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**Prevalence, Severity, and Treatment of Dental Caries
in Children and Adolescents in Maghreb Countries:
A Systematic Review and Meta-Analysis**

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ADMINISTRATIVE INFORMATION

Support - Libyan center for dental research.
Review Stage at time of this submission - Formal screening of search
results against eligibility criteria.
Conflicts of interest - None declared.
INPLASY registration number: INPLASY202590079

Amendments - This protocol was registered with the International
Platform of Registered Systematic Review and Meta-Analysis Protocols
(INPLASY) on 20 September 2025 and was last updated on 20
September 2025.

INTRODUCTION

Review question / Objective Component;
Criteria; Population Children and
adolescents (0–18 years) in Maghreb;
countries; Intervention Any dental caries treatment
(e.g., fluoride, sealants, restorations)
Comparison Not mandatory; may include
untreated vs. treated Outcomes Prevalence, dmft/
DMFT scores, treatment outcomes Study Design
Observational studies, cross-sectional, cohort,
RCTs, systematic reviews.

Condition being studied
- To estimate the prevalence of dental caries in
children and adolescents (0–18 years) in Algeria,
Libya, Mauritania, Morocco, and Tunisia.
- To assess the severity using indices like dmft/
DMFT.
- To evaluate treatment modalities and their
reported outcomes.

METHODS

Participant or population Children and
adolescents (0–18 years) in Maghreb countries.
Intervention Any dental caries treatment (e.g.,
fluoride, sealants, restorations).
Comparator Not mandatory; may include
untreated vs. treated.
Study designs to be included Observational
studies, cross-sectional, cohort, RCTs, systematic
reviews.
Eligibility criteria
Component
Criteria
Population
Children and adolescents (0–18 years) in Maghreb
countries
Intervention

Any dental caries treatment (e.g., fluoride, sealants, restorations)
 Comparison
 Not mandatory; may include untreated vs. treated
 Outcomes
 Prevalence, dmft/DMFT scores, treatment outcomes
 Study Design
 Observational studies, cross-sectional, cohort, RCTs, systematic reviews.

Information sources

- PubMed
- Scopus
- Web of Science
- Google Scholar
- Regional databases (e.g., African Journals Online).

Main outcome(s)

Outcomes
 Prevalence, dmft/DMFT scores, treatment outcomes.

Quality assessment / Risk of bias analysis -

- Cross-sectional studies: Joanna Briggs Institute (JBI) checklist
- RCTs: Cochrane Risk of Bias tool
 - Systematic reviews: AMSTAR 2

Strategy of data synthesis

- Meta-analysis using random-effects model (if heterogeneity is high)
- Forest plots for pooled prevalence and severity
- Subgroup analysis by country, age group, or treatment type
- Heterogeneity: I^2 statistic
- Publication bias: Funnel plot, Egger's test.

Subgroup analysis Subgroup analysis by country, age group, or treatment type.

Sensitivity analysis Planned we will do it.

Country(ies) involved All authors are libyan.

Keywords ("dental caries" OR "tooth decay") AND (children OR adolescents OR pediatric) AND (Algeria OR Libya OR Mauritania OR Morocco OR.

Contributions of each author

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