Does trauma in the primary dentition cause sequelae in permanent successors? A systematic review

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Citation

Review question(s)
Does trauma in the primary dentition cause sequelae in permanent successors?

Searches
Two examiners (MML and AKA) were independently perform the search process under the guidance of a librarian. The following electronic databases were searched up to and including June 2013: PubMed, Scopus, The Cochrane Library, Web of Science, LILACS and the System for Information on Grey Literature in Europe (SiGLE).

MeSh terms, key words and other free terms related to tooth injuries, primary dentition, permanent dentition and complications were used with Boolean operators (OR, AND) to combine searches. There were no language restrictions.

Reference lists of all included studies were hand searched in order to locate additional studies. Articles appearing in more than one database search were considered only once.

Types of study to be included
Observational studies (including cohort and case–control studies).

Condition or domain being studied
In trauma in the primary dentition is essential to consider the possible risks of changes in teeth successors. The sequelae in permanent teeth after traumatic injury in primary dentition are related to the type of injury and the age of the child at the time of injury. This systematic review aims to find scientific evidence to suggest that trauma in the primary dentition cause sequelae in permanent successor.

Participants/ population
Prospective and retrospective controlled or not studies conducted on children with dental trauma in primary dentition were followed through until their permanent teeth erupted were included.

Textbooks, dissertations, case reports, case series, review articles, animals studies, editorials or opinions and studies with insufficient data (age of children, type of trauma, prevalence of sequelae) were excluded.

Intervention(s), exposure(s)
Dental trauma in primary dentition (exposure).

Comparator(s)/ control
Subjects non-exposed to dental trauma in primary dentition.

Outcome(s)
Primary outcomes
Sequelae on permanent successors.
Secondary outcomes
None.

**Data extraction, (selection and coding)**
From the selected articles, data on the following issues were extracted and tabulated by the two authors: author and year publication; study design; geographical location; sample size; missing data; dental trauma type; age of children; permanent sequelae types; follow-up time and analysis method.

**Risk of bias (quality) assessment**
The quality assessment and control of bias were carried out by the two authors. Disagreements between the review authors over the risk of bias in particular studies were resolved by discussion, with involvement of a third review author where necessary. The quality assessment and risk of bias of included papers was applied following Fowkes and Fulton (Fowkes FGR, Fulton PM. Critical appraisal of published research: introductory guidelines. BMJ 1991; 302: 1136-40 ) for appraising research in the medical area. The checklist included questions on study design, study sample, control group, quality of measurements and outcomes, completeness and distorting influences.

**Strategy for data synthesis**
We provide a narrative synthesis of the findings from the included studies. Data extraction was based on methods, participants, type of injury, prevalence of sequelae, most frequent sequelae, time of follow-up and statistical analysis.

**Analysis of subgroups or subsets**
None

**Contact details for further information**
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**Anticipated or actual start date**
20 April 2013

**Anticipated completion date**
17 July 2013

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Coordination for the Improvement of Higher Level -or Education- Personnel-(CAPES)

Foundation for Reach Support of Rio de Janeiro - Brazil -(FAPERJ)
Details of final report/publication(s)
Despite some limitations in the study designs were observed the evidence found suggests that there were a higher number of developmental disturbances in permanent teeth in individuals who had suffered dental trauma in their primary incisors.

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Stage of review at time of this submission

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<td>Piloting of the study selection process</td>
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<td>Formal screening of search results against eligibility criteria</td>
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<td>Data extraction</td>
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