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The influence of the sociodemographic context of families on children's oral health –
Research study

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Faculdade de Ciências da Saúde

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*Trabalho apresentado à Universidade Fernando
Pessoa, como parte dos requisitos para obtenção
do grau de Mestre em Medicina Dentária*

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(Daniela Gomes Oliveira)

ABSTRACT

Objectives: Evaluate whether the socio-demographic and economic context of the families of a population (whose children receive dental treatments at Clínicas Pedagógicas de Medicina Dentária da Faculdade de Ciências da Saúde da Universidade Fernando Pessoa) has an impact on the oral health of pediatric patients, their oral health behaviors and adherence to dental appointments.

Materials and methods: A cross-sectional observational study was carry out, applying a face-to-face questionnaire for parents/legal guardians of children aged 2 to 12 years old receiving dental treatment at CPMD FCS-UFP. The oral health status of the child was assessed by consulting the records made in the first Pediatric Dental appointment, in the odontogram of the computer program available in the pedagogical clinic for this purpose. Descriptive/inferential data analysis was performed using IBM© SPSS© Statistics vs. 29.0 software (p<0.05).

Results: Forty responses were obtained. Some significant impacts were observed regarding the lower educational level of the caregivers (3rd cycle or less), lower household's level of income and higher number of children (>2), as these were associated (p<0.05) with an increased median of the number of decayed teeth and/or the number of missing teeth and/or the number of filled teeth and/or the decayed, missing and filled teeth index.

Conclusions: The dentists' recognition of these socio-demographic and economic disparities is vital for appropriate intervention. Enhancing the oral health literacy of caregivers becomes crucial in addressing information accessibility gaps among diverse social groups.

Keywords: oral health, pediatric patients, children, social inequalities, disparities, sociodemographic, socioeconomic, access, dentistry and oral care.

RESUMO

Objetivos: Avaliar se o contexto sócio-demográfico e económico de famílias (cujas crianças frequentam as Clínicas Pedagógicas de Medicina Dentária da Faculdade de Ciências da Saúde da Universidade Fernando Pessoa) tem impacto na saúde oral da criança, nos seus comportamentos de saúde oral e na adesão às consultas de medicina dentária.

Materiais e métodos: Foi realizado um estudo observacional transversal, através da aplicação de um questionário presencial aos responsáveis de crianças entre os 2 e os 12 anos que realizaram tratamentos dentários nas CPMD FCS-UFP. O estado de saúde oral foi avaliado através da consulta do odontograma, no programa informático disponível para o efeito. A análise descritiva/inferencial dos dados foi efetuada com o software IBM© SPSS© Statistics vs. 29.0 (p<0,05).

Resultados: Foram obtidas 40 respostas. Encontraram-se alguns impactos significativos relativamente à menor escolaridade dos cuidadores (3º ciclo ou menos), menor nível de rendimento do agregado familiar e maior número de filhos (>2), uma vez que estes se associaram (p<0,05) a um aumento da mediana do número de dentes cariados e/ou do número de dentes perdidos e/ou do número de dentes obturados e/ou do índice de dentes cariados, perdidos e obturados.

Conclusões: O reconhecimento por parte do médico dentista destas disparidades sócio-demográficas e económicas é essencial para uma intervenção adequada. A melhoria da literacia dos responsáveis acerca da saúde oral torna-se crucial para colmatar as lacunas de acessibilidade à informação entre os diversos grupos sociais.

Palavras-chave: saúde oral, pacientes pediátricos, crianças, desigualdades sociais, disparidades, sociodemográfico, socioeconómico, acesso, dentária e cuidados orais.

DEDICATIONS

First and foremost, I would like to thank my parents, Elsa and José, for encouraging me to pursue my studies and dreams since I was a little girl. For showing me that it might not always be easy but that everything works out if you put your heart and soul into it. Thank you for being excellent role models in everything you do, for all your love, support and kindness throughout my life. I am and I always will be deeply grateful for all the doors you have opened for me.

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I would like to further express my gratitude to my supervisors, Professors Cátia Carvalho Silva and Maria da Conceição Manso, for their constant words of encouragement, advice, guidance and patience throughout the writing of this thesis.

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ABBREVIATIONS

AAP - American Academy of Pediatrics

AAPD – American Academy of Pediatric Dentistry

ADA – American Dental Association

AHA – American Heart Association

CPMD-UFP – Clínicas Pedagógicas de Medicina Dentária da Universidade Fernando Pessoa

CPO – Dentes Cariados (C), Perdidos (P) e Obturados (O)

DMFT/dmft – Decayed (D), Missing (M) and Filled (F) teeth

ECC – Early childhood caries

mL – milliliters

OHL – Oral Health Literacy

SD – Standard Deviation

APPENDIX INDEX

I. INTRODUCTION

The concept of oral health is not limited to the presence of a healthy dentition, it is also critical to conduct an assessment of the emotional, psychological, physical, and socioeconomic well-being of the individual and the community. Previous studies have shown that oral health related quality of life may be influenced by oral health conditions, demographic and socioeconomic characteristics, and contextual factors such as political and cultural aspects (Moghaddam *et al.*, 2020).

Although the imperative towards reducing oral health disparities has long been recognized, the critical role of access to quality oral health care for people with low income, no health insurance, and/or members of racial/ethnic minorities, immigrants, or rural populations continues to receive insufficient attention, in the context of public oral health. Disparities in the provision of oral health care are unnecessary, avoidable, and considered unfair (Northridge, Kumar and Kaur, 2019).

When it comes to providing medical-dental care to children, the focus of the dental practitioner encompasses not only the oral health of the child, but also all the social, demographic, and economic factors of the household of which the child is a part of. In 2013, Levesque and his colleagues proposed a conceptual framework for access to health care, describing determinants of demand and supply. In this model, health knowledge, attitudes and practices, and the sociodemographic characteristics of households are determinants of access to health care (Levesque *et al.*, 2013).

As for children's oral health status, this traditionally focuses on assessing the number of decayed, lost, and filled permanent and deciduous teeth due to decay (Marcus *et al.,* 2018). These numbers are determined by a number of direct and/or indirect factors that are often overlooked, for example: the child's diet, the literature provides robust evidence that caries disease is positively correlated with sugar intake (Lambert *et al.,* 2017). Dental caries is the most common noncommunicable disease worldwide (World Health Organization, 2017). The causal relationship between fermentable carbohydrates and caries was first documented in the scientific literature in the 1950s (Chi and Scott, 2019). The parents' low level of education can lead to low income, unemployment and poor employment status, which can represent a barrier

to adherence to dental appointments (Piovesan *et al.,* 2017). The time parents spend with their child – it is suggested that mothers who keep up with school activities are more concerned about everything involving their children, including oral health (Piovesan *et al.,* 2017). The type of school the child attends – private schools frame children from relatively wealthier families compared to public schools (Khalid *et al.,* 2020). Access to health insurance – the availability of full financial coverage for dental consultation costs may also interfere with the occurrence of dental caries (Verlinden *et al.,* 2019). Regarding the number of children, a one-unit increase in the number of children in the family was significantly associated with a greater likelihood of a child having any decayed, missing or filled teeth, a greater number of decayed teeth among children with decay, and less likelihood of a child being cavity-free (Park *et al.*, 2013).

Although oral health inequalities have always existed and still remain, society cannot simply forget about their existence (Lambert *et al.,* 2017). Dental caries is a largely preventable disease, but it remains the most prevalent oral disease worldwide, primarily affecting high-risk subgroups (Kassebaum *et al.*, 2015).

In order to avoid repercussions on the patient's oral health, solutions should be found to minimize this impact, such as educating parents/caregivers about the oral health care delivery system (Ramos-Gomez *et al.,* 2017).

