

Childhood dental trauma and socioeconomic status

Abstracted from

Bendo CB, Scarpelli AC, Vale MP, Araújo Zarzar PM.

Correlation between socioeconomic indicators and traumatic dental injuries: a qualitative critical literature review. *Dent Traumatol* 2009; **25**: 420-425.

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Questions: Is there a relationship between socioeconomic status and traumatic dental injuries?

Data sources Brazilian Bibliography of Dentistry (BBO), Scientific Electronic Library online (SciELO), Latin American and Caribbean Health Sciences (LILACS), The Cochrane Library, ISI Web of Knowledge, International Database for Medical Literature (MEDLINE) and PubMed Central. The database of the Brazilian Coordination of Higher Education Personnel Improvement (CAPES) was searched as well as reference lists from included articles.

Study selection Articles providing information on the correlation between traumatic injuries in permanent teeth and socioeconomic indicators were included.

Data extraction and synthesis Data were extracted by two reviewers and disagreements resolved through discussion and a qualitative synthesis conducted.

Results Nine studies were included (1 cohort, 8 cross-sectional). Seven of the surveys were carried out in Brazil and two in Thailand. The age of children was 9–14 years. Statistically significant associations between permanent tooth injuries and high economic status were found in four studies.

Conclusions There were few studies correlating traumatic injuries in permanent teeth and socioeconomic indicators and the majority found no such association. It is suggested that the association between traumatic dental injuries and socioeconomic factors may be related to the indicators used, considering differences in their individual components. Furthermore, the heterogeneity of the methodologies hinders the comparison of the studies.

Commentary

Bendo *et al*'s work exemplifies the barriers and difficulties faced by researchers within the field of dental traumatology. From even the simplest starting point of categorising dental injury, through myriad confounding factors and on to the analysis of results, there is currently minimal opportunity to gain meaningful comparison between studies due to the vast variation in the means used to classify and analyse their component parts.

The review reveals all but one of the nine papers in the final selection were of the same cross sectional design, yet comparison

between these was unsuccessful. Double-blinded randomised controlled trials and dental traumatology are unlikely, for obvious reasons, to be bedfellows. This does not however imply that research within this field cannot be conducted robustly by alternate designs. Rather this review stands as yet another marker to those who set out to study dental traumatology, that for their work to be of true benefit, there has to be consensus within the methodology employed to enable their data to be compared and meta-analysed.

The authors concluded that the lack of heterogeneity of the study methodologies hindered the achievement of their study aim. Whilst they were cognisant of what needed to be done to address this issue, unfortunately the authors either did not, or could not, offer any advice or suggestion as to how this may actually be effected in practice.

As with so many reviews, this paper's outcome reveals that no consensus has been achieved. Socioeconomic status has not yet been demonstrated to have a direct and consistent correlation with the occurrence of dental trauma. But given the above shortcomings, the absence of correlation is just as likely to be due to not yet having discovered the correlation as it is to no correlation existing at all.

The authors additionally note the relative paucity of published work in this area and its hindering effect on comparison. In the absence of any formal research guidelines in this field, it may therefore be considered sage for any future researcher to consider closely emulating methodologies used to date as a benchmark against which meaningful comparisons may be made.

Practice points

- The absence of a consistently demonstrable correlation between socioeconomic status and dental trauma may lie as much with the heterogeneity of study methodology as the presence of a true lack of association.

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