

INPLASY PROTOCOL

To cite: Yoithapprabhunath et al. Prevalence and Epidemiological Profile of Ameloblastoma in India: A systematic review and meta-analyses. Inplasy protocol 202260048. doi: 10.37766/inplasy2022.6.0048

Received: 11 June 2022

Published: 11 June 2022

Corresponding author:
Srichinthu Kenniyan Kumar

drchinthu@ksridsr.edu.in

Author Affiliation:
Vivekanandha Dental College
for Women

Support: NIL.

Review Stage at time of this submission: Completed but not published.

Conflicts of interest:
None declared.

Prevalence and Epidemiological Profile of Ameloblastoma in India: A systematic review and meta-analyses.

Yoithapprabhunath, TR¹; Srichinthu, KK²; Dineshshankar, J³; Aravindhana, R⁴; Vidyalakshmi, S⁵; Nirmal, RM⁶.

Review question / Objective: To find the Prevalence rate and Epidemiological Profile of Ameloblastoma in Indian sub-continent.

Eligibility criteria: The studies that evaluated the prevalence rate of ameloblastoma, published from January 2010 to December 2021 following the WHO classification of OT were included in the review. The search was limited to full-text English-language and human studies in India. Exclusion criteria include case reports, animal studies, in-vitro studies, guest editorials and review articles.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 June 2022 and was last updated on 11 June 2022 (registration number INPLASY202260048).

INTRODUCTION

Review question / Objective: To find the Prevalence rate and Epidemiological Profile of Ameloblastoma in Indian sub-continent.

Rationale: There is no such study to bring the collective data on the Prevalence rate of ameloblastoma of the whole of India. It will help to create awareness on the lack of

data or registration of the disease in that particular region.

Condition being studied: International status: Epidemiological study on Worldwide Incidence of Odontogenic Tumours showed highest occurrence of Ameloblastomas, which comprised of 39.6% of all Odontogenic tumours. National status: Data is not there except for few states.

METHODS

Search strategy: A comprehensive search of databases (PubMed, EBSCO, and Google Scholar) was conducted for articles published from January 2010 to December 2021, with the combination of medical subject heading (MeSH) terms "odontogenic tumor", "odontogenic lesions", "ameloblastoma incidence", "epidemiology", "WHO classification", "ameloblastoma recurrence", "ameloblastoma prevalence", using the Boolean operators "AND" and "OR". A literature search for the studies conducted in India that were published during this period was conducted. In addition, manual searches were performed to find other eligible articles that were not available in the electronic databases.

Participant or population: Human participants.

Intervention: NIL.

Comparator: NIL.

Study designs to be included: Systematic review and meta-analysis.

Eligibility criteria: The studies that evaluated the prevalence rate of ameloblastoma, published from January 2010 to December 2021 following the WHO classification of OT were included in the review. The search was limited to full-text English-language and human studies in India. Exclusion criteria include case reports, animal studies, in-vitro studies, guest editorials and review articles.

Information sources: A comprehensive search of databases (PubMed, EBSCO, and Google Scholar).

Main outcome(s): The aim of this study was to evaluate the prevalence of ameloblastoma in India through a systematic review and Meta analysis of the articles published between 2010 and 2021 as well as to provide a national epidemiological profile of ameloblastoma based on available studies conducted in

India in terms of gender and age distribution, tumor location and types, histopathologic and radiological appearance.

Additional outcome(s): To find the prevalence of ameloblastoma in, India in terms of gender and age distribution, tumor location and types, histopathologic and radiological appearance.

Data management: The systematic review was performed based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Quality assessment / Risk of bias analysis: The quality assessment was based on the criteria of the National Institute of Health (NIH) quality assessment tool for observational cohort and cross-sectional studies. Each study is being critically appraised based on the reported details and consideration of the concepts for minimizing bias and rated as good, fair and poor. According to the NIH quality evaluation tool, seven studies were of poor quality, while the remaining twenty studies were of fair quality in this present review.

Strategy of data synthesis: Meta-analysis was performed for the included studies. RevMan 5.4 software served as the statistical platform for computing tests and associated graphical results. We transformed the prevalence estimate using logit method. Results are presented after back transformation. The test of the heterogeneity for the included studies were analyzed using Tau square with a p value of >0.001 and I² is 98%. The studies were considered heterogenous and hence random effect model was used. The random effect model shows overall point estimate of 4.83 with 95% confidence interval. (4.44 -5.26) The main outcome of meta-analysis is Forest plot, a graphical display as shown in the figure on the forest plot , 95% confidence intervals of all studies were entirely on the positive side of zero and it does not overlap 1, hence there is statistical significance at the individual study level. Similarly, 95% confidence interval of the overall estimate does not

overlap 1 and there is statistical significance at the meta-analysis level.

Subgroup analysis: No sub group involved.

Sensitivity analysis: Performed.

Country(ies) involved: India.

Keywords: Ameloblastoma, WHO classification, Odontogenic tumor, Recurrence, Ameloblastic Carcinoma.

Contributions of each author:

Author 1 - Yoithapprabhunath, Thuckanaickenpalayam Rangunathan - Drafted the Manuscript, validation.

Email: yoitha.dentist@gmail.com

Author 2 - Srichinthu, Kenniyan Kumar - Conceptualization, methodology.

Email: drchinthu@ksrids.edu.in

Author 3 - Dineshshankar Janardhanam - The author contributed to the development of the selection criteria, and the risk of bias assessment strategy, resources.

Email: dinesh.rmdch@gmail.com

Author 4 - Aravindhan Ravi - The author read, provided feedback and approved the final manuscript, writing—review and editing.

Email: aravindhadr@gmail.com

Author 5 - Vidyalakshmi Santhanam - project administration, resources.

Email: idyan@igids.ac.in

Author 6 - Madhavan Nirmal Ramdas - Formal analysis, data curation, project administration.

Email: rmnirmal@hotmail.com