It is recognized that caregivers play a critical role in the prevention and management of children's oral health status (Velasco *et al.*, 2022). The American Dental Association (ADA) policy defines oral health literacy as "the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate oral health decisions" (ADA, 2015). It has recently been considered as an important determinant of oral health (Naghibi *et al.,* 2013). Moreover, research has established a connection between caregiver health literacy and the oral health status of their children. Higher levels of caregiver oral health literacy were found to be negatively correlated with their children's DMF index (Bridges *et al.*, 2014).

The majority of the literature has found that the families' socioeconomic factors may be decisive in the type of oral health habits and the frequency of the child's dental appointments which can directly or indirectly impact the status of the child's oral health. Even though these correlations have been made in specific populations, in different time frames, the findings are

similar which means that the development of individual and community level prevention strategies is crucial to make a change. The development of such strategies should include oral health professionals and caregivers as effective agents in promoting oral health. The relevance of this investigation is to alert both dentists and families to the impact that the socio-demographic context of the family may have on the child's oral health so that it may be acknowledged as a reality and not forgotten.

The objective of this study was to evaluate whether the socio-demographic and economic context of the children's families that receive dental treatments at Clínicas Pedagógicas de Medicina Dentária da Faculdade de Ciências da Saúde da Universidade Fernando Pessoa (CPMD FCS-UFP) has an impact on the oral health of these pediatric patients, their oral health behaviors and adherence to dental appointments. Additionally, it was intended to increase the level of oral health literacy of those responsible for the children in order to contribute to the reduction of inequalities in access to information among various social groups. Considering that changing families' residential and economic situation seems to be more difficult, enhancing parents' oral health literacy emerges as a viable alternative to promote children's dental health status.

II. MATERIALS AND METHODS

A previous literature search of scientific articles published in the Pubmed electronic database with the search terms: "oral health", "pediatric patients", "children", "social inequalities", "disparities", "sociodemographic", "socioeconomic", "access", "dentistry" and "oral care" combined with the Boolean marker "AND" was performed. Articles published between 2013 and 2023 were considered.

1. Sample, Inclusion and Exclusion Criteria

For participation in this study, inclusion and exclusion criteria of the participants were established, as follows:

Inclusion: Parents/guardians/caregivers of children between 2 and 12 years of age who are patients of CPMD-UFP; parents/guardians/caregivers who are 18 years of age or older.

Exclusion: Parents/guardians/caregivers of children with physical and/or mental disabilities that condition daily oral hygiene practices and, consequently, the oral health of that same pediatric patient.

2. Ethical Considerations

In order to carry out this research and prior to the study, permission was obtained from the Ethical Commite of the Fernando Pessoa University (aproval no. FCS/MED 347/23-2) (APPENDIX I).

3. Data Collection Instruments and Procedures

To fulfill the objectives previously listed, a cross-sectional observational study was carried out, which included the application of a questionnaire to the parents/legal guardians of the children who are patients of the CPMD-UFP. The consultation of clinical data of the pediatric patient in the computer program NewSoft® was performed by the principal investigator, specifically data related to the initial state of the condition of the oral cavity of the pediatric patient.

A questionnaire consisting of 23 questions (APPENDIX II) was designed to characterize the sociodemographic characteristics of the pediatric patient's household, as well as their knowledge and habits regarding their child's/children's oral health. This data collection instrument (questionnaire) was performed by consulting other questionnaires previously used in scientific literature, as well as questions originally designed to meet the objectives that were initially proposed in this research (Piovesan *et al.,* 2017; Alraqiq, Eddali and Boufis, 2021; Marquillier *et al.,* 2021).

For the purpose of validating the questionnaire, this evaluation instrument was applied to a focus group consisting of 10% of the total number of participants (four adult participants) that would be the target of the stipulated final sample of this study. This methodological step aimed to test the clarity of the questions and to evaluate the level of difficulty experienced during the completion of the survey beforehand. This focus group was composed of individuals with a similar socio-economic condition as the target population: adult participants (aged 18 years old or more) with children, who also receive dental care at the CPMD-UFP in curricular units that aim to provide oral health care to adults without special health needs.

Parents/caregivers were properly clarified as to the contextualization and purpose of the study in question by reading an explanatory sheet of the study (APPENDIX III). Any questions or doubts of the participants were also verbally clarified by the principal investigator. The participants were then asked to sign the informed consent statement (APPENDIX IV).

Finally, the questionnaires were applied in person, in paper format, to the guardians/parents/caregivers who accompany the child to the dental appointment at FCS-UFP, in an individual CPMD room (attached to the clinic's antechamber).

The questionnaire applied to the parents was pseudo-anonymous, since the alphanumeric code generated was the same that was placed on the informed consent statement, consisting of the initial letters of the child's name, followed by their date of birth, respecting the format day, month and year. Afterwards, the informed consent statements and the questionnaires were stored in separate locations, forbidding anyone who consults the consent statements and the questionnaires to identify the participants. However, for legal reasons and with the perspective of publication of the results of this study, it is considered pertinent for both documents to be linked, though only available and visible to the principal investigator (with no possibility of identifying participants in the data files).

After completing the questionnaire, the participant was given an informational leaflet related to basic child oral hygiene care, dietary care and frequency of visits to the dentist (APPENDIX V).

The oral health status of the child was assessed by consulting the records made during the child's first pediatric dental appointment (2-12 years of age), in the odontogram of the computer program of the CPMD-UFP available for this purpose, which included the collection of the following information:

- Number of deciduous and/or permanent decayed teeth;

- Number of deciduous and/or permanent teeth lost due to dental caries;

- Number of deciduous and/or permanent teeth filled due to dental caries;

- Oral hygiene habits (frequency of tooth brushing, use of dental floss, use of fluoride toothpaste);

- Reason for the dental appointment.

In the record sheet of the information collected directly by the principal investigator, the same alphanumeric code generated by the parent/caregiver was assigned to the child.

4. Data analysis

The questionnaire responses were collected and stored in a database created from the Excel program (Microsoft Office Plus Professional 2016, Microsoft USA) and the statistical analyses were performed using the IBM SPSS Statistics vs 29.0 Software (Statistical Package for the Social Sciences, IBM, USA). Qualitative data was described using counts and the respective %, while quantitative data was described using the average and standard deviation or the median value and the respective 25th and 75th percentiles.

The evaluation of the impact of the socio-demographic and economic context of the families on the oral health of pediatric patients, namely, on the median no. of decayed teeth, of the no. of missing teeth, of the no. of filled teeth and of the decayed, missing or filled teeth (due to caries) was compared using the Mann-Whitney test (due to the non-normal distribution of the quantitative variables previously evaluated with the Shapiro-Wilk test). During these analysis, one child outcomes were disregarded (sample became n=39) as data from important socio-demographic and economic context of the family was missing.

III. RESULTS

The sample consisted on a total of 40 caregivers who met the inclusion criteria with a mean age (SD) of 39.4 (9.7) years (Table 1). Regarding the child's primary caregiver, 35 (87,5%) were the child's mother, 4 (5%) were the child's father and 1 (2,5%) were another family member, a legal guardian or a caregiver. The same trend appeared in relation to the caregiver's gender, there's a considerable difference between feminine (87.5%) and masculine (12.5%) (Table 1).

Table 1 - Description of the socio-demographic and economic context of the families of the children' sample (n=40).

