Archives of Current Research International

Volume 25, Issue 7, Page 850-861, 2025; Article no.ACRI.140947
ISSN: 2454-7077

Impact of Oral Health on the Quality of Life of 3 to 5-Year-Old Children: A Pilot Study

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Authors' contributions

This work was carried out in collaboration among all authors. Author RRDL designed the study, managed the literature searches, performed the data analysis and interpretation, and contributed to writing the manuscript. Author JOJ designed the study, managed the literature searches, performed the data analysis and interpretation, and wrote the first draft of the manuscript. Author KOJ designed the study and managed the critical review and final revisions of the manuscript. All authors read and approved the final manuscript.

Article Information

DOI: https://doi.org/10.9734/acri/2025/v25i71384

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://pr.sdiarticle5.com/review-history/140947

Original Research Article

Received: 17/05/2025
Accepted: 23/07/2025
Published: 25/07/2025

ABSTRACT

Aims: To investigate the impact of oral health on the quality of life of children aged 3 to 5 years, of both sexes, enrolled in public and private schools in Belo Horizonte, Brazil.
Study Design: Cross-sectional study.
Place and Duration of Study: The study was conducted in public and private schools in Belo Horizonte, Brazil, during the year 2019.

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Cite as: *Lima, Rafaela Regina de, Jader Oliva Jorge, and Kelly Oliva Jorge. 2025. "Impact of Oral Health on the Quality of Life of 3 to 5-Year-Old Children: A Pilot Study". Archives of Current Research International 25 (7):850-61. https://doi.org/10.9734/acri/2025/v25i71384.*

Methodology: The sample consisted of 109 children and their parents or guardians. To assess the oral health-related quality of life (OHRQoL) of preschool-aged children, the Early Childhood Oral Health Impact Scale (ECOHIS) was used. A self-administered questionnaire was also applied to collect sociodemographic data. The ECOHIS evaluates the physical, social, and psychological impacts of oral health conditions in children and their families.
Results: The findings revealed a significant negative impact of oral health conditions on the OHRQoL of both the children and their families. Children from lower socioeconomic backgrounds showed a greater negative impact on family quality of life. Additionally, girls experienced a more pronounced negative effect compared to boys.
Conclusion: Oral health conditions substantially affect the quality of life of children and their families, especially among those with lower socioeconomic status. These findings highlight the importance of implementing educational and preventive oral health programs targeting preschool-aged children.

Keywords: Quality of life; oral health; ECOHIS; preschool children.

1. INTRODUCTION

Health is defined by the World Health Organization (WHO) as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” Thus, oral health is not limited to the absence of oral diseases. Quality of life (QoL) is defined as “an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. It is a broad concept, which is affected in a complex way by physical health, psychological state, personal beliefs, social relationships, and their relationship to salient features of their environment” (WHO, 2006).

Oral conditions, such as dental caries, dental trauma, and malocclusion, have a significant impact on children's lives, affecting them physically, socially, and psychologically (Tesch et al., 2008). This negative influence manifests in various forms, including pain, difficulty chewing food and drinking liquids, reduced academic performance, weight loss, decreased appetite, sleep disturbances, and changes in behavior (Feitosa et al., 2005; Abanto et al., 2011; Gradella et al., 2011; Scarpelli et al., 2013).

To measure the impact of oral health on the quality of life of children aged 3 to 5 years, researchers at the University of North Carolina developed the Early Childhood Oral Health Impact Scale (ECOHIS), a sociodental instrument that evaluates the oral health-related quality of life of preschool-aged children. This instrument has been translated and adapted into Portuguese, undergoing an equivalence and validation process (Martins-Junior et al., 2012). It can therefore be used to develop programs for the prevention and promotion of oral health, ultimately improving the quality of life of these individuals.

Thus, the aim of the present study was to investigate the impact of oral health on the quality of life of children aged 3 to 5 years, of both sexes, enrolled in public and private schools in Belo Horizonte.

