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CLINICAL RESEARCH:

Maternal Knowledge and Practices Concerning Infant Oral Health in a Group of Pregnant Women

Conocimientos y prácticas maternas sobre salud bucal infantil en un grupo de gestantes

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ABSTRACT: To identify factors associated with the knowledge and practices of pregnant women regarding their children's oral health. A cross-sectional study was conducted with 269 pregnant women attending two healthcare institutions in the Santander-(Colombia). A questionnaire was carried out, consisting of 40 questions (nine sociodemographic, seven on the psychosocial dimension [D], thirteen on knowledge [K], and eleven on practices [P]). Scoring scales were established for all dimensions, based on the Median (Me) and Interquartile Range (IQR). Descriptive analyses were performed, as well as normality tests on key variables, statistical significance tests, and multivariate linear regression analysis. 53.1% of participants were ≥ 26 years old. 78% lived in low socioeconomic strata. 12.6% were Venezuelan. Regarding questionnaire items, the dimensions showed high scores (D: Me=7, IQR=1; K: Me=9, IQR=4; PR: Me=6, IQR=3). Multivariate linear regression analysis revealed explanatory factors significantly associated with the questionnaire dimensions. For the psychosocial dimension, women from middle-high socioeconomic strata and those of Venezuelan origin were negatively associated (lower scores). For oral health knowledge, a positive association was found in women aged 27 or older (higher scores). For oral health practices, women without formal employment and multigravida women showed a positive association, whereas those with technical or higher education were negatively associated. Factors associated with knowledge, practices, and the psychosocial dimension were identified. These should be considered when designing oral health promotion strategies targeting the mother-child dyad.

KEYWORDS: Health knowledge; Attitudes; Practice; Oral health; Pregnant women; Mother-child relations; Dental care for children.

RESUMEN: Identificar los factores asociados con los conocimientos y las prácticas de las mujeres embarazadas en relación con la salud bucodental de sus hijos. Se realizó un estudio transversal con 269 mujeres embarazadas que acudían a dos centros de salud en Santander (Colombia). Se aplicó un cuestionario compuesto por 40 preguntas (nueve sociodemográficas, siete sobre la dimensión psicosocial [D], trece sobre conocimientos [K] y once sobre prácticas [P]). Se establecieron escalas de puntuación para todas las dimensiones, basadas en la mediana (Me) y el rango intercuartílico (IQR). Se realizaron análisis descriptivos, así como pruebas de normalidad de las variables clave, pruebas de significación estadística y análisis de regresión lineal multivariante. El 53,1 % de las participantes tenían ≥ 26 años. El 78 % vivían en estratos socioeconómicos bajos. El 12,6 % eran venezolanas. En cuanto a los ítems del cuestionario, las dimensiones mostraron puntuaciones altas (D: Me=7, IQR=1; K: Me=9, IQR = 4; PR: Me=6, IQR=3). El análisis de regresión lineal multivariante reveló factores explicativos significativamente asociados con las dimensiones del cuestionario. En cuanto a la dimensión psicosocial, las mujeres de estratos socioeconómicos medios-altos y las de origen venezolano mostraron una asociación negativa (puntuaciones más bajas). En cuanto a los conocimientos sobre salud bucodental, se encontró una asociación positiva en las mujeres de 27 años o más (puntuaciones más altas). En cuanto a las prácticas de salud bucodental, las mujeres sin empleo formal y las multigrávidas mostraron una asociación positiva, mientras que las que tenían educación técnica o superior mostraron una asociación negativa. Se identificaron factores asociados con los conocimientos, las prácticas y la dimensión psicosocial. Estos deben tenerse en cuenta a la hora de diseñar estrategias de promoción de la salud bucodental dirigidas a la díada madre-hijo.

PALABRAS CLAVE: Conocimientos sobre salud; Prácticas; Salud bucodental; Relaciones madre-hijo.

INTRODUCTION

Gestation marks the onset of the first thousand days of life a critical period that concludes in the child's second year. This window offers a unique opportunity to shape human development, allowing for interventions that can modify or even reverse metabolic programming, thereby enhancing maternal and child health (1). Furthermore, the maternal-infant bond during this stage facilitates the mother's capacity to assimilate or unlearn knowledge and beliefs that influence the child's well-being. It renders her more receptive to information that can improve the child's health and represents an optimal period for implementing effective health education strategies (2).