	Category	Statistics
Who brought the child to the appointment	Mother	82.5%
	Father	12.5%
	Other family member / Legal guardian / Caregiver	5%
Degree of kinship of the primary caregiver	Mother	87.5%
	Father	5%
	Other family member / Legal guardian / Caregiver	2.5%
Age (years)	Average ± s.d.	39.4 ± 9.7
	Median (P25-P75)	37.5 (32-44.8)
	Min-Max	25-70
Gender	Female	87.5%
	Male	12.5%
	Indefinite	0%
	Doesn't answer	0%
Marital status	Married	40%
	Single	27.5%
	Divorced	15%
	Non-marital partnership	12.5%
	Widower	2.5%
	Doesn't answer	2.5%
Level of education	None (illiterate)	0%
	Elementary school – 1st cycle	5%
	Elementary school – 2nd cycle	20%
	Elementary school – 3rd cycle	17.5%
	Secondary School	40%
	Bachelor's degree	10%
	Master's degree	5%
	PhD	0%
	Doesn't answer	2.5%
Household	Traditional	55%
	Single parent	42.5%
	Only one caregiver or no parents	2.5%
	Doesn't answer	0%
Professional status	Employed	47.5%
	Unemployed	37.5%
	Retired	7.5%
	Housekeeper	7.5%
	Doesn't answer	0%
Household's net monthly income level	< National minimum wage	17.5%
	National minimum wage -1000€	27.5%
	1001€-1250€	10%
	1251€-1500€	2.5%
	1501€-2000€	10%
	>2000€	20%
	Doesn't answer	12.5%
Number of household members	Average ± s.d.	4.1 ± 1.5
	Median (P25-P75)	4 (3-5)
	Min-Max	0-7
Number of children	Average ± s.d.	2.4 ± 1.4
	Median (P25-P75)	2 (1-3)
	Min-Max	0-5

A total of 40 children who met the inclusion criteria with a mean age of 8.8 (2.7) years where included in this study. Regarding the child's gender, there's a slight difference between masculine (57.5%) and feminine (42.5%). Most of the children were in elementary school (82.5%) (Table 2).

Table 2 - Description of the socio-demographic and diet and oral related habits of the children's sample (n=40).

	Category	Statistics	
Gender	Feminine	42.5%	
	Masculine	57.5%	
Age (years)	Average ± s.d.	8.8 ± 2.7	
	Median (P25-P75)	9 (7-11)	
	Min-Max	3-12	
Current education level	Kindergarten	17.5%	
	Elementary school	82.5%	
Type of education currently attended	Public	95%	
	Private	5%	
Number of hours per day, on average, spent with the child	Average ± s.d.	6.7 ± 2.7	
	Median (P25-P75)	6 (5-8)	
	Min-Max	3-16	
Frequency of the child's visits to the dental clinic	Regularly	87.5%	
	Only when there's pain	10%	
	Doesn't come more often because there's no need	2.5%	
Reasons why the child would not attend a dental appointment	High cost	57.5%	
	Transport/location	0%	
	Lack of time	2.5%	
	Doesn't consider it important	0%	
	Considers that the child does not need it	22.5%	
	Doesn't answer	17.5%	
Age of consumption of the first food with sugar (years)	Average ± s.d.	1.4 ± 1.0	
	Median (P25-P75)	1 (0.5-2)	
	Min-Max	0.25-4	
Average consumption of food with sugar	Every day	32.5%	
	5-6 times a week	17.5%	
	4-3 times a week	22.5%	
	1-2 times a week	27.5%	
Average consumption of beverages with sugar	Every day	35%	
	5-6 times a week	2.5%	
	4-3 times a week	10%	
	1-2 times a week	52.5%	
Frequency of tooth brushing	Never	0%	
	Some days a week	5%	
	Once a day	22.5%	
	Twice a day	60%	
	More than twice a day	12.5%	
		children	answers
Moment of the day in which the teeth are brushed	Doesn't brush	0%	0%
	After breakfast	80%	41.6%
	After lunch	22.5%	11.7%
	After dinner	17.5%	9.1%
	Before bed (doesn't eat after)	72.5%	37.7%
Brushing supervision	Yes	55%	

	Category	Statistics
	No or never	15%
	Sometimes	4%
Warning the child when not brushing	Yes	90%
	No	10%
Dental check ("cheque dentista")	Doesn't know what it is	7.5%
	Knows what it is but has never used it	47.5%
	Has used it	45%

Regarding the data taken from the clinical chart, the DMFT/dmft index shows an average of 4.48 (4.18) teeth, the average of theeth with caires lesion was 2.45 (3.32), the average of tooth loses due to caries lesions was 0.73 (1.63) and the average of filled teeth was 1.30 (2.43). The most common reason for consultation was "observation/control" (Table 3).

Table 3 - Description of the clinical and oral related habits of the children' sample (n=40), data taken from the clinical chart.

	Category	n(%)
Number of teeth with caries lesion	Average ± s.d.	2.45 ± 3.32
	Median (P25-P75)	1 (0-4)
	Min-Max	0-12
Number of tooth losses due to caries	Average ± s.d.	0.73 ± 1.63
	Median (P25-P75)	0 (0-1)
	Min-Max	0-7
Number of filled teeth	Average ± s.d.	1.30 ± 2.43
	Median (P25-P75)	0 (0-2)
	Min-Max	0-9
Decayed, missing or filled teeth (due to caries)	Average ± s.d.	4.48 ± 4.18
	Median (P25-P75)	4 (0-7.75)
	Min-Max	0-14
Reason for dental appointment	"Take care of/treat teeth"	5%
	"Caries"	15%
	"Crowded teeth"	2.5%
	"1st consultation"	7.5%
	"Observation/control"	27.5%
	"Impacted baby teeth"	2.5%
	"Cross bite"	2.5%
	"Restoration fracture"	2.5%
	Not registered	10%
	No medical history in the system	17.5%
	Different type of medical history (without reason to fill in)	7.5%
Number of brushes per day	0	5%
	1	0%
	2	15%
	3	45%
	4	5%
	5	2.5%
	Not registered	10%
	No medical history in the system	17.5%
Fluoride	Yes	17.5%
	No	55%
	Not registered	10%
	No medical history in the system	17.5%

	Category	n(%)
Dental floss	Yes	5%
	No	65%
	Not registered	12.5%
	No medical history in the system	17.5%
Brush type	Soft	37.5%
	Medium	30%
	Hard	0%
	Not registered	15%
	No medical history in the system	17.5%
Dental trauma	Yes	15%
	No	57.5%
	Not registered	10%
	No medical history in the system	17.5%

This study's statistical analysis revealed some significant impacts regarding: the educational level of the caregivers, the household's level of income and the number of children – the sample becomes 39 since there is no data that characterizes one of the children who is institutionalized, therefore there's not much information on the parent's behalf. These variables are associated with the number of decayed teeth and/or the number of missing teeth and/or the number of filled teeth and/or the DMFT/dmft index (Table 4).

According to the data analysis, when the educational level of the caregivers corresponds to the 3rd cycle or less (median = 1), there's an impact on the number of missing teeth due to caries, on the number of filled teeth (Mann-Whitney test, $p < 0.01$) and on the DMFT/dmft index ($p < 0.05$), compared to caregiver's whose educational level corresponds to secondary school or above (median = 0.5). However, there was no support found for the impact on decayed teeth, thus rejecting this hypothesis.

The professional status of the caregiver's and the number of decayed, missing and filled teeth had no sufficient statistical evidence to be correlated. The same applies to the DMFT/dmft index when tested with this variable.

The household's net monthly income level also has a significant impact on the number of decayed teeth ($p < 0.05$), households whose income is lower or equal to 1000€ are statistically associated with children who have more decayed teeth (median 2.5 vs. 0 teeth). Yet, this variable has no impact on the number of missing and filled teeth nor the DMFT/dmft index (Table 4).