2. MATERIALS AND METHODS

A pilot cross-sectional study was conducted with preschool children residing in the city of Belo Horizonte, Minas Gerais. The city has a population of 2,512,348 inhabitants, of which 94,227 are children aged 3 to 5 years, enrolled in public and private schools (World Population Review, 2025).

The initial convenience sample consisted of 109 children of both sexes, aged 3 to 5 years, attending public and private educational institutions, along with their parents or guardians. The participating schools were randomly selected. A total of 4 public schools and 4 private schools were included, with 63 children from public schools and 46 from private schools.

During two subsequent pre-scheduled visits, the FICT, ECOHIS, and sociodemographic forms were collected, totaling three visits to each participating school.

The ECOHIS measures the perception of parents or guardians regarding the Oral Health-Related Quality of Life (OHRQoL) of their children. This instrument contains 13 items across 6 domains, four of which refer to the impact of oral health on the child’s quality of life, with nine questions. The remaining two domains assess the impact of the child’s oral health on their family’s quality of life,

with four questions. The domains related to the child's OHRQoL include: symptoms (1 question), functional aspects (4 questions), psychological aspects (2 questions), self-image, and social interaction (2 questions). The family-related domains are: psychological aspects (2 items) and family functioning (2 items). The questionnaire has 6 response options on a scale, where 0 represents "never," 1 "almost never," 2 "sometimes," 3 "frequently," 4 "very frequently," and 5 "don't know." In the original instrument, any response equal to or greater than 1 is considered as a negative impact on quality of life, excluding the score 5 (don't know). Participants who answered two or more questions with the score 5 (don't know) were excluded from the study, as this suggests a limitation in the parents' or guardians' knowledge about the child's activities and feelings (Jokovic et al., 2003). Data interpretation involved summing the scores, where higher results indicated a more severe negative impact on OHRQoL.

The sociodemographic form consists of 8 questions, including the child's sex and age, the residential neighborhood and city, the age and education level of the respondent, and family income.

After data collection, descriptive analysis was performed comparing the impact of oral health on the quality of life of male and female children, as well as students from public and private schools, based on the perceptions of their parents or guardians.

3. RESULTS

The final sample consisted of 105 questionnaires completed by the children's caregivers. Four out of the 109 collected questionnaires were excluded from the study because the respondents marked the score 5 ("I don't know") two or more times, regardless of whether it was associated with the impact of oral health on the child's or the family's quality of life.

Among the 105 children, 60 (57.1%) were enrolled in public schools, and 45 (42.9%) were male. The mean age of the parents or caregivers was 34 years. Most had completed high school, totaling an average of 12 years of formal education. The majority reported a household income ranging from one to two minimum wages (R$998.00, current minimum wage at the time of data collection).

Most caregivers reported a negative impact of oral health on their children's quality of life (68.6%), indicated by an ECOHIS total score different from zero.

When caregivers were asked about the impact of their child's oral health on the family's quality of life, the majority (52.4%) reported no negative family impact, corresponding to an ECOHIS score of zero (Table 1).

Table 2 shows the overall distribution of parents' or caregivers' responses to the ECOHIS, regarding each item across the six domains that comprise the questionnaire.

In the analysis of questions related to the impact on children's quality of life, the item most frequently reported as having a negative impact was the *pain* domain (40.9%). The questions within the *self-image and social interaction* domain showed the lowest percentages, indicating that these factors contributed least to a negative impact on the child's quality of life: "avoided smiling" (12.4%) and "avoided talking" (12.4%).

The item "felt upset," part of the *parental distress* domain, was the most frequently reported (36.2%), suggesting a notable association with negative impact on the family. *Financial impact* was the least reported factor (22.9%).

Tables 3 and 4 present the distribution of responses to each of the 13 ECOHIS items according to the type of school.

