



Short article

Oral symptoms perceived by parents of children with dental avoidance: A comparative exploratory study

Síntomas bucales percibidos por padres de niños con evitación odontológica: un estudio exploratorio comparativo

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ABSTRACT

Keywords:

Dental care;
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Oral epidemiology;
Dental services.

Introduction: Parents are responsible for developing good nutrition, good hygiene habits and regular visits to the dentist by children to ensure optimal oral health. **Objective:** To explore the relationship between dental avoidance and the frequency of oral symptoms perceived by parents. **Methods:** A descriptive study was conducted with a convenience sample of 78 participants between 6-11 years old. Oral symptoms, the influence of oral health on daily life and the oral health status perceived by parents were analyzed using absolute and relative frequencies. **Results:** Results: 51.9% of the participants were male, the average age was 6.4 ± 0.3 years. The most frequent symptoms in the group of children with dental avoidance were pain, bleeding gums, sores/wounds, food stuck to the palate and food between teeth; bad breath occurred similarly in both groups. **Conclusions:** These interim findings suggest that oral symptoms perceived by parents are more frequent in children with dental avoidance.

RESUMEN

Palabras clave:

cuidado dental;
asistencia dental; salud infantil;
odontopediatría; epidemiología oral; servicios dentales.

Introducción: los padres son responsables del desarrollo de buenos hábitos de nutrición, higiene y visitas regulares al odontólogo por parte de los niños para garantizar una óptima salud oral. **Objetivo:** explorar la relación entre la evitación odontológica y la frecuencia síntomas orales percibidos por padres. **Método:** se implementó un estudio descriptivo con una muestra por conveniencia de 78 participantes entre 6 y 11 años. Los síntomas orales, la influencia de la salud oral en la vida diaria y el estado de salud oral percibido por padres se analizó mediante frecuencias absolutas y relativas. **Resultados:** el 51,9% de los participantes fueron de sexo masculino, la edad promedio fue $6,4 \pm 0,3$ años. Los síntomas más frecuentes en el grupo de niños con evitación odontológica fueron dolor, encías sangrantes, llagas/heridas, comida pegada al paladar y comida entre dientes, el mal aliento se presentó similarmente en ambos grupos. **Conclusiones:** estos hallazgos interinos sugieren que los síntomas orales percibidos por padres son más frecuentes en niños con evitación odontológica.

INTRODUCTION

In maintaining children's oral health, parents are responsible for providing financial support and accompaniment by promoting healthy habits, given that the imbalance of the oral physical dimension can cause adverse effects on the quality of life of minors, in addition to disorders in chewing function, nutrition, language development, adequate craniofacial growth and consequences on physical and psychosocial development¹.

In the Latin American context, dental caries continues to be a highly prevalent disease, indicating a critical socioeconomic component that would explain the behavior of this event since it was recently indicated that the most economically developed countries have a lower burden of untreated dental caries². In the opposite scenario, other studies have suggested that children of parents with a high level of education, professionals, and high income had a lower risk of suffering from dental caries³.

Related to the above, a study in Brazil described that a behavioral component of parents may be associated with dental avoidance in children, considering that irregular visits to the dentist by the mother were a factor associated with the experience of painful and unpleasant discomfort, worse quality of life in children as a result of not using oral health services⁴. Likewise, another behavioral factor associated with a more significant number of missed appointments is poor oral health literacy, indicating that the probability of missing dental appointments is 2.37 times greater in people with a low level of knowledge about oral health compared to people with a high level of knowledge to oral care⁵.

The effect of prevention on oral health is not exclusively limited to creating adequate oral habits because timely interventions can prevent a mild condition from progressing and require expensive, stressful, and invasive procedures for children⁶.

Signs and symptoms such as pain, bleeding, or bad breath are characteristic of oral diseases^{7,8} and are identifiable by parents who decide when and how often children attend dental care. In the dental office, this information is obtained from the intraoral examination; however, adequately validated oral health-related quality of life scales such as the Parental-Caregiver Perception Questionnaire (P-

CPQ) can provide reliable data on the health status of children⁹⁻¹².

Decisions regarding dental care for minors can be influenced by parental characteristics, perceptions, and attitudes that can affect the oral status of minors. Most studies have focused on exploring factors such as low maternal education level, patterns of family attendance, and oral health coverage as determinants of non-attendance to dental consultations; no reports of studies were found in the Latin American context that have examined the frequency of oral symptoms and signs self-reported by parents in children with absolute avoidance of the consultation dental.

In that sense, this research aimed to explore the relationship between the frequency of oral symptoms reported by parents of children aged 6 to 11 years with dental avoidance and those of children who had attended at least one year ago.