Regarding the number of children, there's a significant association with the number of decayed teeth ($p < 0.05$) and with the DMFT/dmft index ($p < 0.01$). Children from families who have more than 2 children present a higher number of decayed teeth and a higher DMFT/dmft index in comparison to families composed by 1 to 2 children (median of 3 vs 0 decayed teeth; and 6 vs. 2.5 DMFT/dmft, respectively).

Whereas, regarding the other variables, the impact that does exist for the sample is not statistically significant when infering to the population represented by this same sample.

Table 4 - Evaluation of the socio-demographic and economic context of the families' impact on the oral health of pediatric patients (n=39).

		Scholarity Level			Professional status			Income			Number of Children		
		Elementary education 3rd cycle or less	higher than elementary education (>3rd cycle)	p	Employed	Unemployed retired or other	p	up to 1000€	more than 1000€	p	1-2	> 2	p
	n	17	22		18	21		18	17		24	15	
No. of decayed teeth	Average ± s.d.	1.9 ± 2	3 ± 4.1		2.2 ± 3.2	2.8 ± 3.5		3.4 ± 3.7	1.6 ± 3		1.7 ± 2.8	3.9 ± 3.8	
	Median (P25-P75)	1 (0-3.5)	0.5 (0-5.5)	0.834	0.5 (0-4.3)	2 (0-4)	0.583	2.5[a] (0-4.5)	0[b] (0-2.5)	**0.048**	0[b] (0-2.8)	3[a] (0-6)	**0.032**
	Min-Max	0-6	0-12		0-10	0-12		0-12	0-10		0-11	0-12	
No. of missing teeth	Average ± s.d.	1.5 ± 2.2	0.1 ± 0.5		0.6 ± 1.7	0.9 ± 1.6		0.6 ± 0.9	1 ± 2.3		0.5 ± 0.8	1.2 ± 2.4	
	Median (P25-P75)	1[a] (0-2)	0[b] (0-0)	**0.001**	0 (0-0)	0 (0-1)	0.112	0 (0-1)	0 (0-0.5)	0.507	0 (0-1)	0 (0-1)	0.645
	Min-Max	0-7	0-2		0-7	0-7		0-3	0-7		0-3	0-7	
No. of filled teeth	Average ± s.d.	2.6 ± 3.2	0.4 ± 0.8		1.2 ± 2.2	1.4 ± 2.7		1.7 ± 2.9	1.2 ± 2.2		1.1 ± 2	1.7 ± 3	
	Median (P25-P75)	1[a] (0-5.5)	0[b] (0-0)	**0.011**	0 (0-2)	0 (0-1.5)	0.987	0 (0-2.5)	0 (0-2)	0.558	0 (0-1.8)	0 (0-2)	0.783
	Min-Max	0-9	0-3		0-7	0-9		0-9	0-7		0-8	0-9	
Decayed, missing or filled teeth *(due to caries)*	Average ± s.d.	6 ± 4.1	3.5 ± 4		4 ± 4.1	5.1 ± 4.2		5.8 ± 4.1	3.8 ± 4.4		3.2 ± 3.5	6.8 ± 4.3	
	Median (P25-P75)	5[a] (3-9)	2[b] (0-7)	**0.048**	3.5 (0-7.3)	5 (1-8.5)	0.363	5.5 (2.8-8.5)	2 (0-8)	0.147	2.5[b] (0-6.5)	6[a] (3-10)	**0.009**
	Min-Max	0-14	0-12		0-14	0-13		0-13	0-14		0-11	0-14	

[a,b]- different letters indicate significant differences of the mean value of the variable for both groups, [a] being the highest median value and [b] the lowest, according to the Mann-Whitney test. Bold p-values stand for the significant differences.

IV. DISCUSSION

Regarding the objective of this research and in light of the enquiry findings, the present study confirmed many previously identified structural barriers including the educational level of the caregiver, the household's net monthly income level and the number of children. These demographic and economics variables had an impact on the oral health of pediatric patients of the CPMD-UFP, their oral health behaviors and adherence to dental appointments.

The majority of children (82.5%) in this study were accompanied by their mother, a finding similar to a study conducted in Korea (Han. *et al*., 2014) and a study conducted in France (Marquillier *et al.,* 2021). This could be explained by the fact that currently there are yet more mothers than fathers without a profession (Marquillier *et al.,* 2021), therefore with more free time to accompany their child to dental appointments.

Peltzer and Mongkolchati stated that single mothers, especially those with professional obligations, may be less effective in managing their children's oral health (Peltzer and Mongkolchati, 2015). However, this study did not find a significant correlation between the caregiver's marital status and any other variable.

In this study, it was found that the parents who did not pursue secondary education (who achieved elementary education - 3rd cycle or lower) are associated with children who have more missing teeth due to caries, who have a higher number of filled teeth and a higher DMFT/dmft index. This is in agreement with the results of van der Tas *et al*. (2017). Parents with a low education level would have worse health literacy, worse dietary and oral health behaviors and lower health service utilization (Schwendicke *et al.,* 2015).

Regarding the professional status of caregivers, there was no evidence of associations found in this sample, in opposite to the literature. According Alraqiq, Eddali and Boufis, children whose mothers are employed have less untreated decay and less severe caries lesions than those with mothers who are homemakers (Alraqiq, Eddali and Boufis, 2021). Khodadadi *et al.* (2016) also found that parents' unemployment was significantly related to a higher number of dental caries in children.

The household's net monthly income level had a significant impact on the number of decayed teeth. The households whose income is lower or equal to 1000€ can be statistically associated with children who have more decayed teeth. These findings revealed to be parallel to various studies, the net result is a greater likelihood of poor oral health for people who are low-income (Lambert *et al.,* 2017; van der Tas *et al.*, 2017; Northridge, Kumar and Kaur, 2019; Verlinden *et al.,* 2019; Khalid *et al.,* 2020).

This study has not found a significant impact on the number of household members and the number of decayed teeth, although previous studies have suggested that an increased number of residents in the household can be associated with dental caries (da Costa Dutra *et al.,* 2020; Lucaciu *et al.,* 2020).

A significant relationship was found between having more than two children in the family, and two of its traits: a higher number of decayed teeth and a higher DMFT/dmft index. These findings are in agreement with past studies. Park *et al.* (2013) concluded that overall, a one-unit increase in the number of children in the family was significantly associated with a greater likelihood of a child having any decayed, missing or filled teeth, a greater number of decayed teeth and less likelihood of a child being cavity-free.

Concerning the child's gender, this study found no significant association with decayed, missing or filled teeth or the DMFT index. The literature is unclear as to whether or not the child's gender is a risk factor for oral diseases. During this study's literature review there were found studies that associated the male gender with a higher prevalence of caries lesions (Prabakar *et al.*, 2020); studies that found no significant gender-related differences (Obregón-Rodríguez *et al.,* 2019); and studies whose results show that the chance of developing dental caries was higher in girls (Bashirian *et al.,* 2018). Globally, there have been studies related to gender and carious and/or periodontal diseases, the results of such studies tend to show considerable variability without a clear consensus to be found in the literature (Obradović et al., 2023). Therefore, additional sex/gender-based research is needed in order to define the "disease burden" at the individual level and to identify individuals who may be at higher risk (Obradović *et al.,* 2023).

According to the literature, the most common reasons for the first dental visit were pain followed by dental caries (Nagaveni *et al.,* 2011), pain followed by regular checkups (Atulkar

et al., 2015), and pain related to other dental emergencies (trauma and infection) (Murshid, Ebtissam, 2016). Contrary to the reasons previously stated, in this particular study, findings show that the main reason of the children's first dental appointment was for regular checkups (27.5%) and pain wasn't part of the variables found, though it could have possibly been associated with the reason mentioned (e.g.: "caries" (15%) or "treat teeth" (5%)).