Table 1. Distribution of total ECOHIS scores (n = 105)

ECOHIS total score			
Domains associated with OHRQoL in children n (%)		**Domains associated with family QOL related to child's BS n (%)**	
= 0	33 (31,4)	= 0	55 (52,4%)
≥ 1	72 (68,6)	≥ 1	50 (47,6%)

Table 2. Overall distribution of ECOHIS responses reflecting parents' or caregivers' perceptions of the oral health-related quality of life (OHRQoL) of the participating children (n = 105), 2019

Impact Section	Domain	Never n (%)	Occasionally, Sometimes, Often, Very Often n (%)	Don't Know n (%)
Impact on Children				
How often has your child experienced pain in teeth, mouth, or jaws?	DS	61 (58.1)	43 (40.9)	1 (1.0)
Had difficulty drinking hot or cold beverages due to dental problems or treatments	DL	70 (66.7)	35 (33.3)	0 (0.0)
Had difficulty eating certain foods due to dental problems or treatments	DL	73 (69.5)	32 (30.5)	0 (0.0)
Had difficulty pronouncing any words due to dental problems or treatments	DL	82 (78.1)	19 (18.1)	4 (3.8)
Missed daycare, preschool, or school due to dental problems or treatments	DL	80 (76.2)	25 (23.8)	0 (0.0)
Had difficulty sleeping due to dental problems or treatments	DP	81 (77.1)	24 (22.9)	0 (0.0)
Was irritable due to dental problems or treatments	DP	63 (60.0)	41 (39.0)	1 (1.0)
Avoided smiling or laughing due to dental problems or treatments	DAIS	92 (87.6)	13 (12.4)	0 (0.0)
Avoided talking due to dental problems or treatments	DAIS	92 (87.6)	13 (12.4)	0 (0.0)
Impact on Family				
Felt upset due to your child's dental problems or treatments	DAP	67 (63.8)	38 (36.2)	0 (0.0)
Felt guilty due to your child's dental problems or treatments	DAP	75 (71.4)	30 (28.6)	0 (0.0)
Missed work due to your child's dental problems or treatments	DFF	77 (73.3)	28 (26.7)	0 (0.0)
Financial impact caused by your child's dental problems or treatments	DFF	81 (77.1)	24 (22.9)	0 (0.0)

Domain abbreviations: DS = Pain/Symptoms; DL = Functional Limitation; DP = Psychological Discomfort; DAIS = Dental Appearance and Interaction/Social; DAP = Parental Distress; DFF = Family Function

Table 3. Distribution of ECOHIS responses in public schools (n = 60), 2019

Impact Section in Children	Domain*	Never n (%)	Occasionally, Sometimes, Often, Very Often n (%)	Don't Know n (%)
How often has your child experienced pain in teeth, mouth, or jaws?	DS	30 (50.0)	29 (48.3)	1 (1.7)
Due to dental problems or treatments, how often has your child...				
Had difficulty drinking hot or cold beverages	DL	38 (63.3)	22 (36.7)	0 (0.0)
Had difficulty eating certain foods	DL	41 (68.4)	19 (31.7)	0 (0.0)
Had difficulty pronouncing any words	DL	44 (73.3)	12 (20.0)	4 (6.7)
Missed daycare, preschool, or school	DL	41 (68.4)	19 (31.7)	0 (0.0)
Had difficulty sleeping	DP	44 (73.4)	16 (26.7)	0 (0.0)

Impact Section in Children	Domain*	Never n (%)	Occasionally, Sometimes, Often, Very Often n (%)	Don't Know n (%)
Was irritable	DP	31 (51.7)	28 (46.6)	1 (1.7)
Avoided smiling or laughing	DAIS	51 (85.0)	9 (15.0)	0 (0.0)
Avoided talking	DAIS	51 (85.0)	9 (15.0)	0 (0.0)
Impact Section in Family	**Domain***	**Never n (%)**	**Occasionally, Sometimes, Often, Very Often n (%)**	**Don't Know n (%)**
Felt upset due to your child's dental problems or treatments	DAP	37 (61.7)	23 (38.3)	0 (0.0)
Felt guilty	DAP	38 (63.3)	22 (36.7)	0 (0.0)
Missed work due to your child's dental problems or treatments	DFF	42 (70.0)	18 (30.0)	0 (0.0)
Financial impact caused by your child's dental problems/treatments	DFF	41 (68.3)	19 (31.7)	0 (0.0)

