and prosthodontics to eliminate the potential threat of indirect transmission of infectious diseases. This meta-analysis and systematic review provides an overview of the current research on new hybrid PVES materials.

Additional outcome(s): More research will provide a thorough understanding of PVES behavior under disinfectant chemical insults.

Data management: Descriptive statistical analysis of the research data was carried out using MS Excel 2021 (Microsoft Corporation, Redmond, Washington, USA), and meta-analysis was performed using Meta-Essentials 2017(16).

Quality assessment / Risk of bias analysis: Two researchers dependently assessed the risk of bias of the included articles using - JBI critical appraisal tools.

Strategy of data synthesis: Two review authors (AK and RS) helped select studies and document the decisions. This was done in two stages , with the first stage consisting of screening of all studies against the inclusion criteria and the second stage being a full text assessment of papers that were deemed potentially relevant based on the initial screening.

Subgroup analysis: The data was compiled from a variety of articles: Authors, Year of Publication; Total no of datasets; Training/ validation datasets; Aim of the study; Outcome.

Sensitivity analysis: NA.

Language restriction: Articles only in English were Selected.

Country(ies) involved: India, Shengen, KSA.

Other relevant information: Supplementary files made in excell.

Keywords: Disinfection, PVES, Properties.

Dissemination plans: All the data and article will be shared after the publication.

Contributions of each author:

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