



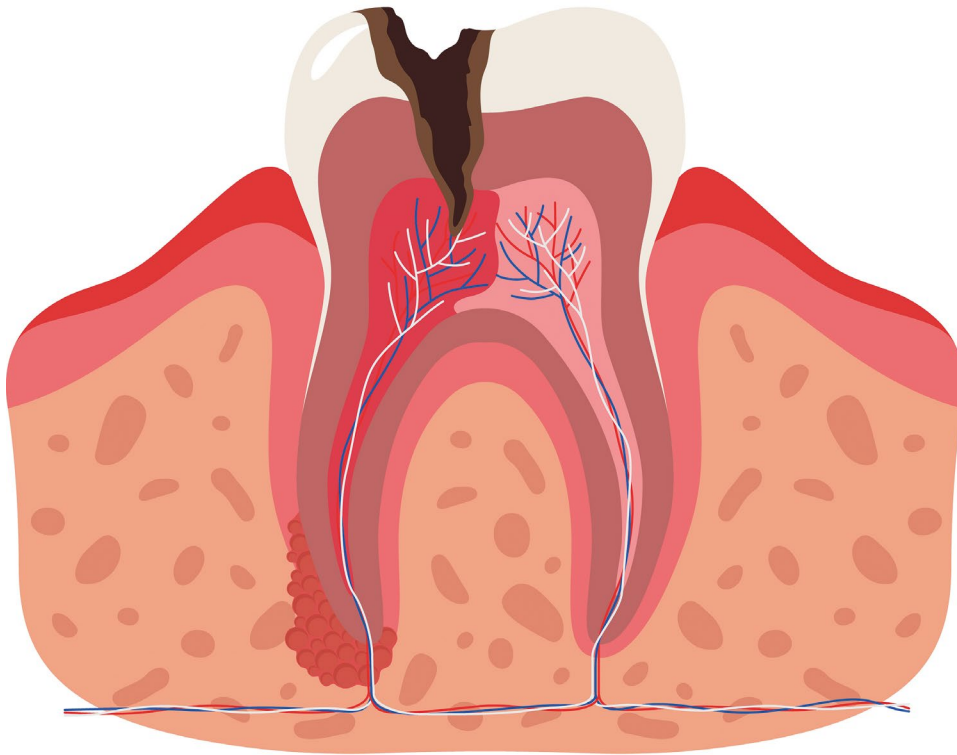
Manas Dave¹ considers topics discussed

in our sister journal *Evidence-Based Dentistry*.

Prevalence of root caries in Indian population – a systematic review and meta-analysis was published in *Evidence-Based Dentistry* in 2023.¹

Root caries is when the dental caries process affects the root surface of the tooth.² As people are living longer and retaining their natural dentition, they have a great predisposition to gingival recession and in turn, exposure of the root surface to the oral environment. Additionally, effective oral hygiene is difficult for the elderly due to limited manual dexterity.^{2,3} Hence, root caries prevalence increases with age.

The main risk factor (like coronal caries) is the presence of a cariogenic biofilm which metabolises fermentable carbohydrates and produces acid as a by-product which results in demineralisation of the root surface. However, caries in coronal dentine or root dentine (unlike caries in enamel) involves



EBD spotlight: The prevalence of root caries in the Indian population

Author information

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demineralisation and collagen degradation, which means the breakdown is twice as rapid.⁴

Whilst there have been numerous research studies on dental caries in India, few have concentrated on root caries. Therefore, the aim of this study was to assess the prevalence of root caries amongst the Indian population.

Methods

An electronic database search of PubMed, Science Direct, Cochrane and Scopus were conducted for studies until July 2022. The grey literature was searched through Google Scholar, and reference list of included studies manually searched. Only studies in English that were observational evaluating the prevalence of root caries in Indian populations (over the age of 15 years) were included. Quality assessment was undertaken using the Joanna Briggs Institute's Critical Appraisal Checklist.

Commentary

This systematic review and meta-analysis aimed to estimate the pooled prevalence of root caries in India. There were a limited number of studies however the caveat with this statement is that India has a population of 1.4 billion people so it's unlikely increasing the number of studies is going to provide a true capture of population root caries prevalence. A planned population epidemiological survey per region is required to estimate the true burden of disease for root caries. With regards to this review, there was limited quantitative analysis undertaken. More insights into the risk factors of root caries across different regions (eg North vs South India) would have been insightful. It is important future studies used a standardised index when measuring root caries to ensure the data can be pooled together.

'A planned population epidemiological survey per region is required to estimate the true burden of disease for root caries.'

Results

- Fourteen studies were included with the majority of studies reported from South India (n = 9) and the rest from North Indian (n = 5)
- There was heterogeneity between the studies with an I² = 99.3% (95% CI = 99.20-99.44)
- Risk of bias was found to be low in two studies and moderate in 12 studies. The strength of evidence was graded to be very low using GRADE
- There was a publication bias (Egger's test; P = 0.0533)
- The prevalence of root caries ranged from 7.4%–93.5% across all 14 studies with a pooled prevalence of 27.6 (95% CI = 17.4–39.1).

Conclusions

The authors concluded:

'In India, root caries is a serious health issue affecting nearly three out of ten people. Increased life expectancy and longevity of dentition might increase the prevalence estimates in the future...'

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