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**ADMINISTRATIVE INFORMATION****Support** - This study did not receive any specific financial support.**Review Stage at time of this submission** - Completed but not published.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202650061**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 May 2026 and was last updated on 10 May 2026.**INTRODUCTION**

**Review question / Objective** To examine the evidence regarding the implementation of quality and patient safety standards, including accreditation frameworks such as CBAHI and JCI, in dental clinics in Saudi Arabia.

To identify the key barriers and facilitators that influence the adoption and sustainability of these standards within dental settings.

To synthesize reported outcomes related to patient safety practices, infection control compliance, safety culture, and quality of care in dental clinics in Saudi Arabia.

To provide evidence-based recommendations that align with Saudi Vision 2030 and support continuous quality improvement in dental healthcare services.

PICO Format for this Review Question

The PICO components for this review were defined as follows:

**Population (P):** The population considered in this review includes dental clinics operating in Saudi Arabia, encompassing both public and private

healthcare facilities. These clinics were selected to capture the wide range of dental service delivery within the Saudi healthcare system. Including both sectors allows the study to reflect variations in governance structures, resource availability, service capacity, and levels of regulatory oversight that may influence the implementation of quality and patient safety standards.

**Intervention (I):** The implementation of quality and patient safety standards, including formal accreditation frameworks such as CBAHI and Joint Commission International (JCI). These frameworks were chosen due to their prominence within Saudi healthcare policy and their central role in national quality improvement initiatives.

**Comparator (C):** Dental clinics with partial, inconsistent, or no formal implementation of quality and safety standards, where applicable. Although not all studies included explicit comparator groups, this component allowed for comparative analysis between accredited and non-accredited settings when data were available.

**Outcomes (O):** Patient safety outcomes, quality of care indicators, infection control compliance,

organisational and operational performance, and patient satisfaction. These outcomes reflect both clinical and experiential dimensions of dental care quality and align with international definitions of healthcare quality.

**Rationale** Despite increasing attention to healthcare quality and patient safety, the implementation of these standards in dental clinics in Saudi Arabia remains unclear and inconsistent. Existing studies tend to focus on isolated aspects such as infection control or patient satisfaction, without providing a comprehensive understanding of system-level implementation. In addition, there is limited evidence on the impact of accreditation frameworks such as CBAHI and JCI in dental settings. Therefore, this systematic review aims to address this gap by synthesizing available evidence to better understand the implementation of quality and safety standards in dental clinics in Saudi Arabia.

**Condition being studied** Implementation of quality and patient safety standards in dental clinics in Saudi Arabia.

## METHODS

**Search strategy** A comprehensive literature search will be conducted across the following electronic databases: PubMed, Scopus, Web of Science, and the Saudi Digital Library. Google Scholar will also be used to identify additional relevant studies.

The search will include studies published between 2010 and 2025 in English and Arabic. Search terms and Medical Subject Headings (MeSH) will include combinations of: “dental clinics,” “quality standards,” “patient safety,” “accreditation,” “CBAHI,” “JCI,” and “Saudi Arabia.” Boolean operators (AND, OR) will be used to refine the search strategy.

Reference lists of included studies will also be screened to identify additional relevant articles.

**Participant or population** The population will include dental healthcare providers working in dental clinics in Saudi Arabia, including dentists, dental assistants, and nurses. Studies involving patients receiving care in these settings may also be included where relevant to patient safety and quality outcomes.

**Intervention** The intervention of interest is the implementation of quality and patient safety standards in dental clinics in Saudi Arabia,

including accreditation frameworks such as CBAHI and JCI. This includes practices related to infection prevention and control, sterilization of instruments, use of personal protective equipment (PPE), safe clinical waste management, accurate patient documentation, radiation safety protocols, and adherence to patient safety procedures.

**Comparator** Not applicable. This review does not include a specific comparator. However, where available, studies comparing different levels of implementation or accredited versus non-accredited settings will be considered.

**Study designs to be included** This review will include observational studies, particularly cross-sectional studies. Where relevant, cohort and case-control studies may also be included if they address the implementation of quality and patient safety standards in dental clinics.

**Eligibility criteria** Studies will be included if they are peer-reviewed empirical studies, reports, or official guidelines related to quality and patient safety in dental clinics in Saudi Arabia. Only studies published in English or Arabic between 2010 and 2025 will be considered. The review will focus on dental clinic settings, including public, private, and mixed sectors.