Domain abbreviations: DS = Pain/Symptoms; DL = Functional Limitation; DP = Psychological Discomfort; DAIS = Dental Appearance and Interaction/Social; DAP = Parental Distress; DFF = Family Function

Table 4. Distribution of ECOHIS responses in private schools (n = 45), 2019

Impact Section in Children	Domain*	Never n (%)	Occasionally, Sometimes, Often, Very Often n (%)	Don't Know n (%)
How often has your child experienced pain in teeth, mouth, or jaws?	DS	31 (68.9)	14 (31.1)	0 (0.0)
Due to dental problems or treatments, how often has your child...				
Had difficulty drinking hot or cold beverages	DL	32 (71.1)	13 (28.9)	0 (0.0)
Had difficulty eating certain foods	DL	32 (71.1)	13 (28.9)	0 (0.0)
Had difficulty pronouncing any words	DL	38 (84.4)	7 (15.6)	0 (0.0)
Missed daycare, preschool, or school	DL	39 (86.7)	6 (13.3)	0 (0.0)
Had difficulty sleeping	DP	37 (82.2)	8 (17.8)	0 (0.0)
Was irritable	DP	32 (71.1)	13 (28.9)	0 (0.0)
Avoided smiling or laughing	DAIS	41 (91.1)	4 (8.9)	0 (0.0)
Avoided talking	DAIS	41 (91.1)	4 (8.9)	0 (0.0)
Impact Section in Family	**Domain***	**Never n (%)**	**Occasionally, Sometimes, Often, Very Often n (%)**	**Don't Know n (%)**
Felt upset due to your child's dental problems or treatments	DAP	30 (66.7)	15 (33.3)	0 (0.0)
Felt guilty	DAP	37 (82.2)	8 (17.8)	0 (0.0)
Missed work due to your child's dental problems or treatments	DFF	35 (77.8)	10 (22.2)	0 (0.0)
Financial impact caused by your child's dental problems/treatments	DFF	40 (88.9)	5 (11.1)	0 (0.0)

Domain abbreviations: DS = Pain/Symptoms; DL = Functional Limitation; DP = Psychological Discomfort; DAIS = Dental Appearance and Interaction/Social; DAP = Parental Distress; DFF = Family Function

Table 5. ECOHIS total score by type of school (n = 105)

School Type	Domains Related to Children's OHRQoL, n (%)	Domains Related to Family's QoL Related to Children's Oral Health, n (%)
Public (n=60)		
= 0	14 (23.3%)	= 0
≥ 1	46 (76.7%)	≥ 1
Private (n=45)		
= 0	19 (42.2%)	= 0
≥ 1	26 (57.8%)	≥ 1

OHRQoL = Oral Health-Related Quality of Life; QoL = Quality of Life

Table 6. Distribution of ECOHIS responses for female children (n = 60), 2019

Frequency of Response	Never	Rarely, Sometimes, Often, Very Often	Don't Know
Child Impact Sections			
How often has your child had pain in teeth, mouth, or jaws?	34 (56.7%)	26 (43.3%)	0 (0%)
Due to problems with teeth or dental treatments, how often has your child...			
Had difficulty drinking hot or cold beverages	43 (71.1%)	17 (28.3%)	0 (0%)
Had difficulty eating certain foods	42 (70.0%)	18 (30.0%)	0 (0%)
Had difficulty pronouncing any words	48 (80.0%)	8 (13.3%)	4 (6.7%)
Missed daycare, kindergarten, or school	45 (75.0%)	15 (25.0%)	0 (0%)
Had trouble sleeping	46 (76.7%)	14 (23.3%)	0 (0%)
Got irritable	36 (60.0%)	23 (38.3%)	1 (1.7%)
Avoided smiling or laughing	54 (90.0%)	6 (10.0%)	0 (0%)
Avoided talking	53 (88.3%)	7 (11.7%)	0 (0%)
Family Impact Sections			
Due to problems with your child's teeth or dental treatments, how often have you or another family member...			
Felt upset	34 (56.7%)	26 (43.3%)	0 (0%)
Felt guilty	42 (70.0%)	18 (30.0%)	0 (0%)
Missed work	43 (71.1%)	17 (28.3%)	0 (0%)
Experienced financial impact due to child's dental problems or treatments	46 (76.7%)	14 (23.3%)	0 (0%)