METHOD

Study design and participants

This was a descriptive study in which a secondary analysis was carried out based on the records of an instrumental validation study in two populations of parents of Mexican schoolchildren in Poza Rica-Veracruz at the end of 2020¹³. A convenience sample of 78 cases was selected, consisting of 39 children between 6 and 11 years old whose parents reported never having attended a dental service (this was considered the dental avoidance variable) and 39 comparison cases whose parents reported their last dental visit between a week and a year before the study was carried out.

The comparison cases were selected through simple probabilistic sampling with a computational method from a group of 459 participants, randomly extracting 7.9% of approximate cases paired by age and sex to ensure the similarity between the study groups.

Explored variables

The sociodemographic variables of age, sex, and socioeconomic level were evaluated. Data on bad breath, bleeding gums, pain in the mouth, food stuck to the roof of the mouth, and food stuck between the teeth were taken from the record of responses to the

oral symptoms dimension of the Mexican version of the P-CPQ¹³. These items inquire about events related to oral health complaints in minors with a recall period three months prior. Additionally, we consulted on the perception of the oral health status of the children and the influence of oral health on the daily life of minors from the parent's perspective.

Statistical analysis

The distribution of dental avoidance was analyzed according to age, perception of the children's oral health status, and the influence of oral health on the daily life of minors by calculating absolute and relative frequencies.

Statement on ethical aspects

The study followed the guidelines of the Declaration of Helsinki, and the research protocol was reviewed and approved by the ethics committee of the Faculty of Dentistry of the Universidad Veracruzana, Poza Rica-Tuxpan (Mexico).

RESULTS

The average age was 6.4 ± 0.3 years, while the age distribution of 6-year-old children was 30.8%, 35.9% were seven years old, 7.7% eight years, 10.3% were nine years old, 5.1% were ten years old, and finally 10.3% were children aged 11 years. The distribution according to sex showed a relative frequency of 51.9% boys and 48.1% girls. Most participants were of medium socioeconomic level, represented by 78.2%, while 21.8% were of low socioeconomic level.

Regarding the perception of oral health status, 84.6% of parents perceived the oral health of minors with dental avoidance as "excellent, very good, or good." In contrast, 71.8% of parents of minors who had attended dentistry at least once in the last year perceived the minors' oral health status as "excellent, very good, or good."

Many parents/caregivers with children between 7 and 8 consider oral health to have "no or very little" influence on their children's general well-being and daily life (Table 1).

Table 1. Distribution of the influence of oral health on daily life according to the age of the children.

		Age (years) frequency (%)						
		Six	Seven	Eight	Nine	Ten	Eleven	Total
Influence of oral health on daily life	Nothing	14(58.3)	8(28.6)	2(33.3)	8(100)	2(50)	8(100)	42(53.8)
	Very little	6(25)	10(35.7)	2(33.3)	0(0)	2(50)	0(0)	20(25.6)
	Something	2(8.3)	2(7.1)	2(33.3)	0(0)	0(0)	0(0)	6(7.7)
	A lot	2(8.3)	8(28.6)	0(0)	0(0)	0(0)	0(0)	10(12.8)
	Total	24(100)	28(100)	6(100)	8(100)	4(100)	8(100)	78(100)

In the sample, bad breath was the symptom most reported by parents (85.9%), followed by the presence of sores/wounds in the mouth with a relative frequency of 79.4%, then pain with 65.3%, food stuck to the palate with 53.8%, food between the teeth in 50% and finally bleeding gums with 44.8%.

When comparing oral symptoms perceived by parents of children with and without dental

avoidance, higher frequencies of pain, bleeding gums, sores/wounds in the mouth, food stuck to the roof of the mouth, and food stuck between the teeth were observed in the group of children who had never gone to a dental consultation, except the lousy breath variable, where the difference in percentages did not exceed 1.4% (Table 2).

Table 2. Frequency of oral symptoms perceived by parents.

Dental avoidance	Oral symptoms frequency (%)					
	Pain in the mouth	Bleeding gums	Bad breath	Sores	Food stuck to the palate	Food between teeth
Yes	39 (76.4)	28 (80)	34 (50.7)	31 (50)	30 (71.4)	31 (79.4)
No	12 (23.5)	7 (20)	33 (49.2)	31 (50)	12 (28.5)	8 (20.5)

DISCUSSION

According to the results of this exploratory study, it was observed that the majority of parents consider the oral health status of their children to be between excellent, very good, and good despite perceived oral symptoms such as pain, which disagrees with what was reported by Carvalho *et al*¹⁴ where it is stated that from the perspective of parents and caregivers the presence of cavities with or without pain, or pain without cavities was indicated as an indicator of poor oral health in their children.

