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INPLASY

Prevalence and severity of dental caries among individuals with Hemophilia

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ADMINISTRATIVE INFORMATION

Support - Nil.

Review Stage at time of this submission - Formal screening of search results against eligibility criteria.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 December 2023 and was last updated on 11 December 2023.

INTRODUCTION

Review question / Objective We aimed to compare the prevalence and severity of dental caries between the hemophilia and control groups.
Population: Individuals of any age and gender
Intervention/exposure: Individuals with hemophilia
Comparator: Healthy individuals
Outcomes: Dental caries as measured as prevalence or severity using indices like DMFT/ DMFS/ dmft/ dmfs/ deft/ defs for primary or permanent dentition respectively
Study design: Non-interventional, Descriptive/ cross-sectional studies with comparison/control group, case-control studies.

Rationale The main etiological factors linked to dental caries are frequent ingestion of sugar-containing products and poor oral hygiene due to a lack of regular brushing habits. Untreated dental problems can have serious and life-threatening complications, especially among individuals with hemophilia. Given this, it is worthwhile to systematically screen the available literature to evaluate the prevalence and severity of dental caries among Individuals with and without hemophilia.

Condition being studied Dental caries.

METHODS

Search strategy "Dental caries" and "hemophilia" are the major keywords. The MeSH term generator was later used to create synonyms and MeSH terms for these keywords, which were used subsequently as part of a search strategy in the above-mentioned search engines. The Boolean

operators ‘OR’, ‘AND’, and ‘NOT’ are used for combinations.
Below is the search strategy for dental caries and hemophilia types used for Pubmed:
“Dental Cavit*”[tw] OR “Dental Decay”[tw] OR “Carious Lesion*”[tw] OR “Carious Dentin” [tw] OR “Carious Dentin*”[tw] OR “Dental White Spot*”[tw]
"Hemophilia";[Mesh] OR “Hemophilia A*”[tw] OR “Congenital Hemophilia A*”[tw] OR “Classic Hemophilia*”[tw] OR “Autosomal Hemophilia A*”[tw] OR “Factor VIII Deficiency”[tw] OR “Congenital Factor VIII Deficiency”[tw]
"Hemophilia B";[Mesh] OR “Hemophilia B”[tw] OR “Factor IX Deficienc*”[tw] OR “Hemophilia B Leyden”[tw] OR “Hemophilia B(M)”[tw] OR “Plasma Thromboplastin Component Deficiency”[tw] OR “F9 Deficienc*”[tw] OR “Christmas Disease”[tw]
"Factor XI Deficiency";[Mesh] OR “Factor 11 Deficienc*”[tw] OR “Plasma Thromboplastin Antecedent Deficiency” [tw] OR “Hemophilia C”[tw] OR “Rosenthal?s Syndrome*”[tw] OR “Factor XI Deficienc*”[tw].

Participant or population Individuals of any age and gender.

Intervention Individuals with Hemophilia.

Comparator Healthy controls.

Study designs to be included Non-interventional, Descriptive/cross-sectional studies with comparison/control group, case-control studies.

Eligibility criteria Studies that reported dental caries prevalence or severity among individuals with or without hemophilia using DMFT/ DMFS/ dmft/ dmfs/ deft/ defs for primary or permanent dentition respectively and those reported in English were included. Articles that were published as qualitative studies, commentaries, brief communications or letters, and studies that used subjective evaluation of dental caries or self-reported caries or root caries, were excluded.

Information sources Wiley Online Library, Web of Science, Scopus, and PubMed from inception till 30th April 2023.

Main outcome(s) Dental caries as measured as prevalence or severity using indices like DMFT/ DMFS/ dmft/ dmfs/ deft/ defs for primary or permanent dentition respectively. Overall Prevalence or Mean with Standard deviation would be recorded separately.

Additional outcome(s) If available, we will collect information of dental caries as per age, type of dentition, sex.

Data management Screening will be done by two review authors independently. Two independent reviewers will extract data from the included articles.

Quality assessment / Risk of bias analysis Risk of bias assessment would be done using the modified Newcastle-Ottawa Quality Assessment Scale.

Strategy of data synthesis Analysis will be performed using Review Manager (RevMan) [Computer program]. Version 5.4. The Cochrane Collaboration, 2020. If a sufficient number of studies are available, meta-analysis would be performed using the Random-effects model. Heterogeneity would be assessed using the Q and I2 test. Summary estimates will be calculated as per the distribution of the data collected from primary studies and 95% confidence intervals (CI), and p-values will be reported. Publication bias would be evaluated using a funnel plot with standard error on the y-axis and the summary estimate on the x-axis.

Subgroup analysis If applicable, sub-group analysis would be performed as per the available data.

Sensitivity analysis Sensitivity analysis would be performed using Leave-one-out meta-analysis.

Language restriction English.

Country(ies) involved India.

Keywords Hemophilia; dental caries; prevalence and severity.

Dissemination plans We plan to publish the findings in scientific journals.

Contributions of each author
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