Studies will be excluded if they are editorials, opinion articles, conference abstracts, or non-peer-reviewed publications. Studies conducted outside Saudi Arabia, published before 2010, or not related to dental quality, patient safety, accreditation, or governance will also be excluded.

**Information sources** The primary information sources will include electronic databases such as PubMed, Scopus, Web of Science, and the Saudi Digital Library. Google Scholar will be used to identify additional relevant studies and grey literature. Reference lists of included studies will be screened to capture any further relevant articles. Where necessary, additional sources such as official reports and accreditation guidelines (e.g., CBAHI and JCI documents) will also be considered.

**Main outcome(s)** The primary outcomes of this review will assess the level and effectiveness of implementation of quality and patient safety standards in dental clinics in Saudi Arabia. This includes compliance with infection prevention and control measures, adherence to clinical safety protocols, and alignment with accreditation standards such as CBAHI and JCI.

Outcomes will be measured using reported indicators such as compliance rates, audit

findings, patient safety practices, and quality improvement outcomes as described in the included studies. Due to the heterogeneity of study designs, outcomes will be reported descriptively and synthesized narratively rather than quantitatively.

Timing of outcomes will be based on the reporting period of each included study. The primary outcomes of this review will focus on the level and effectiveness of implementation of quality and patient safety standards in dental clinics in Saudi Arabia. This includes compliance with infection prevention and control measures, adherence to clinical safety protocols, and alignment with accreditation standards such as CBAHI and JCI. In addition, the review will examine reported patient safety outcomes, including reduction of clinical errors, improvement in safety practices, and overall quality of care.

**Additional outcome(s)** Additional outcomes will include the identification of key barriers and facilitators influencing the implementation of quality and patient safety standards in dental clinics. These may include organizational factors such as leadership support, staffing levels, workforce training, and safety culture.

The review will also explore factors affecting the sustainability and consistency of implementation, as well as variations across different types of dental settings (public, private, and mixed sectors).

**Data management** All records identified through the search will be imported into a reference management software (e.g., EndNote) for organization and duplicate removal. The screening process will be conducted in two stages (title/abstract screening followed by full-text review) based on predefined inclusion and exclusion criteria.

Data from included studies will be extracted into a structured data extraction form (e.g., Microsoft Excel), including study characteristics, methodology, and key findings. All data will be securely stored and organized to ensure accuracy, consistency, and ease of analysis throughout the review process.

**Quality assessment / Risk of bias analysis** The methodological quality and risk of bias of the included studies will be assessed using the Joanna Briggs Institute (JBI) critical appraisal checklist for cross-sectional studies. Each study will be evaluated based on predefined criteria, including clarity of objectives, appropriateness of study

design, data collection methods, validity of measurements, and statistical analysis.

Based on the assessment, studies will be categorized into low, moderate, or high quality. The results of the quality assessment will be considered during data synthesis and interpretation of findings.

**Strategy of data synthesis** Data will be analyzed using a narrative synthesis approach due to the heterogeneity of study designs, settings, and outcome measures. Extracted data will be organized into structured tables to summarize study characteristics and key findings.

A thematic analysis will be conducted to identify recurring patterns and themes across studies, particularly related to the implementation of quality and patient safety standards, barriers and facilitators, and reported outcomes.

The findings will be compared and interpreted to highlight similarities, differences, and overall trends in the included studies.

**Subgroup analysis** Subgroup analysis is not planned due to the heterogeneity of the included studies. However, where possible, findings will be described across different types of dental settings (e.g., public vs private clinics) and study characteristics.

**Sensitivity analysis** Sensitivity analysis is not planned due to the absence of quantitative meta-analysis and the heterogeneity of the included studies. The findings will be interpreted based on the overall quality and consistency of the included studies.

**Language restriction** The search will be limited to studies published in English.

**Country(ies) involved** Saudi Arabia.

**Keywords** Dental clinics; Patient safety; Quality standards; Accreditation; CBAHI; JCI; Saudi Arabia; Healthcare quality.

#### **Contributions of each author**

Author 1 - Najla Al Ajaji - Author 1 conceptualized the study, designed the review protocol, conducted the literature search, screened and selected studies, performed data extraction and analysis, and drafted the manuscript.  
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Author 2 - Fatima Elhadi - Author 2 provided academic supervision, contributed to the study

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design, critically reviewed and revised the manuscript, and approved the final version for submission.  
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