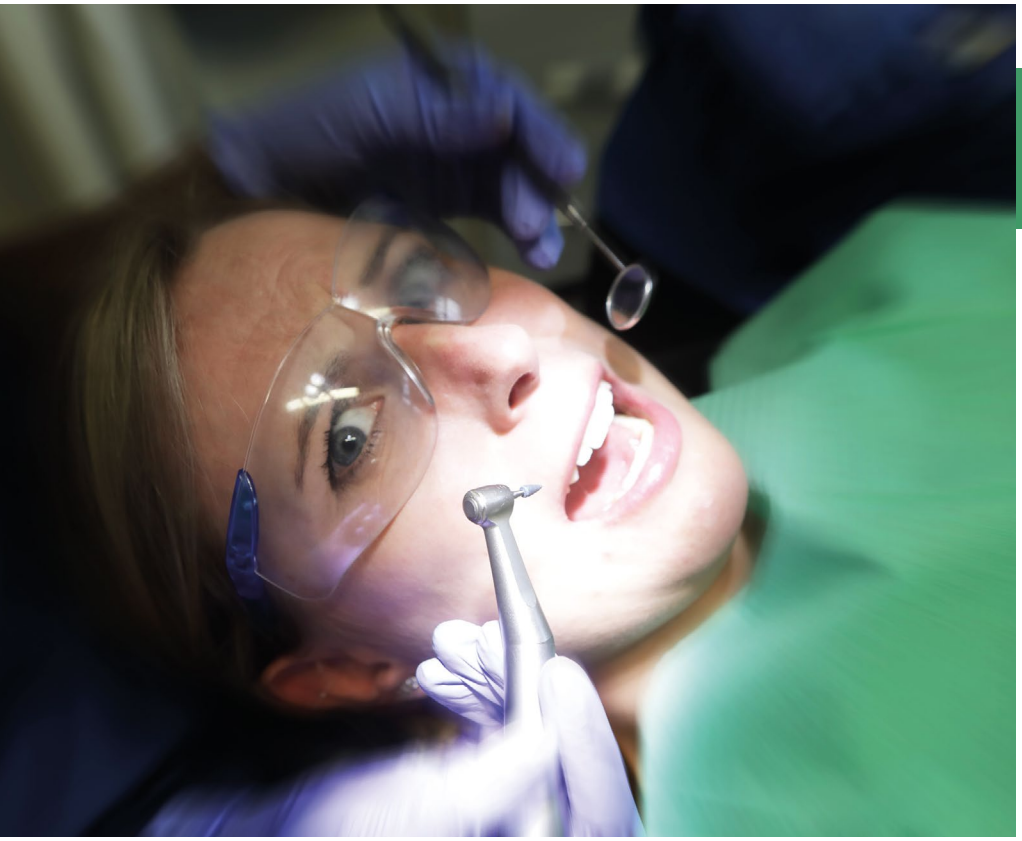

EBD spotlight: The relationship between temperament and dental fear and anxiety

Manas Dave[1] reflects on topics in our sister journal *Evidence-Based Dentistry (EBD)*.

The relationship between temperament and dental fear and anxiety: a systematic review was published in *EBD* in 2023.[1]

Background

Anxiety and fear are psychological, physiological and behavioural states induced by a potential or actual threat to our wellbeing or survival. Both are distinct emotional states with overlap, however broadly, fear is focused on known external danger whereas anxiety is a generalised response to an

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unknown threat or internal conflict.[2] In the dental environment, the sound of a drill, smell of a dental material etc can trigger an emotional reaction and cause fear, whereas the anticipation of a dental appointment can result in anxiety. It is difficult to differentiate between fear and anxiety states. Subsequently, the term dental fear and anxiety (DFA) is used to refer to negative feelings associated with dental treatments and environments.[3,4] DFA can occur by endogenous factors (personality traits, age, general anxiety, depression, temperament) or exogenous factors (dental pain, negative dental experiences and inherited from the children's parents). Temperament and personality traits have been shown to result in differences in emotional responses to the environment with a possible association with DFA.

The aim of this systematic review was to understand the relationship between temperament and DFA in children and adolescents.

'In the dental environment, the sound of a drill, smell of a dental material etc can trigger an emotional reaction and cause fear, whereas the anticipation of a dental appointment can result in anxiety.'

Methods

An electronic database search of PubMed, Web of Science, Scopus, Lilacs, Embase, Cochrane and PsycINFO were conducted up to April 2021 and updated in September 2021. There were no date nor language restrictions. The grey literature was also searched through Google Scholar and OpenGrey. References of included studies were screened. Only primary studies that included children and/or adolescents reporting temperament and DFA were included. Quality assessment to determine risk of bias was conducted using the Fowkes and Fulton guidelines and GRADE (Grading of Recommendations Assessment, Development and Evaluation) undertaken to determine the certainty of evidence.

Results

- Twelve studies (ten cross-sectional and two case-control) were included in this systematic review that were published between 1974–2021 in nine countries
- Studies used different tools to evaluate temperament (five studies used different versions of the EAS instruments, two studies used EPQ instruments, one used the Buss and Plomin approach, the Canadian study used a 13-temperament dimension instrument, the North American study used an instrument that measures temperament based on daily activities, the Welsh study used a 2-temperament dimension scale and the Indian study used the Thomas and Chess theory
- Eight studies had a high risk of bias with issues in lack of representative sample size and absence of quality control amongst others
- The 12 studies used 12 different methods to assess DFA and the certainty of evidence was very low
- There was a positive association between temperament traits and DFA. Emotionality or neuroticism was associated with DFA in six studies, shyness correlated with DFA in three studies and impulsivity correlated with DFA in one study
- Four studies reported that no temperament dimension was associated with DFA
- In adolescents, impulsivity was associated with DFA whereas in children, shyness, passive withdrawal, pessimism and aggressiveness were associated with DFA.

Conclusions

The authors concluded:

'…some temperaments, such as emotionality and shyness, are related to DFA. However, the high heterogeneity among the studies, as well as their methodological limitations and the very low certainty of evidence, does not allow one to draw a definitive conclusion on this issue…'

Commentary

This systematic review conformed to PRISMA guidelines incorporating clearly defined inclusion and exclusion criteria with a comprehensive database search to identify all relevant articles. As the authors mentioned, the included studies were of low methodological quality and may not be generalisable to children/adolescents beyond the characteristics of the included population. This was the first systematic review of this topic and highlights the need for high quality, primary research to inform the association between temperament and DFA in children and adolescents.

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