From the perspective that oral symptoms are the main reasons for consultation in childhood, a study carried out in Peru showed that 21.4% of 104 children were absent from dental consultation and that 70.1% went for reasons of pain or treatments, also associating these indicators with the socioeconomic characteristics of the participants¹⁵. Likewise, González *et al*¹⁶ highlight that 27.3% of a sample of Mexican parents had never taken their children to a dental consultation; likewise, 50.7% of the parents did not know what gingivitis or periodontal disease was, and 17.8% considered that children's first dental visit should be when they present pain, which supports the hypothesis of previous studies that suggest the relationship between dental avoidance and low level of knowledge in oral health in the context of Latin American countries.

Regarding the age variable, when observing the findings on the perception of the influence of oral health on daily life and the state of oral health, it is interesting that the children with dental avoidance and the highest frequency of oral symptoms were those of six and seven years. This is relevant because, at these ages, mixed dentition begins with the eruption of dental organs vital for chewing, phonation, and aesthetics, such as the incisors and first permanent molars. Therefore, parents must

fulfill their role as modelers of good health and self-care habits¹⁷ because the lack of prevention in oral health, according to Pérez *et al*,¹⁸ results in children with early cavities having a greater likelihood of developing cavities in permanent teeth.

This age finding raises a situation similar to what Artázcoz *et al*¹⁹ expressed in a study carried out on Spanish children between 6 and 14 years old, who reported that 13% of the group between six and seven years old had zero attendance at the dentist; in contrast, in those aged 13 to 14 years, a frequency of 19.7% of dental avoidance was found. This finding is also supported by what was expressed by Fägerstad *et al*²⁰ who maintain that dental avoidance is more common among children, older adolescents, and families with a low socioeconomic level.

This study did not evaluate the reasons for non-attendance at dental appointments. However, previous studies have shown that the fear generated by dental practice elements is one reason parents and children avoid visits to oral health professional^{s21-23}.

These interim findings suggest that dental avoidance is associated with a greater frequency of perception of oral symptoms by parents of children between 6 and 11 years old. However, the characteristics of this exploratory study limit the generalization of results and the possibility of establishing relationships between the variables explored. Therefore, it is recommended to increase the sample size, clinically evaluate the oral condition of the children to avoid possible information bias and explore other socioeconomic variables such as the parent's educational level, the number of missed and canceled appointments, and the factors associated with dental avoidance.

STATEMENT ON CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

CONTRIBUTION OF THE AUTHORS

The first author participated in conceptualization, data curation, formal analysis, funding acquisition, research, method, project management, resources, software, supervision, validation, visualization, original draft writing, and reviewing or editing the writing.

The second author participated in conceptualization, funding acquisition, research, method, project management, resources, software, supervision, validation, visualization, writing the original draft, and reviewing or editing the writing.