It is therefore essential to promote health by beginning in the gestational period through educational interventions that guide health practices and offer a transdisciplinary perspective throughout the prenatal, perinatal, and postnatal stages, fostering both general and oral health in the child (1). Consequently, knowledge of oral health during and after pregnancy is crucial not only for obstetric care but also for pediatric practices, as it may have serious implications for maternal and child health outcomes (3).

Pregnant women's knowledge and beliefs regarding oral health are closely linked to the socioeconomic and cultural conditions of their communities (4-6). Maternal practices and knowledge

concerning oral health are particularly significant, as mothers are primarily responsible for teaching and modeling behaviors that foster healthy habits in this domain. These behaviors gain relevance in health education strategies due to their potential for transmission across generations (7).

Oral health in early childhood has emerged as a critical area for improvement within public health policies and strategies. Early childhood caries remains prevalent, affecting over 50% of children in most countries worldwide, with a global average prevalence of 62.7%. Recent studies indicate that dental caries has impacted more than half of the Latin American and Caribbean pediatric population (8). These findings are further supported by data from the Global Burden of Disease Study, which estimates that approximately 530 million children suffer from dental caries in their primary teeth (9, 10). A systematic review aimed at estimating the global prevalence of early childhood caries using WHO criteria found variable frequencies according to geographical and social context (percentage [95% CI]): Africa: 30 [19, 45]; Americas: 48 [42, 54]; Asia: 52 [43, 61]; Europe: 43 [24, 66]; and Oceania: 82 [73, 89] (11). Specifically, the most recent national oral health survey in Colombia in 2014 reported that 29.31% of children in their first year of life had already experienced modified caries. Additionally, 49.2% of parents began their children's oral hygiene practices at or after 12 months of age (12).

Given the complex and multifactorial etiology of dental caries, identifying the factors contributing to its high prevalence is important. Systematic reviews have found that key risk factors include low parental educational levels, low household income, and lack of access to health insurance coverage (13), particularly among pregnant women (6, 14).

A considerable body of scientific literature has examined the knowledge, attitudes, and practices of pregnant women regarding self-care (15-18), as well as the correlation between such knowledge and oral health status. Other studies have addressed the association between oral and general health within this population. However, the gap in research concerning the educational role of mothers in fostering appropriate oral health practices for their newborns is notable (5, 19). In light of this, some studies have recommended implementing educational interventions aimed at equipping both current and expectant mothers with the knowledge and skills necessary to ensure adequate oral care for themselves and their children.

This paper is part of a broader project evaluating the impact of an educational intervention on changes in mothers' knowledge and practices regarding oral and dental hygiene for their children, and how these changes, in turn, translate into improved oral health indicators in children under two years of age. The project involves the use of various quantitative and qualitative methodologies and encourages active participation of women in interdisciplinary health programs. From this perspective, the working hypothesis is that these women need to strengthen certain key elements related to oral health knowledge and practices, dental hygiene, attitudes, and the mother–child bond, and that these aspects are associated with sociodemographic variables as well as the broader social and environmental context.

Accordingly, the present study aims to identify the knowledge and practices of pregnant women regarding infants' oral health, as they participate in maternity and paternity preparation courses at two public healthcare institutions located in eastern Colombia.

METHODS

The development of this research report adhered to the STROBE guidelines for observational studies (20), as well as the recommendations established by ChecKAP-Checklist for Reporting

Items for Knowledge, Attitude, and Practice (21). the study protocol was approved by Committee on Ethics, Bioethics, and Scientific Integrity (CEBIC, acronym in Spanish) of Santo Tomás University according to Act N° 28 (13th December 2022) in Bucaramanga (Colombia).The project includes an informed consent document, in which participants are informed about the objective of the study and its implications. This study adheres to the Declaration of Helsinki as the ethical framework for medical research involving human subjects (22). Similarly, this study consider the national regulations for research involving human subjects (Resolution 8430 issued by the Ministry of Health), under which it is classified as 'risk-free,' as well as to international ethical standards set by the Council for International Organizations of Medical Sciences (23, 24)

STUDY DESIGN AND PARTICIPANTS

This is a cross-sectional study. The target population consisted of pregnant women in San Juan de Girón and Piedecuesta, in the department of Santander, situated in the eastern region of Colombia near the Venezuelan border. San Juan de Girón is a historical municipality with about 185,000 inhabitants and various ethnic groups. Piedecuesta is a municipality located 17 kilometers from Bucaramanga (capital of Santander), with a population of about 186,000 inhabitants.