Within the sample of the study, approximately 17.5% of the households' earnings were below or slightly above the minimum wage in Portugal (up to 1000€). It was found that the primary reason to not resort to dental care was the high cost of dental appointments (57.5%), regardless of the families' income. According to the literature, the expenses of dental care represents a barrier either prior to seeking care, by avoiding to appeal to the dentist because of costs, or by interruptiong or ceasing recommended dental treatment following an initial visit (Thompson *et al.,* 2014). Statistical analysis clearly demonstrates underprivileged children to visit less frequently the dental practitioner. Lambert and colleagues (2017) concluded that dental absenteeism regarding children is almost four times higher in underprivileged groups compared with more fortunate subgroups (Lambert *et al.*, 2017).

The Dietary Guidelines of American Academy of Pediatic Dentistry (AAPD) provides specific quantitative recommendations, including limiting added sugars by less than 10% of consumed calories per day starting at age two and avoiding foods and beverages with added sugars for those younger than age two (AAPD, 2022). In this study, the average age of the child's first consumption of added or refined sugars was 1.4 ± 1.0 years-old, which could show that, for this particular group, there is a lack of knowledge or control of the ideal dietary guidelines for children.

Furthermore, it was found that 32.5% of children consume foods rich in sugar every day, followed by 27.5% 1-2 times a week; 22,5% 4-3 times a week and 17.5% 5-6 times a week. The American Heart Association (AHA) recommends, for children and adolescents, a limit of less than 25 grams (100 calories or approximately six teaspoons) of added sugar per day (AAPD, 2022). And over half of the children (52.2%) who participated in this study consume sugary beverages only 1-2 times a week times per week. The American Academy of Pediatrics (AAP) recommendations state that juice should not be introduced to infants before one year of age; intake of juice should be limited to approximately 118 mililiters a day for children between

one and three years of age; 118-177 mL for children between four and six years of age; and 237mL for children between sevem and eighteen years of age. Unfortunately, 35% of the caregivers state that their child consumes these beverages every day, not adhering to evidence-based dietary recommendations for their children.

A study conducted in France stated that 92.2% of their sample (ate sweet foods daily and 62.7% consume sugary drinks daily (Marquillier *et al.*, 2021) which is is consistent with the literature. In comparison to the prior studies, the percentages of consumption of foods and drinks rich in sugar in this research is significantly lower, even though it might still be above recommendations.

In the Guideline on Infant Oral Health Care, the AAPD also states that flossing should be initiated when adjacent tooth surfaces cannot be cleansed with a toothbrush. It was found that only 2 out of 28 children (7.14%) use dental floss (excluding children with no medical history or whose floss habits were also not registered in computer system) (AAPD, 2012).

According to the ADA, children's toothbrushing should be done with an appropriate sized soft bristled toothbrush (15–19 mm head size). The data collected from the clinical charts of this study's sample shows that only 15 out of 40 children (37.5%) use a soft bristled toothbrush (ADA, 2014).

The Policy on Early Childhood Caries (ECC) by the AAPD recognizes that the current best practice to reduce the risk of ECC includes toothbrushing twice per day with fluoridated toothpaste for all children. In the sample of the study, 60% of parents reported that their child brushes their teeth twice a day; just 5% reported that the child only brushes a few times a week. The AAPD encourages parents/ caregivers to optimize fluoride exposures to reduce the risk of caries and to enhance the remineralization of affected tooth structures (AAPD, 2020). The dental medical history of the children in this study shows that only a small percentage of children, 7 out of 29 (24.14%), include fluoride in their oral hygiene habits.

Regarding the supervision child's toothbrushing, 55% of parents reported engaging in this practice, additionally 90% of parents warned their child to brush their teeth which is

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considerably high. This could indicate that the time more than half of parents/caregivers spend with their children also includes a supervision of the children's oral hygiene habits. Contrary to this finding, Elwell *et al.* (2021) state that in their study, 56% of the caregiver participants discussed being busy with "other things" or not having time to take care of their children's teeth at home.

The results of this study showed significant impacts regarding: the educational level of the caregivers, the household's level of income and the number of children. These variables were associated with the number of decayed teeth and/or the number of missing teeth and/or the number of filled teeth and/or the DMFT/dmt index. This may present a first step in the further research of these relationships.

1. Limitations and further studies

Despite this study's contributions, there are some limitations which can provide opportunities for future research. Various limitations arose in relation to the study's sample, which was drawn entirely from a Portuguese pedagogical dental clinic: due to absences and cancelations of consultations the sample of this study was relatively small, during the course of this study there were 30 absences and 46 cancelations. Furthermore, the findings from this study may target a majority of families with a low socioeconomic status due to being conducted in an educational practice where a lot of the patients have full dental coverage.

Moreover, in regards to the data taken from the clinical charts, there's a window of evidence that could not be collected due to: a lack of registration of the parameters in the odontogram; not having a medical history recorded in the informatic system; or an existence of a different type of medical history that didn't have these parameters to fill in. This could have contributed to what could have been a better and a more complete statistical analysis.

Other limitations pertain to the study's methodology: with this quantitative research method, results are based on numerical responses and, as a result, there's little to no insight into the thoughts of your group or in-depth interviews.

Future research could include a wider sample of children to make it possible to obtain results with greater statistical significance. It would also be interesting to further explore a follow-up

of the children's oral health after applying strategies that include caregivers as effective agents in promoting oral health. Moreover, it would also be perhaps enlightening, to compare this study to the ones conducted in different countries and to study cross-cultural differences.

V. CONCLUSIONS

The findings of this study validate the association ($p<0.05$) between a lower educational level of caregivers (3rd cycle or less), a lower household's level of income (up to 1000€/household), and a higher number of children (>2) with an increase of occurrence of decayed teeth and/or missing teeth and/or filled teeth and/or the DMFT/dmft index and/or oral health quality of the pediatric patients.

It is crucial to raise awareness among both dentists and families about the influence of the socio-demographic context of the family on the oral health of the child. This recognition is essential to ensure that it is acknowledged as a significant factor and not overlooked or disregarded.
In conclusion, the identification of these socio-demographic and economic discrepancies by the dentist is essential for a correct intervention.

To help mitigate disparities in information accessibility across different social groups, it is important to enhance the oral health literacy of caregivers. This would aid in promoting a higher level of understanding and knowledge regarding oral health, therefore, hopefully to eliminate the relations observed.

VI. BIBLIOGRAPHY

Abed, R., Bernabe, E. and Sabbah, W. (2020). Family impacts of severe dental caries among children in the United Kingdom. *International Journal of Environmental Research and Public Health*, 17(1), p.109.

Ada.org. (2015). *Health Literacy in Dentistry*. [online] Available at: https://www.ada.org/resources/community-initiatives/health-literacy-in-dentistry.

American Dental Association Council of Scientific Affairs (2014). Taking care of your child's smile. *J Am Dent Assoc.*, 145(5).

American Academy of Pediatric Dentistry (2012). Guideline on Infant Oral Health Care. [online] Available at: https://www.aapd.org/assets/1/7/G_InfantOralHealthCare.pdf

American Academy of Pediatric Dentistry (2020). Policy on early childhood caries (ECC): Classifications, consequences, and preventive strategies. *The Reference Manual of Pediatric Dentistry*, pp. 79-81.

American Academy of Pediatric Dentistry (2022). Policy on dietary recommendations for infants, children, and adolescents. *The Reference Manual of Pediatric Dentistry*, pp. 96-100.

Alraqiq, H., Eddali, A. and Boufis, R. (2021). Prevalence of dental caries and associated factors among school-aged children in Tripoli, Libya: a cross-sectional study. *BMC Oral Health*, 21(1), p.224.

