ARTICLE

Correlation between child and parental dental anxiety in a sample of Chilean schoolchildren.

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ABSTRACT

Anxiety is understood as a response to situations in which the source of threat for the individual is uncertain, ambiguous or objectively absent. Three factors seem to unleash the anxiety process: novelty, insecurity and expectation. People with dental fear often have poor oral health, being fear and anxiety the reasons for not visiting the dentist regularly. This circumstance hinders dental care and might even lead to preventing dental care for some individuals. The aim of this article is to correlate fear and anxiety in a sample of Chilean 7-to-10-year-old children and their parents/guardians. FIS and CFSS-DS correlation was not significant (r=0.1785; p=0.1065). No correlation was found between child anxiety level and caries experience: dmft/FIS (r=-0.0312; p= 0.7796), DMFT/FIS (r=-0.1632; p=0.1404). Likewise, no correlation was found between parental and child anxiety levels measured by FIS (r=0.0527; p=0.6074) nor CFSS-DS (r=-0.0498; p=0.6549). A significant correlation was found between parents' schooling level and REALD-30 (r=0.3870; p=0.003), but none between the latter and M-DAS (r=0.0254; p=0.8198). Low correlation between these methods seems to be justified by the multidimensional character of anxiety, which presents physiological, cognitive and motor reactions that are manifested differently in each individual.

Keywords: anxiety, child, caries, dental care.

INTRODUCTION

Anxiety is understood as a response to situations in which the source of threat for the individual is uncertain, ambiguous or objectively absent. Three factors seem to unleash the anxiety process: novelty, insecurity and expectation. New experiences cause insecurity, since there is need to adapt to a new situation facing the unknown. Expectation causes an increase of anxiety levels, closing the three-factor circle *(Ríos et al., 2014)*.

Fear is an emotion characterized by a usually unpleasant feeling, caused by the perception of real/supposed, present/future danger. People with high dental fear often experience aversion to psychological, emotional and social problems. Although dental fear is a psychological condition with psychological symptoms, it can also present implications in physical health. People with dental fear often have poor oral health, being fear and anxiety the reasons for not visiting the dentist regularly. This circumstance hinders dental care and might even lead to preventing dental care for some individuals *(García & Forés, 2013)*.

Some studies argue that girls show more anxiety and manifest more fear than boys, although not significantly, and that this depends above all on the psychological maturity of the boy *(Ledesma & Villavicencio, 2017)*. The child frequently doesn't know clearly what is disturbing him, might feel resentment towards the professional, or the situations, but doesn't know how to express the exact reason. His/her reactions are mainly internal, however, one child might feel more nervous than another, be overwhelmed and bite his lips or nails because of his chronic restlessness *(Munayco et al., 2010)*.

The aim of this article is to correlate fear and anxiety in a sample of Chilean 7-to-10-year-old children and their parents/guardians.

MATERIALS AND METHODS

Design

This study's methodological design is cross-sectional. The study's approval was obtained from the Research and Bioethics Committee of the Universidad Bolivariana.

Population

The target population of this research was 83 children, male and female, aged between 7 and 10, with their respective parents or guardians from the E-701 Thompson Matthews school of the Lota municipality. Children with Chilean nationality, aged between 7 and 10, accompanied by any responsible caregiver were included. Children with cognitive impairment, with chronic systemic pathologies background that require more complex psychological interventions or dental treatment under general anesthesia due to dental phobia, and with illiterate parents were excluded.

Instruments

For child dental fear and anxiety assessment, the Children Fear Survey Schedule – Dental Subscale *(CFSS-DS) (Cuthbert & Melamed, 1982)* was applied. This scale is composed of 15 items that describe different dental and medical situations with response alternatives valued from 1 to 5, such as: not afraid *(1)*, a little afraid *(2)*, fairly afraid *(3)*, quite afraid *(4)* and very afraid *(5)*.

Afterwards, the Facial Image Scale was applied. They were instructed to point at the one that identified them preceding dental care, in a clinical environment. Figure 4 was designated as "sad" and figure 5 as "very sad", both considered as dental anxiety *(Buchanan & Niven, 2002)*. Figure 3 was designated as "indifferent", figure 2 as "happy" and figure 1 as "very happy".

Then, oral examination was performed on each one of the surveyed students with basic oral examination set *(probe, mouth mirror, tweezers and tray)*. Subsequently, the values found for DMFT and dmft were registered.

For measuring dental anxiety in parents, Corah M-DAS *(Humphris et al., 1995)* was used, which contains 5 items, each one with 5 response alternatives: a) not anxious, b) slightly anxious, c) fairly anxious, d) very anxious and e) extremely anxious *(sweating, tachycardia and feeling of severe disease)*. In order to assess parents' literacy in dentistry, Rapid Estimation of Adult Literacy in Dentistry *(REALD-30)* was applied, which is composed of 30 words that are frequently used in Dentistry *(Lee et al., 2007; Cartes-Velásquez & Luengo-Machuca, 2018)*.

The sociodemographic datasheet was composed of 1 question in which they are asked to indicate their level of schooling, as well as the student's previous dental experience perceived by the parent or guardian.

Statistical analysis

Data were analyzed from the score obtained through the surveys, for child and parental dental anxiety, performing different combinations. All data were registered in a Microsoft Office Excel v. 2013 database and were analyzed using STATA 12/SE *(Stata Corp; USA)*.

Bioethical considerations

Authorization from the Thompson Matthews school's principal, parents' informed consent and child assent were obtained.

RESULTS

The sample consisted of 83 students from the second and third year of primary school at the E-701 Thompson Matthews school from Lota, 46.67% were females.

FIS and CFSS-DS correlation was not significant *(r=0.1785; p=0.1065)*. No correlation was found between child anxiety level and caries experience: dmft/FIS *(r=-0.0312; p= 0.7796)*, DMFT/FIS *(r=-0.1632; p=0.1404)*. Likewise, no correlation was found between parental and child anxiety levels measured by FIS *(r=0.0527; p=0.6074)* nor CFSS-DS *(r=-0.0498; p=0.6549)*.

A significant correlation was found between parents' schooling level and REALD-30 *(r=0.3870; p=0.003)*, but none between the latter and M-DAS *(r=0.0254; p=0.8198)*.

DISCUSSION

The study's results showed that there is no statistically significant correlation between parental and child anxiety levels. This agrees with *Espinoza (2013)*, in a study conducted in the Metropolitan Region, and with *Salazar & Barra (2014)*, in the San Pedro de La Paz municipality. This implies that the companion's anxiety would not have great incidence in the child's behavior.

According to *Themessl-Huber et al. (2010)*, the reason for this is that when parents have high levels of dental anxiety they make an effort to adequately prepare their children for the visit to the dentist. In contrast, *Larrea et al. (2018)* in Guayaquil, state that there is a correlation between the mother's anxiety level and child anxiety level. Similar results have been found in other studies conducted in Chilean population.

In this research, no association between FIS and CFSS-DS was found, nor between the latter and dental caries. This might

be due to the fact that both instruments were applied preceding a mildly invasive oral examination at the school facilities, in a classroom, which represents a familiar environment for students and not in a dental office's waiting room preceding an invasive procedure expected to produce a degree of anxiety in the patient. It might also be due to the limitations for obtaining a Gold Standard to measure child dental anxiety in pediatric dentistry, unlike Corah's Dental Anxiety Scale for adult dental anxiety, which has been widely used and validated.

Low correlation between these methods seems to be justified by the multidimensional character of anxiety, which presents physiological, cognitive and motor reactions that are manifested differently in each individual.

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