Participants were recruited through convenience sampling of pregnant women enrolled in maternity and paternity preparation programs at two public healthcare institutions (the ESE Clínica Girón and Local Hospital of Piedecuesta). The main researcher presented the research project during each course session held from August 2023 to June 2024. A total of 269 program participants voluntarily agreed to participate in the study and self-administered the questionnaire (85 of them recruited at the Local Hospital of Piedecuesta, while 184 participants enrolled from the ESE Clínica Girón). The response rate of 69.5% was obtained (considering the total number of users enrolled in the maternity programs at both institutions).

TECHNIQUES AND INSTRUMENTS FOR DATA COLLECTION

A structured questionnaire in Spanish was developed, comprising the following sections: 1) Basic sociodemographic information (9 questions), gathering data on age, ethnicity, socioeconomic status, marital status, educational level, number of children, occupation, and place of residence; 2) Psychosocial dimension (7 questions), focusing on attitudes and the bond between the mother and the baby regarding oral health; 3) Knowledge of oral health (13 questions), including a series of statements or questions assessing this maternal knowledge during the first year of life; and 4) Oral health practices (11 questions), aimed at exploring maternal practices related to improving their infants' oral health.

The questionnaire was developed by an interdisciplinary research team of specialists in pediatric dentistry, public health, epidemiology, and both qualitative and quantitative research methodologies. The instrument was based on a comprehensive review of the relevant literature (25-30), ensuring that each item reflected evidence-based content and addressed relevant constructs within the study objectives. The main questions underwent a process of translation and back-translation to ensure semantic comprehension, as well as cultural and linguistic adaptation. A pilot test was conducted with 30 pregnant women to evaluate the clarity, comprehension, and relevance of the items, as well as the overall structure and time required for completion. Feedback was used to refine the instrument.

Although the questionnaire has demonstrated adequate face and content validity, it is currently undergoing a formal external validation to ensure

its psychometric robustness. The internal consistency of the 31-item questionnaire was assessed on 269 women through a single administration. The Cronbach's alpha coefficient was 0.774, and McDonald's omega was 0.758 for the response scale, indicating acceptable internal consistency. The reliability and reproducibility of the instrument were assessed through a test-retest procedure with a sample of 30 women. The results showed an intraclass correlation coefficient of 0.702 (95% CI: 0.374-0.858), indicating moderate reliability. Figure 1 shows the flowchart of the entire study design process and its specific phases.

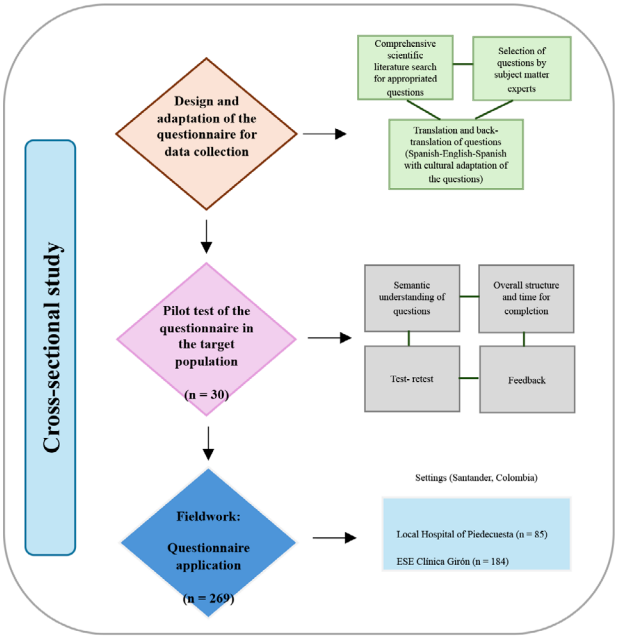

Figure 1. Flowchart illustrating the phases of the study design.