BaniHani, A., Tahmassebi, J. and Zawaideh, F. (2021). Maternal knowledge on early childhood caries and barriers to seek dental treatment in Jordan. *European Archives of Paediatric Dentistry*, 22(3), pp. 433-439.

Bashirian, S., *et al.* (2018). Association of caries experience and dental plaque with sociodemographic characteristics in elementary school-aged children: a cross-sectional study. *BMC Oral Health*, 18(1).

Bridges, S.M. *et al.* (2014). The relationship between caregiver functional oral health literacy and child oral health status. *Patient Education and Counseling*, 94(3), pp.411–416.

Chi, D.L. and Scott, J.M. (2019). Added Sugar and Dental Caries in Children. *Dental Clinics of North America*, 63(1), pp.17–33.

da Costa Dutra, L. *et al.* (2020). Degree of family cohesion and social class are associated with the number of cavitated dental caries in adolescents. *Brazilian Oral Research*, 34, p.37.

Edelstein, B. L. (2020). Pediatric Dental Care and Oral Health: Past Successes and Current Challenges. *Academic Pediatrics*, 20(7), pp. 885-888.

Elamin, A., Garemo, M. and Gardner, A. (2018). Dental caries and their association with socioeconomic characteristics, oral hygiene practices and eating habits among preschool children in Abu Dhabi, United Arab Emirates - the NOPLAS project. *BMC Oral Health*, 18(1), p.104.

Elwell, K. *et al.* (2021). A formative assessment of social determinants of health related to early childhood caries in two american indian communities. *International Journal of Environmental Research and Public Health*, 18(18), p.9838.

Glick, M. *et al.* (2016). A new definition for oral health developed by the FDI World Dental Federation opens the door to a universal definition of oral health. *British Dental Journal*, 147(12), pp.915-917.

Han, D. H., *et al.* (2014). Regular dental checkup and snack-soda drink consumption of preschool children are associated with early childhood caries in Korean caregiver/preschool children dyads. *Community dentistry and oral epidemiology*, *42*(1), pp.70-78.

Hannan, C. J. *et al.* (2021). Addressing Oral Health Inequities, Access to Care, Knowledge, and Behaviors. *Preventing Chronic Disease*, 18.

Hiratsuka, V. Y. *et al.* (2019). Oral health beliefs and oral hygiene behaviours among parents of urban Alaska Native children. *International Journal of Circumpolar Health*, 78(1), p.1586274.

Howenstein, J. *et al.* (2015). Correlating parenting styles with child behavior and caries. *Pediatric Dentistry*, 37(1), pp.59-74.

Kassebaum, N. J. *et al.* (2015). Global burden of untreated caries: A systematic review and metaregression. *Journal of Dental Research*, 94(5), pp-650-658.

Khalid, T. *et al.* (2020). Relationship between socioeconomic inequalities and oral hygiene indicators in private and public schools in Karachi: An observational study. *International Journal of Environmental Research and Public Health*, 17(23), p.8893.

Khan, I.M. *et al.* (2021) Pre-schoolers' tooth brushing behaviour and association with their oral health: a cross sectional study. *BMC Oral Health*, 21 (1).

Khodadadi, E. *et al.* (2016). Parents' Oral Health Literacy and its Impact on their Children's Dental Health Status. *Electronic physician*, 8(12), pp.3421–3425.

Kirthiga, M. *et al.* (2019). Risk Factors for Early Childhood Caries: A Systematic Review and Meta-Analysis of Case Control and Cohort Studies. *Pediatric Dentistry*, 41(2), pp.95–112.

Lambert, M. J. *et al.* (2017). Socioeconomic inequalities in caries experience, care level and dental attendance in primary school children in Belgium: A cross-sectional survey. *BMJ Open*, 7(7), p.e015042.

Levesque, J. F., Harris, M. F. and Russell, G. (2013). Patient-centred access to health care: Conceptualisingaccess at the interface of health systems and populations. *International Journal for Equity in Health*, 12(1), p.18.

Lucaciu, P. O. *et al.* (2020). A WHO pathfinder survey of dental caries in 6 and 12-year old transylvanian children and the possible correlation with their family background, oral-health behavior, and the intake of sweets. *International Journal of Environmental Research and Public Health*, 17(11), p.4180.

Marcus, M. *et al.* (2018). Child and parent demographic characteristics and oral health perceptions associated with clinically measured oral health. *JDR Clinical and Translational Research*, 3(3), pp.302-313.

Marquillier, T. *et al.* (2021). Which determinants should be considered to reduce social inequalities in paediatric dental care access? A cross-sectional study in France. *PLoS ONE*, 16(8), p.e 0255360.

Mattheus, D. J. and Mattheus, C. (2014). Saving One Smile at a Time: Oral Health Promotion in Pediatric Primary Care Practice. *Open Journal of Nursing*, 04(06), pp.402-408.

Moghaddam, L.F., *et al.* (2020). The Association of Oral Health Status, demographic characteristics and socioeconomic determinants with oral health-related quality of life among children: a systematic review and Meta-analysis. *BMC Pediatrics*, 20(1).

Murthy, P. S. *et al.* (2018). Effectiveness of plaque control with novel pediatric oral hygiene need station (modified oral irrigation device) as compared with manual brushing and flossing: Randomized controlled pilot trial. *Contemporary Clinical Dentistry*, 9(2), p.170.

Naghibi Sistani, M.M. *et al.* (2013). Determinants of Oral Health: Does Oral Health Literacy Matter? *ISRN Dentistry*, 2013, pp.1–6.

Northridge, M. E., Kumar, A. and Kaur, R. (2019). Disparities in access to oral health care. *Annual Review of Public Health*, 41(1).

Obradović, M., *et al.* (2023). Caries Experience in Primary and Permanent Dentition in Children Up to 15 Years of Age from Bosnia and Herzegovina-A Retrospective Study. *Children (Basel, Switzerland)*, 10(4), p.754.

Obregón-Rodríguez, N., *et al.* (2019). Prevalence and caries-related risk factors in schoolchildren of 12- and 15-year-old: a cross-sectional study. *BMC Oral Health*, 19(1).

Park, A. H. *et al.* (2023). Fewer Children in Families Associated with Lower Odds of Early Childhood Caries: A Sample from Three Countries. *International Journal of Environmental Research and Public Health*, 20(3), p.2195.

Peltzer, K., Mongkolchati, A. (2015). Severe early childhood caries and social determinants in three-year-old children from Northern Thailand: a birth cohort study. *BMC Oral Health*, 15(1).

Piovesan, C. *et al.* (2017). Individual and contextual factors influencing dental health care utilization by preschool children: a multilevel analysis. *Brazilian Oral Research*, 31(0).

Prabakar, J., *et al.* (2020). Prevalence and Comparison of Dental Caries experience among 5 to 12 year old school children of Chandigarh using dft/ DMFT and SiC Index: A Cross-sectional study. *Journal of Family Medicine and Primary Care*, 9(2), p.819.

Purnell, T. S. *et al.* (2016). Achieving health equity: Closing the gaps in health care disparities, interventions, and research. *Health Affairs*, 35(8), pp.1410-1415.

Ramos-Gomez, F. *et al.* (2017). Pioneering and interprofessional pediatric dentistry programs aimed at reducing oral health disparities. *Frontiers in Public Health*, 5.

Schwendicke, F. *et al.* (2015). Socioeconomic inequality and caries: A systematic review and meta-analysis. *Journal of Dental Research,* 94(1), pp.10-18.

Serban, N. *et al.* (2022). Evaluating access to pediatric oral health care in the southeastern states. *Journal of the American Dental Association*, 153(4), pp.330-341.e12.

Shah, S. (2018). Paediatric dentistry- novel evolvement. *Annals of Medicine and Surgery*, 25, pp.21-29.

