



## EBD spotlight:

# The impact of dental trauma on the oral health-related quality of life of children and adolescents



**Manas Dave<sup>1</sup>** reflects on topics discussed

in our sister journal *Evidence-Based Dentistry*.

**D**oes dental trauma have impact on the oral health-related quality of life of children and adolescents? was published in the journal *Evidence-Based Dentistry* in March 2023.<sup>1</sup>

Dental trauma affects 30% of children, especially in the first two years of life when they are learning to walk and more susceptible to injury.<sup>2</sup> Dental trauma has also been shown to affect one in four adults.<sup>3</sup> The extent of injury will determine the subsequent consequences and need for treatment. There may be a psychological impact after a traumatic dental injury affecting future oral health related quality of life (OHRQoL). Therefore, the aim of this umbrella review was to evaluate the evidence regarding the effect of traumatic dental injuries on OHRQoL.

### Methods

An electronic database search of PubMed,

### Author information

<sup>1</sup>Dr Manas Dave qualified from the University of Manchester with degrees in pathology and dentistry. He undertook postgraduate training in Newcastle and Middlesbrough before returning to Manchester where he is an NIHR Academic Clinical Fellow in Oral and Maxillofacial Pathology and Honorary Lecturer in Dentistry. Manas has achieved postgraduate qualifications in Medical Education, Dental Public Health and Pathology Informatics. He has published extensively across numerous journals including the *BMJ*, *Lancet* and *BDJ*, has extensive teaching experience of both undergraduate and postgraduate students and is a recipient of numerous personal and research awards.

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Scopus, Embase, Web of Sciences and Lilacs was conducted to 15 July 2021 with an update on 15 October 2021. The Grey literature was searched using Google Scholar and OpenGrey and registries of systematic review protocols such as the Cochrane database, PROSPERO, Open Sciences Framework and Joanna Brigg's Institute registry were searched for ongoing or completed systematic reviews. Studies were included if they were systematic reviews and meta-analyses performed by a minimum of two reviewers with literature searching done in a minimum of two databases. All other study types were excluded. Where a systematic review was undertaken without adequate quality assessment of the included primary studies, it was also excluded. A Measurement Tool to Assess Systematic Reviews (AMSTAR-2) was used to perform quality analysis of included systematic reviews.

OHRQoL (study 1: SMD 3.2 (-4.69, -1.72;  $P = 0.0001$ ) and study 2: adjusted OR 1.73; 1.20-2.49;  $P = 0.003$ ).

Effect of traumatic dental injuries in children and adolescents:

One study pooled analysis for uncomplicated traumatic dental injury in both children and adolescents and reported a negligible effect (OR 0.96; 0.85-1.10;  $P = 0.001$ ).

### Conclusions

The authors concluded:

'A significant impact of TDI on OHRQoL in children and adolescents, when the different types of injuries were considered together was seen...'

### Comments

There are a limited number of systematic reviews in literature that examine the

*'This umbrella review has identified the need for consistency in using oral health related quality of life tools.'*

### Results

Four systematic reviews were included in this study, published in the last four years and originating from Brazil and Australia. Study participants included children, pre-schoolers, schoolchildren and adolescents.

Effect of traumatic dental injury in children:

Three of the systematic reviews reported traumatic dental injuries could impact on OHRQoL in children with two studies reporting statistical significance (study 1: OR 1.24; 1.08-1.43;  $P = 0.003$  and study 2: OR 1.44; 1.28-1.63;  $P = 0.00001$ ).

One study reported no significance with OHRQoL and uncomplicated traumatic dental injury (95% CI 0.85-1.12;  $P = 0.069$ ) whereas for complicated traumatic dental injuries, one study reported a significance relationship with OHRQoL (OR 1.58; 1.08-2.31;  $P = 0.02$ ).

Effect of traumatic dental injury in adolescents:

Three of the systematic reviews evaluated the effect of traumatic dental injuries on the OHRQoL of adolescents with two studies reporting no significant impact with uncomplicated traumatic dental injuries.

Two studies reported significant impact with all types of traumatic dental injury and

relationship between traumatic dental injuries and OHRQoL. The included systematic reviews and their respective primary studies used different reporting tools hence there were limitations in comparing the data collected using different methods. This umbrella review (reviews of previously published systematic reviews and meta-analyses) has identified the need for consistency in using OHRQoL tools, the need for primary studies in different parts of the world and importance of subdividing traumatic dental injuries based on severity.

### References

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2. Dave M. EBD spotlight: Does primary trauma lead to developmental defects in permanent teeth? *BDJ Team* 2022; **9**: 40-41.
3. Andersson L. Epidemiology of traumatic dental injuries. *J Endod* 2013; **39**(3 Suppl): S2-S5.

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