STUDY VARIABLES AND STATISTICAL ANALYSIS

The main study variables (dependent) are classified into three dimensions: psychosocial (related to attitudes and opinions - D-questions), oral health knowledge (K-questions), and oral health practices (P-questions). For each dimension, all questions were established on a Likert scale according to the possible responses. All questions were analyzed descriptively. After that, all were dichotomized: Negative/Positive (D), Incorrect/Correct (K), and Inadequate/Adequate (P). The Positive, Correct, and Adequate responses were summed, and a score was measured for each dimension y globally. For each dimension score, normality tests were carried out, and descriptive statistical analyses were conducted using measures of central tendency (mean and median) and measures of dispersion (standard deviation and interquartile range) to summarize the quantitative dependent variables.

A descriptive analysis was conducted for sociodemographic (independent) variables, and non-parametric tests were calculated (Mann-Whitney U test for dichotomous and Kruskal-Wallis for polychotomous variables). A linear multivariate regression analysis was performed to evaluate the simultaneous and reciprocal effect of the dependent variables (total and its dimensions) to identify possible predictors of their scores. Belonging was determined by evaluating compliance with the assumptions of linearity, non-collinearity, normality, constant variance, and correlation of residuals. All analyses used a level of statistical significance of <0.05. SPSS software version 29.0-IBM® was used for all analyses. The listwise method was used in the case of the five multivariate linear regressions.

RESULTS

Table 1, Table 2, and Table 3 describe the questions/items in the questionnaire and their different dimensions, as well as the percentage distribution of responses in their original format, categorized dichotomously. Regarding the psychosocial dimension (Table 1), the items with the highest frequency of negative responses correspond to D3 (25%) and D1 (14%), while those with the highest frequency of positive responses are D4 and D7 (97% and 96%, respectively).

According to oral health knowledge (Table 2), the questions/items with the highest frequency of incorrect responses are K9 and K1 (57% and 52%, respectively), while those with the highest frequency of correct responses are identified as K7, K2, and K12 (84%, 81%, and 81%, respectively).

For oral health practices (Table 3), the questions/items with the highest frequency of responses considered inadequate are identified as P10 (81%) and P4 (80%), while those considered adequate are identified as P3 and P5 (both at 76%).

Table 1. Participants' responses to the questions related to the psychological dimension. Santander, Colombia (n=269).

		Psychosocial dimension (related to attitudes and opinions)					Categorization of responses	
	Questions/Statements/Answer options	**Strongly disagree n (%)**	**Partially disagree n (%)**	**Neither disagree nor agree (neutral) n (%)**	**Partially agree n (%)**	**Strongly agree n (%)**	**Negative n (%)**	**Positive n (%)**
D1	Breastfeeding enhances the mother-child bond.	24 (8.9)	4 (1.5)	10 (3.7)	21 (7.8)	210 (78.1)	38 (14.1)	231 (85.9)
D2	Maintaining a child's oral health is the responsibility of the parents	23 (8.6)	3 (1.1)	1 (0.4)	31 (11.5)	211 (78.4)	27 (10.0)	242 (90.0)
	Questions/Statements/Answer options	**Completely dissatisfied n (%)**	**Dissatisfied n (%)**	**Somewhat satisfied n (%)**	**Satisfied n (%)**	**Completely Satisfied n (%)**	**Negative n (%)**	**Positive n (%)**
D3	When feeding my baby with a bottle, I will feel	22 (8.2)	45 (16.7)	67 (24.9)	77 (28.6)	58 (21.6)	67 (24.9)	202 (75.1)
D4	I consider that as a mother, while breastfeeding, I will feel…	5 (1.9)	3 (1,1)	17 (6.3)	81 (30.1)	163 (60.6)	8 (3.0)	261 (97.0)
	Questions/Statements/Answer options	**Not useful at all n (%)**	**Not very useful n (%)**	**Somewhat useful n (%)**	**Very useful n (%)**	**Extremely useful n (%)**	**Negative n (%)**	**Positive n (%)**
D5	Acquiring knowledge about oral care and hygiene practices for my baby is..	3 (1.1)	2 (0.7)	19 (7.1)	113 (42.0)	132 (49.1)	24 (8.9)	245 (91.1)
D6	Learning about how to feed my baby during the first year of life is…	5 (1.9)	2 (0.7)	12 (4.5)	105 (39,0)	145 (53.9)	19 (7.1)	250 (92.9)
	Questions/Statements/Answer options	**Not important n (%)**	**Slightly important n (%)**	**Somewhat important (neutral) n (%)**	**Important n (%)**	**Very important n (%)**	**Negative n (%)**	**Positive n (%)**
D7	I consider that breastfeeding my baby is…	5 (1.9)	1 (0.4)	4 (1.5)	53 (19.7)	206 (76.6)	10 (3.7)	259 (96.3)