Taking care of your child's smile. (2014). *The Journal of the American Dental Association*, 145(5), p.504.

Thompson, B, *et al.* (2014). The potential oral health impact of cost barriers to dental care: findings from a Canadian population-based study. *BMC Oral Health*, 14(1).

Uerlich, M. F. *et al.* (2021). Common determinants of dental caries and obesity in children: A multi-ethnic nested birth cohort study in the United Kingdom. *International Journal of Environmental Research and Public Health*, 18(23), p.12561.

van der Tas, J. T. *et al.* (2017). Social inequalities and dental caries in six-year-old children from the Netherlands. *Journal of Dentistry*, 62, pp.18-24.

Velasco, S.R.M. *et al.* (2022). Relationship between oral health literacy of caregivers and the oral health-related quality of life of children: a cross-sectional study. *Health and Quality of Life Outcomes*, 20(1).

Verlinden, D. A. *et al.* (2019). Socio-economic inequality in oral health in childhood to young adulthood, despite full dental coverage. *European Journal of Oral Sciences*, 127(3), pp.248-253.

World Health Organization (2017). *Sugars and dental caries*. [online] www.who.int. Available at: https://www.who.int/news-room/fact-sheets/detail/sugars-and-dental-caries.

VII. APPENDIX

Appendix I - Permission obtained from the Ethical Commite of the Fernando Pessoa University

Universidade Fernando Pessoa

Exma. Senhora
Prof. Doutora Sandra Gavinha
Diretora da FCS

Nº	Data
FCS/MED – 347/23-2	28 de Fevereiro de 2023

Exma. Senhora Professor Doutora,

A Comissão de Ética analisou a ressubmissão do projeto de investigação apresentado por Daniela Gomes Oliveira, intitulado "The influence of the sociodemographic context of families on children's oral health – Research study", a realizar no âmbito do Mestrado Integrado em Medicina Dentária.

Trata-se de um projeto interessante, com objetivos bem definidos e que se espera que traga conclusões significantes no âmbito da Medicina Dentária.

Todos os esclarecimentos solicitados foram feitos.

Deste modo, a Comissão de Ética considera nada haver a opor quanto à realização deste projeto.

Com os melhores cumprimentos.

A Presidente da
Comissão de Ética da UFP

Inês Lopes Cardoso

Appendix II - Questionnaire

Código alfanumérico____

Influência do contexto sociodemográfico das famílias na saúde oral das crianças – trabalho de investigação

Este questionário foi elaborado no âmbito da Unidade Curricular de Dissertação do Mestrado Integrado em Medicina Dentária na Universidade Fernando Pessoa e tem como objetivo **analisar se o contexto sociodemográfico e económico das famílias cujas crianças recebem tratamentos médico-dentários nas Clínicas Pedagógicas de Medicina Dentária da Faculdade de Ciências da Saúde da Universidade Fernando Pessoa (CPMD FCS-UFP) tem impacto na saúde oral do paciente pediátrico, nos seus comportamentos de saúde oral e na adesão às consultas de medicina dentária.** Por favor, preencha o questionário com atenção, assinalando a resposta (única) que considera mais correta.

Este questionário é pseudo-anónimo e todos os dados obtidos são confidenciais e para uso exclusivo neste trabalho académico. É salvaguarda da possibilidade de, por vontade do participante, cessar em qualquer momento a sua participação, sem prejuízo para o participante ou para a criança.

Muito obrigada pela disponibilidade e colaboração.

Pais/cuidadores

1. **Quem trouxe a criança à consulta:**
   a)☐ Mãe
   b)☐ Pai
   c)☐ Outro familiar. Qual? _____
   d)☐ Responsável legal
   e)☐ Cuidador

2. Grau de parentesco **do cuidador principal**/relação com a criança:
   a)☐ Mãe
   b)☐ Pai
   c)☐ Outro familiar. Qual? _____
   d)☐ Responsável legal
   e)☐ Cuidador

3. Idade do responsável: _____ anos

4. Género:
   a)☐ Feminino
   b)☐ Masculino
   c)☐ Indefinido

d) ☐ Não quero responder

5. Estado civil:

   a) ☐ Casado(a).

   b) ☐ Solteiro(a)

   c) ☐ Divorciado(a)

   d) ☐ Outro(a). Qual? _____

   e) ☐ Não quero responder

6. Qual o nível de escolaridade mais elevado que completou?

   a) ☐ Nenhum (analfabeto)

   b) ☐ Ensino básico 1ºciclo (atual 4ºano / antiga instituição primária 4ªclasse)

   c) ☐ Ensino básico 2ºciclo (atual 6ºano / antigo ciclo preparatório)

   d) ☐ Ensino básico 3ºciclo (atual 9ºano / antigo 5ºlicencial)

   e) ☐ Ensino secundário (atual 12ºano / antigo 7ºlicencial)

   f) ☐ Licenciatura

   g) ☐ Mestrado

   h) ☐ Doutoramento

   i) ☐ Não quero responder

7. Quanto ao agregado familiar do paciente:

   a) ☐ Tradicional (casal hetero ou casal homossexual, pais biológicos ou adotivos)

   b) ☐ Monoparental (constituído apenas pelo pai ou só pela mãe, por morte de um progenitor, por divórcio/separação ou outra situação)

   c) ☐ Só um cuidador (qaulquer outro familiar ou responsável)

   d) ☐ Anaparental (criança numa instituição)

   e) ☐ Não quero responder

8. Situação profissional **do inquirido**:

   a) ☐ Empregado

   b) ☐ Desempregado

   c) ☐ Reformado

   d) ☐ Doméstica

   e) ☐ Não quero responder

9. Nível de rendimento líquido mensal **do agregado familiar**:

   a) ☐ < salário mínimo nacional

   b) ☐ Salário mínimo nacional ou até 1000€

   c) ☐ 1001€ - 1250€

   d) ☐ 1251€ - 1500€

   e) ☐ 1501€ - 2000€

   f) ☐ > 2000€

   g) ☐ Não quero responder

10. Número de elementos que constituem o agregado familiar: _____

11. Número de filhos:____

Em relação à criança:

12. Idade:____

13. Nível de educação atual da criança:

   a) ☐ Infantário

   b) ☐ Ensino básico ___ ano

   c) ☐ Ensino secundário ___ ano

   d) ☐ Não quero responder

14. Tipo de ensino frequentado:

   a) ☐ Ensino público

   b) ☐ Ensino privado

   c) ☐ Não quero responder

15. Em média, quantas horas, por dia, passa com a criança:___ horas

16. A criança vem a consultas de Medicina Dentária:

   a) ☐ Com regularidade

   b) ☐ Apenas quando há dor

   c) ☐ Não vem mais frequentemente porque não precisa

   d) ☐ Não quero responder

17. Motivos pelos quais a criança não realiza consulta médico-dentárias com maior frequência:

a)☐ Custo elevado

b)☐ Transporte/localização

c)☐ Falta de tempo

d)☐ Não considero muito importante

e)☐ Considero que a criança não necessita

f)☐ Não quero responder

18. Quanto à dieta da criança:

18.a) Que idade tinha quando comeu o primeiro alimento com açúcar adicionado/refinado:____ (anos)

