

## Childhood Dental Caries from a Biopsychosocial Perspective

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### Abstract

In the modern world, with women increasingly participating in the workforce and having to cope simultaneously with professional demands and the challenges of motherhood, maternal mental health has become an issue of growing concern. With regard to oral health, and specifically dental caries, mothers play a fundamental role in the establishment and maintenance of healthy oral habits aimed at preventing the occurrence of the disease in their children. Within this context of high maternal demands, mental health, and child care, the present study was conducted to evaluate the influence of maternal symptoms of depression, anxiety, and stress on factors related to the occurrence of dental caries in children. Additionally, child stress levels and their relationship with dental caries were assessed.

The study was approved by the Research Ethics Committee and included 42 children and their respective mothers. Maternal symptoms of depression, anxiety, and stress were assessed using the 21-item Depression, Anxiety and Stress Scale (DASS-21), administered to the mothers. Children completed the Child Stress Scale (ESI) and underwent clinical examination for dental caries using the DMFT index, according to World Health Organization (WHO) criteria. Data analysis was performed using Spearman's correlation test, with a significance level set at 5%.

The results support a biopsychosocial conceptual model of dental caries, reinforcing the importance of comprehensive health care for both mother and child.

**Keywords:** *Depression; Anxiety; Psychological Stress; Dental Caries; Childhood*

### Contextualization

Currently, mothers are increasingly integrated into the labor market and contribute financially to household maintenance. For those who choose to have children, challenges may be intensified due to the accumulation of professional, domestic, and caregiving responsibilities, potentially affecting maternal mental health [1].

Mothers play a crucial role in the development and maintenance of healthy oral habits aimed at preventing the onset of dental caries during childhood [2-4]. Several studies have demonstrated that maternal mental health can influence children's oral health care practices [4-9].

### Main Results

Based on the conceptual framework and methodology employed, the main findings of the present study were as follows: a statistically significant negative correlation between maternal anxiety and the child's DMFT index ( $\rho = -0.308$ ;  $p = 0.047$ ); between maternal educational level and the child's DMFT index ( $\rho = -0.409$ ;  $p = 0.007$ ); and between child stress and the number of daily brushing teeth ( $\rho = -0.328$ ;  $p = 0.047$ ).

Statistically significant positive correlations were observed between maternal educational level and maternal stress ( $\rho = 0.308$ ;  $p = 0.047$ ); between child stress and the number of times the child consumed sugar per day ( $\rho = 0.579$ ;  $p < 0.001$ ); between maternal educational level and the number of times the child brushed their teeth daily ( $\rho = 0.416$ ;  $p = 0.006$ ); and between daily sugar consumption frequency and the DMFT index ( $\rho = 0.314$ ;  $p = 0.043$ ).

Taken together, these findings provide relevant and innovative evidence regarding the relationship between child stress, sugar consumption, and toothbrushing frequency, as well as the inverse correlation between maternal anxiety and the child's caries experience. Maternal anxiety, unlike depression or chronic stress, may be associated with greater adherence to professional guidance and increased concern and control over the child's habits.

Overall, dental caries emerges as the result of the interaction between social determinants, maternal mental health, child psychosocial factors, and health-related behaviors.

### Conclusion

Based on the data obtained and the methodology employed, it can be concluded that dental caries should be discussed from a biopsychosocial perspective, reinforcing the need for an integral and holistic health concept.

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