REFERENCES

- González-Penagos C, Cano-Gómez M, Meneses-Gómez EJ, Vivares-Builes AM. Percepciones en salud bucal de los niños. *Rev Latinoam Cienc Soc Niñez Juv.* 2015;13(2):715-724. <https://doi.org/10.11600/1692715x.13211270314>
- Wen PYF, Chen MX, Zhong YJ, Dong QQ, Wong HM. Global burden and Inequality of dental caries, 1990 to 2019. *J Dent Res.* 2022;101(4):392-399. <https://doi.org/10.1177/00220345211056247>
- Kumar S, Tadakamadla J, Kroon J, Johnson NW. Impact of parent-related factors on dental caries in the permanent dentition of 6-12-year-old children: A systematic review. *J Dent.* 2016;46:1-11. <https://doi.org/10.1016/j.jdent.2015.12.007>
- Goettems ML, Ardenghi TM, Demarco FF, Romano AR, Torriani DD. Children's use of dental services: Influence of maternal dental anxiety, attendance pattern, and perception of children's quality of life. *Community Dent Oral Epidemiol.* 2012;40(5):451-458. <https://doi.org/10.1111/j.1600-0528.2012.00694.x>
- McQuistan MR. Poor oral health literacy may lead to missed dental appointments. *J Evid Based Dent Pract.* 2017;17(4):422-424. <https://doi.org/10.1016/j.jebdp.2017.10.002>
- Thakare VG, Krishnan CA, Chaware S. Parents' perceptions of factors influencing the oral health of their preschool children in Vadodara city, Gujarat: A descriptive study. *European J Gen Dent.* 2012;1(1):44-49. <https://doi.org/10.4103/2278-9626.101359>
- Naidu RS, Davis L. Parents' views on factors influencing the dental health of Trinidadian preschool children. *CHD.* 2008;25(1):44-49. <https://doi.org/10.1186/s12903-016-0324-7>
- Fägerstad A, Windahl J, Arnrup K. Understanding avoidance and non-attendance among adolescents in dental care - an integrative review. *CDH.* 2016;33(3):195-207. https://doi.org/10.1922/CDH_3829Fagerstad13
- Thomson WM, Foster-Page LA, Malden PE, Gaynor WN, Nordin N. Comparison of the ECOHIS and short-form P-CPQ and FIS scales. *Health Qual. Life Outcomes.* 2014;12(36):1-6. <https://doi.org/10.1186/1477-7525-12-36>
- Kramer PF, Feldens CA, Helena-Ferreira S, Bervian J, Rodrigues PH, Peres MA. Exploring the impact of oral diseases and disorders on quality of life of preschool children. *Community Dent Oral Epidemiol.* 2013;41(4):327-335. <https://doi.org/10.1111/cdoe.12035>
- Souza-Barbosa T, Duarte-Gavião MB. Validation of the Parental-caregiver perceptions questionnaire: Agreement between parental and child reports. *J Public Health Dent.* 2015;75(4):255-264. <https://doi.org/10.1111/j.1752-7325.2012.00371.x>
- Albites U, Abanto J, Bönecker M, Paiva SM, Aguilar-Gálvez D, Castillo JL. Parental-caregiver perceptions of child oral health-related quality of life (P-CPQ): Psychometric properties for the Peruvian Spanish language. *Med Oral Patol Oral Cir Bucal.* 2014;19(3):220-224. <http://dx.doi.org/doi:10.4317/medoral.19195>
- Romo Pérez C, San Martín López AL. Propiedades psicométricas y exploración

- factorial de la versión mexicana del Parental-Caregivers Perceptions Questionnaire. *Spor*. 2022;21(2):23-34.
14. Carvalho AC, Paiva SM, Scarpelli AC, Viegas CM, Ferreira FM, Pordeus IA. Prevalence of malocclusion in primary dentition in a populationbased sample of Brazilian preschool children. *Eur J Paediatr Dent*. 2011;12(2):107-111. <https://doi.org/10.1590/0103-6440201302360>
 15. Carrasco M. Características socioeconómicas y salud bucal de escolares de instituciones educativas públicas. *Revista Kiru*. 2009;6(2):78-83.
 16. González FM, Rocha NML, González FAC. Grado de educación, prevención e importancia dental: realidad en padres de familia de León, Guanajuato. *Rev ADM*. 2017;74(2):64-68
 17. Pérez-Luyo AG. ¿Es la caries dental una enfermedad infecciosa y transmisible? *Rev Estomatol Hered*. 2009;19(2):118-124.
 18. Pérez-Rosero ER, Armas AD, Castillo-Cabay LC, Agudelo-Suárez AA. Calidad de vida y salud bucal en preescolares ecuatorianos relacionadas con el nivel educativo de sus padres. *Rev Cubana Estomatol*. 2019;56(1):52-61
 19. Artázcoz J, Cortés FJ, Rosel E, González Rodríguez P, Bravo M. Percepción y hábitos de salud bucodental en niños y adolescentes de Navarra, 2007. *Anales Sis San Navar*.2010;33(1):51-64
 20. Fägerstad, A, Lundgren J, Arnrup K, Carlson E. Barriers and facilitators for adolescent girls to take on adult responsibility for dental care – a qualitative study. *Int J Qual Stud Health Well-being*. 2019;14(1):1678971. <https://doi.org/10.1080/17482631.2019.1678971>
 21. Crego A, Carrillo-Diaz M, Armfield JM, Romero M. Dental fear and expected effectiveness of destructive coping as predictors of children's uncooperative intentions in dental settings. *Int J Paediatr Dent*. 2015;25(3):191-198. <https://doi.org/10.1111/ipd.12126>
 22. Munayco-Pantoja ER, Mattos-Vela MA, Torres-Ramos G, Blanco Victorio DJ. Relación entre ansiedad, miedo dental de los padres y la colaboración de niños al tratamiento odontológico. *Odovtos Int J Dent Sc*. 2018;20(3):81-91.
 23. Fägerstad A, Lundgren J, Windahl J, Arnrup K. Dental avoidance among adolescents - a retrospective case -control study based on dental records in the public dental service in a Swedish county. *Acta Odontol Scand*. 2019;77(1):1-8. <https://doi.org/10.1080/00016357.2018.1489978>