18.b) Quanto à ingestão de alimentos ricos em açúcar*, a criança consome, em média:

b1)☐ Todos os dias

b2)☐ 5 a 6 vezes por semana

b3)☐ 4 a 3 vezes por semana

b4)☐ 1 a 2 vezes por semana

*exemplos: chocolates, bolos, marmelada, bolacha Maria, iogurte, cereais

18.c) Quanto à ingestão de bebidas açucaradas**, a criança consome, em média:

c1)☐ Todos os dias

c2)☐ 5 a 6 vezes por semana

c3)☐ 4 a 3 vezes por semana

c4)☐ 1 a 2 vezes por semana

**exemplos: nectar ou bebida à base de sumo, refrigerantes

19. Quanto à higiene oral da criança, escova os dentes:

a)☐ Nunca

b)☐ Alguns dias por semana

c)☐ 1x por dia

d)☐ 2x por dia

e)☐ >2x por dia

20. Momento do dia em que escova os dentes (pode assinalar mais do que uma resposta):

a)☐ Não escova

b)☐ Depois do pequeno almoço

c)☐ Depois do almoço

d)☐ Depois do jantar

e)☐ Antes de deitar (não come depois)

21. Supervisiona a escovagem dentária da criança?
    a)☐ Sim
    b)☐ Não
    c)☐ Às vezes
    d)☐ Nunca
    e)☐ Não quero responder

22. Adverte a criança quando não escova os dentes?
    a)☐ Sim
    b)☐ Não
    c)☐ Não quero responder

23. Quanto ao cheque dentista:
    a)☐ Não sei o que é o cheque-dentista
    b)☐ Conheço o programa mas nunca usufri
    c)☐ Já usufrui de consultas através deste programa

Appendix III - Explanatory sheet of the study

Influência do contexto sociodemográfico das famílias na saúde oral das crianças – trabalho de investigação

Na condição de ser pai/mãe/responsável/cuidador de uma criança que realiza tratamentos médico-dentários nas Clínicas Pedagógicas de Medicina Dentária da Faculdade de Ciências da Saúde da Universidade Fernando Pessoa, convidamos V/Ex.a a participar neste trabalho de investigação, integrado no Projeto de Dissertação de Mestrado da aluna do Mestrado Integrado em Medicina Dentária, Daniela Gomes Oliveira.

O objetivo deste trabalho consiste em avaliar se o contexto sociodemográfico e económico das famílias tem impacto na saúde oral das crianças. A caracterização do contexto sociodemográfico e económico das famílias será realizado através da aplicação de um questionário aos responsáveis legais das crianças pela investigadora principal; a avaliação da condição de saúde oral da criança será realizada através da consulta dos registos da ficha clínica informatizada do paciente, realizados na primeira consulta de medicina dentária da criança nas clínicas pedagógicas de medicina dentária na Universidade Fernando Pessoa.

A sua participação não é obrigatória, no entanto, é fundamental para que se atinjam os objetivos deste estudo, relativamente a um tema da maior importância para as crianças e, também, para os pais/cuidadores das mesmas.

As respostas a fornecer terão apenas utilização académica, garantindo-se confidencialidade e pseudo-anonimato dos dados fornecidos, com a salvaguarda da possibilidade de, por vontade do participante, cessar em qualquer momento a sua participação, sem prejuízo para o participante ou para a criança.

Para qualquer informação adicional contactar:

Daniela Oliveira

Email: 38266@ufp.edu.pt

Appendix IV - Informed consent statement

Código alfanumérico___

DECLARAÇÃO DE CONSENTIMENTO INFORMADO

Influência do contexto sociodemográfico das famílias na saúde oral das crianças – Estudo de investigação

Eu, abaixo-assinado (nome completo) -- --,

responsável pelo participante no projeto (nome completo) --- --, compreendi a explicação que me foi fornecida acerca da sua participação na investigação que se tenciona realizar, bem como do estudo em que será incluído. Foi-me dada oportunidade de fazer as perguntas que julguei necessárias, e de todas obtive resposta satisfatória.

Tomei conhecimento de que a informação ou explicação que me foi prestada versou os objectivos e os métodos. Além disso, foi-me afirmado que tenho o direito de recusar a todo o tempo a sua participação no estudo, sem que isso possa ter como efeito qualquer prejuízo pessoal.

Foi-me ainda assegurado que os registos em suporte papel e/ou digital (base de dados) serão confidenciais e utilizados única e exclusivamente para o estudo em causa, sendo guardados em local seguro durante a pesquisa e destruídos após a sua conclusão (publicação).

Por isso, consinto em participar no estudo em causa.

 Data: _____/_____/ 20__

Assinatura do Responsável pelo participante no projeto:
_____

O Investigador responsável:
Nome:
Assinatura:

Appendix V - Informational leaflet

SAÚDE ORAL PEDIÁTRICA

A importância da higiene oral infantil

- Crianças com dentes saudáveis mastigam bem os alimentos, têm maior possibilidade de aprenderem a falar corretamente* e sentem-se bem com elas próprias e com os outros e claro, oferecem sorrisos que aquecem o coração

Cuidados de higiene oral na criança

Dos 0 aos 2 anos de idade

- Quando os primeiros dentes decíduos ("de leite") ainda não estão presentes em boca:
  - Higienizar e massajar levemente a gengiva do bebé com uma compressa húmida com água ou soro fisiológico, 1 vez por dia, de preferência à noite*

- A partir do aparecimento do primeiro dente decíduo:
  - Deve introduzir-se a escova dentária, de tamanho adequado à cavidade oral do bebé e com cerdas macias*
  - Deve ser utilizada uma pasta dentífrica com 1000ppm de flúor, utilizando-se uma quantidade de pasta semelhante a um grão de arroz cru*
  - Após a escovagem dentária não incentivar a criança a realizar bochecho com água
  - A fita dentária deve ser utilizada desde que existe o primeiro contacto entre os dentes "vizinhos"* e sempre antes da escovagem dentária

Dos 2 aos 6 anos de idade

- A criança ainda não tem destreza para realizar corretamente a sua higiene oral, no entanto, é importante que comece a escovar os seus próprios dentes, de forma a estimular este hábito*

- Cabe aos responsáveis supervisionar a escovagem e posteriormente realizar a "verdadeira" higiene oral:
  - Com uma escova macia de tamanho adequando e com pasta fluoretada*
  - O fio/fita dentária deve ser utilizado nos espaços interdentários*
  - A higienizarão deve ser realizada 3 vezes por dia

- Por volta dos 6 anos de idade erupciona o primeiro molar definitivo que merece especial atenção no momento da escovagem dentária

Maiores de 6 anos de idade

- A criança já é capaz de realizar a sua própria higiene oral, a qual deve ainda ser supervisionada pelos responsáveis*

- Uma abordagem metódica e rotineira da escovagem dentária torna a aprendizagem mais fácil. Nesta altura a criança deve:
  - Utilizar pasta dentífrica com 1450 ppm de flúor, com uma quantidade semelhante a uma ervilha*
  - O tempo médio de escovagem deve ser de 3 minutos
  - A higienização oral deve ser realizada, idealmente, após as refeições, 3 vezes por dia

Dieta

- O açúcar não deve ser introduzido na dieta da criança antes dos 2 anos de idade**

- A partir dos 2 anos pode substituir-se o açúcar pelo xilitol, que é um adoçante natural não cariogénico**

- Crianças maiores de 2 anos devem ter uma dieta rica em alimentos nutritivos, com baixo teor de gordura e devem ser preparados sem adição sal, amidos, açúcares ou gordura**

Visitas ao Médico Dentista

- A primeira consulta deve ser realizada quando os primeiros dentes decíduos erupcionam ou, no máximo, até aos 12 meses de idade*

- As consultas de rotina têm intervalos de tempo consoante a idade e estado clínico do paciente e a periodicidade das mesmas deve ser estabelecida pelo profissional de saúde*

Daniela Gomes Oliveira
Aluna do Mestrado Integrado em Medicina Dentária
da Universidade Fernando Pessoa
38266@ufp.edu.pt

*de acordo com as normas da Direção Geral da Saúde
** de acordo com a AAPD (American Academy of Pediatric Dentistry)