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Poster

Use of Thermographic Imaging to Evaluate Anxiety Reactions to the Dental Environment in Brazilian Twin Children

Pedro A. Sironi*, Lilian C. Luchesi, Emma Otta

Instituto de Psicologia, Universidade de São Paulo, São Paulo, Brazil

*pedrosironi@usp.br

ABSTRACT

The dental environment is widely recognized as a potentially anxiety-inducing setting. Dental anxiety (DA) is a common condition affecting individuals globally, including children. Thermographic imaging is an emerging tool for assessing emotional responses and has shown promising results in previous studies with adults. This study aimed to explore the application of thermographic cameras in evaluating DA reactions to the dental context among 74 twin children, aged 4 to 14 years. Thermographic images were captured at two moments: pre-treatment and during treatment (immediately before the dental procedure starts) across two sessions spaced at least a week apart. A DA questionnaire was administered, and participants were categorized into three groups based on their anxiety levels. Temperature variations across groups were compared through sessions using the Kruskal-Wallis test. Descriptive analyses were also conducted to examine the influence of zygosity and sex. The results indicated that, regardless of sex, monozygotic twins (who share 100% of their genetic material) exhibited greater consistency in temperature responses between sessions. While no significant correlation was found between decreased facial temperature and higher anxiety scores, a trend emerged indicating greater thermal reactivity at the tip of the nose in children. Although preliminary, these findings align with prior research and suggest that thermography may be a useful tool for assessing emotional responses in pediatric settings. With a larger sample, these effects may become more robust. This study contributes to the understanding of DA in Brazilian children. and underscores the importance of developing more humanized care practices for anxious pediatric patients.