Domain abbreviations: DS = Pain/Symptoms; DL = Functional Limitation; DP = Psychological Discomfort; DAIS = Dental Appearance and Interaction/Social; DAP = Parental Distress; DFF = Family Function

Table 7. Distribution of ECOHIS responses for male children (n = 45), 2019

Frequency of Response	Never	Rarely, Sometimes, Often, Very Often	Don't Know
Child Impact Sections			
How often has your child felt pain in teeth, mouth, or jaws?	27 (60.0%)	17 (37.8%)	1 (2.2%)
Due to problems with teeth or dental treatments, how often has your child...			
Had difficulty drinking hot or cold beverages	27 (60.0%)	18 (40.0%)	0 (0%)
Had difficulty eating certain foods	31 (68.9%)	14 (31.1%)	0 (0%)
Had difficulty pronouncing any words	34 (75.6%)	11 (24.4%)	0 (0%)
Missed daycare, kindergarten, or school	35 (77.8%)	10 (22.2%)	0 (0%)
Had trouble sleeping	35 (77.8%)	10 (22.2%)	0 (0%)
Got irritable	27 (60.0%)	18 (40.0%)	0 (0%)
Avoided smiling or laughing	38 (84.5%)	7 (15.5%)	0 (0%)
Avoided talking	39 (86.7%)	6 (13.3%)	0 (0%)
Family Impact Sections			
Due to problems with your child's teeth or dental treatments, how often have you or another family member...			
Felt upset	33 (73.4%)	12 (26.6%)	0 (0%)
Felt guilty	33 (76.4%)	12 (26.6%)	0 (0%)
Missed work	34 (75.6%)	11 (24.4%)	0 (0%)
Experienced financial impact due to child's dental problems or treatments	35 (77.8%)	10 (22.2%)	0 (0%)

Domain abbreviations: DS = Pain/Symptoms; DL = Functional Limitation; DP = Psychological Discomfort; DAIS = Dental Appearance and Interaction/Social; DAP = Parental Distress; DFF = Family Function

Table 8. ECOHIS total score according to the child's sex (n = 105)

Sex (n=105)	Domains Associated with OHRQoL in Children n (%)	Domains Associated with Family QoL Related to Children's Oral Health n (%)
Female (60)	= 0: 17 (28.3%)	= 0: 27 (45%)
	≥ 1: 43 (71.7%)	≥ 1: 33 (55%)
Male (45)	= 0: 16 (35.6%)	= 0: 28 (62.2%)
	≥ 1: 29 (64.4%)	≥ 1: 17 (37.8%)

Parents or caregivers of children enrolled in public schools reported a negative impact on the children's quality of life in 76.7% of the cases, while those from private schools reported a 57.8% impact. When asked about the impact on family quality of life due to their child's oral health, 55.0% of parents or caregivers of public school children reported a negative impact. In contrast, the majority of parents or caregivers of children in private schools (62.2%) reported no negative impact on the family (Table 5).

The item with the greatest negative impact among children attending public schools belonged to the *pain* domain (48.3%), while the items with the least impact were from the *self-image and social interaction* domain: “avoided smiling” (15.0%) and “avoided talking” (15.0%). Regarding family impact, the item “felt upset” (38.3%), from the *parental distress* domain, had the highest negative impact. The lowest reported negative impact was within the *family function* domain — specifically, the item “missed work” (30.0%).

Among children attending private schools, the items most and least associated with a negative impact on children's oral health-related quality of life (OHRQoL), as well as the item most impacting families, were the same as those reported by parents or caregivers of children in public schools. However, the item with the least impact on family quality of life was *financial impact* (11.1%).

Tables 6 and 7 present the distribution of parents’ or caregivers’ responses to each of the 13 ECOHIS items according to the child’s sex.

It was observed that 71.7% of the girls and 64.4% of the boys experienced a negative impact on their quality of life, according to their caregivers' perception (Table 8).

The domain with the highest negative impact among girls was pain (43.3%), while the *self-image and social interaction* domain, represented by the item “avoided smiling,” had the lowest negative impact. The greatest negative impact on the family was reported in the *parental distress* domain, particularly the item “felt upset” (43.3%). The domain with the least contribution to a negative impact on family quality of life related to the child’s oral health was *family function*, represented by the item “financial impact” (23.3%).

Among boys, the greatest negative impact on oral health-related quality of life (OHRQoL) was observed in the *functional limitation* domain, represented by the item “difficulty drinking hot or cold beverages” (40.0%), and in the *psychological* domain, specifically the item “felt irritable” (40.0%). The domain with the lowest negative impact was *self-image and social interaction*, particularly the item “avoided talking” (13.3%). The greatest impact on family quality of life was again in the *parental distress* domain, with “felt upset” (26.6%). The *family function* domain, with the item “financial impact” (22.2%), was the least associated with negative family impact.

4. DISCUSSION

Oral health is an integral part of overall health and is essential to quality of life. Every individual should have adequate oral health to be able to speak, chew, taste food, smile, live free from pain and discomfort, and interact with others without embarrassment (Petersen, 2003; Alshammari et al., 2022).

The concept of quality of life reflects the knowledge, experiences, and values of individuals and communities, shaped by specific historical and cultural contexts. Therefore, it is a social construct marked by cultural relativity (Minayo et al., 2000; Imtiaz et al., 2022).

In the present study, the majority (68.8%) of parents or caregivers in the total sample reported a negative impact on their children’s quality of life. However, 52.4% did not report a negative impact on the family’s quality of life. These findings are similar to those of Fernandes (2014), who found a 60.4% negative impact on children’s quality of life and 32.5% on family life. Carvalho et al. (2013) reported lower prevalence rates, with 32.7% reporting a negative impact on children and 27.1% on families. Likewise, Rocha (2014) found that most respondents did not report a negative impact on their children's oral health-related quality of life (OHRQoL).

In the section concerning the impact on the child, the highest scores were recorded in the *symptom* domain, while the *parental distress* domain showed the highest family impact — a finding consistent with previous studies (Abanto et al., 2011; Fernandes, 2014; Rocha, 2014). This may be explained by the limited ability of parents or caregivers to identify early oral health problems,

recognizing issues only when children report pain, which triggers distress in caregivers.

This study compared the OHRQoL of children enrolled in public and private schools. Regardless of socioeconomic status, a negative impact was perceived among children in both school types. However, when considering the impact on the family, families with lower socioeconomic status reported a greater negative impact compared to families with higher socioeconomic conditions. These findings are supported by previous studies (Locker, 2007; Kramer et al., 2013; Piovesan et al., 2010), which affirm that individuals with lower income and educational attainment experience greater negative impacts on OHRQoL. This population often faces limited job opportunities, reduced income, substandard housing, and reduced access to oral health services and programs, leading to social disadvantage.

When comparing OHRQoL by the child's sex, caregivers perceived a greater negative impact among girls, particularly in domains directly related to the child. However, it is important to note that the final sample included a higher number of female participants. This imbalance may have influenced the results, and the findings might differ with a more homogeneous sample. The domain with the lowest negative impact was *self-image and social interaction*, likely because abstract thinking and the concept of self-image begin to develop around the age of six (Fernandes, 2014). Therefore, at the studied age range, children may lack the emotional maturity to evaluate their appearance or compare themselves to others.

It is important to acknowledge several limitations of this study. Due to its cross-sectional design, it is not possible to establish causality. Furthermore, the data relied on retrospective self-reporting by parents or caregivers, which may introduce recall bias. Socioeconomic status was inferred based on school type, a limited indicator, and the findings may not be generalizable to all children aged 3 to 5 years living in Belo Horizonte and enrolled in public or private schools.

Despite these limitations, this study addresses important public health issues in a vulnerable population of 3-to-5-year-old children and aims to contribute to the development of future research exploring the association between oral health status and quality of life.

5. CONCLUSION

It can be concluded that there was a high negative impact on the oral health-related quality of life (OHRQoL) of both children and their families. Lower socioeconomic status was associated with a more pronounced negative impact on family OHRQoL. When comparing sexes, girls exhibited a greater negative impact. In light of these findings, there is a clear need for public programs promoting oral health care for children aged 3 to 5 years.

CONSENT

As per international standards or university standards, respondents' written consent has been collected and preserved by the author(s).

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that no generative AI technologies such as Large Language Models (ChatGPT, manuscript.

ACKNOWLEDGEMENT

The authors declare that they received no specific funding for this work. No external financial support or assistance was involved in the preparation of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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ANNEX

Early Childhood Oral Health Impact Scale (ECOHIS)

Questionnaire on Oral Health-Related Quality of Life of Preschool Children

Problems with teeth, mouth, or jaws (bones of the mouth) and their treatments may affect the well-being and daily life of children and their families. For each of the following questions asked by the interviewer, please indicate in the response options box what best describes your child's or your own experience. Consider your child's entire life from birth until now when answering each question.

1. Has your child ever had pain in the teeth, mouth, or jaws?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
2. Has your child ever had difficulty drinking hot or cold beverages because of problems with teeth or dental treatment?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
3. Has your child ever had difficulty eating certain foods because of problems with teeth or dental treatment?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
4. Has your child ever had difficulty pronouncing any words because of problems with teeth or dental treatment?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
5. Has your child ever missed daycare, preschool, or school because of problems with teeth or dental treatment?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
6. Has your child ever had difficulty sleeping because of problems with teeth or dental treatment?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
7. Has your child ever been irritable because of problems with teeth or dental treatment?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
8. Has your child ever avoided smiling or laughing because of problems with teeth or dental treatment?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
9. Has your child ever avoided talking because of problems with teeth or dental treatment?
   ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
10. Have you or anyone in your family ever been upset because of your child's problems with teeth or dental treatment?
    ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
11. Have you or anyone in your family ever felt guilty because of your child's problems with teeth or dental treatment?
    ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
12. Have you or anyone in your family ever missed work because of your child's problems with teeth or dental treatment?
    ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know
13. Has your child ever had dental problems or treatments that caused financial impact on your family?
    ( ) Never ( ) Almost never ( ) Sometimes ( ) Often ( ) Very often ( ) Don't know

APPENDIX

SOCIODEMOGRAPHIC FORM

Number: _____ Date: //____

Who is answering this form? ( ) Mother ( ) Father ( ) Grandmother ( ) Sibling ( ) Other — Who? _____

Your age is: _____ years.

What is your child's gender? ( ) Female ( ) Male

Your child's age is: ( ) 3 years ( ) 4 years ( ) 5 years

Your child attends a: ( ) Public school ( ) Private school

What neighborhood and city do you live in? Neighborhood: _____

City: _____

What is your educational level? ( ) Incomplete elementary school ( ) Complete elementary school ( ) Incomplete high school ( ) Complete high school ( ) Incomplete higher education ( ) Complete higher education ( ) Postgraduate

What is your household's monthly income? ( ) Up to two minimum wages ( ) From 3 to 5 minimum wages ( ) From 6 to 9 minimum wages ( ) Above 10 minimum wages

Peer-review history:
The peer review history for this paper can be accessed here:
https://pr.sdiarticle5.com/review-history/140947