Table 2. Participants' responses to the questions related to the oral health knowledge dimension. Santander, Colombia (n=269).

		Answer Options (I am…)					Categorization of responses	
	Oral health knowledge questions/statements	**Strongly disagree n (%)**	**Partially disagree n (%)**	**Neither disagree nor agree (neutral) n (%)**	**Partially agree n (%)**	**Strongly agree n (%)**	**Negative n (%)**	**Positive n (%)**
K1	Formula milk (canned milk) currently used is as nutritious as breast milk	87 (32.3)	42 (15.6)	66 (24.5)	50 (18.6)	24 (8.9)	140 (52.0)	129 (48.0)
K2	Breast milk has greater benefits than formula feeding	21 (7.8)	8 (3.0)	23 (8.6)	44 (16.4)	173 (64.3)	52 (19.3)	217 (80.7)
K3	I believe that the mother naturally and instinctively learns how to breastfeed her baby	30 (11.2)	10 (3.7)	39 (14.5)	99 (36.8)	91 (33.8)	79 (29.4)	190 (70.6)
K4	Babies who are breastfed are healthier than those who are fed with formula	15 (5.6)	4 (1.5)	52 (19.3)	64 (23.8)	134 (49.8)	71 (26.4)	198 (73.6)
K5	Feeding my child at night with formula milk or a beverage containing sugar affects their teeth	20 (7.4)	9 (3.3)	61 (22.7)	61 (22.7)	118 (43.9)	90 (33.5)	179 (66.5)
K6	Breastfeeding becomes difficult when the mother works outside the home	20 (7.4)	10 (3.7)	47 (17.5)	99 (36.8)	93 (34.6)	77 (28.6)	192 (71.4)
K7	The child's oral health is related to their general health	10 (3.7)	6 (2.2)	28 (10.4)	93 (34.6)	132 (49.1)	44 (16.4)	225 (83.6)
K8	Stains on the surfaces of the teeth are the first signs of dental caries	17 (6.3)	6 (2.2)	59 (21.9)	71 (26.4)	116 (43.1)	82 (30.5)	187 (69.5)
K9	Dental cavities are caused by bacteria that are transmitted when feeding utensils are shared (i.e spoons)	40 (14.9)	35 (13.0)	78 (29.0)	68 (25.3)	48 (17,8)	153 (56.9)	116 (43.1)
K10	Toothpaste with fluoride will help prevent dental cavities in my child	19 (7.1)	18 (6.7)	75 (27.9)	86 (32.0)	71 (26.4)	112 (41.6)	157 (58.4)
K11	The mother's diet during pregnancy affects the development of the baby's teeth	33 (12.3)	34 (12.6)	64 (23.8)	58 (21.6)	80 (29.7)	131 (48.7)	138 (51.3)
K12	Breastfeeding my child will help with better growth of the face and teeth	9 (3.3)	9 (3.3)	34 (12.6)	80 (29.7)	137 (50.9)	52 (19.3)	217 (80.7)
K13	Habits (lip sucking, finger sucking, cloth sucking, and use of pacifiers) will affect the development of teeth and facial bones	18 (6.7)	17 (6.3)	45 (16.7)	68 (25.3)	121 (45.0)	80 (29.7)	189 (70.3)

Table 3. Participants' responses to the questions related to the oral health practices dimension. Santander, Colombia (n=269).

Oral health practices questions/statements		Answer options						Categorization of responses	
								Inadequate n (%)	Adequate n (%)
P1	How often will you breastfeed your baby in the first six months of age?	**Every two hours n (%)**	**When the baby is awake n (%)**	**When the baby desires it n (%)**				137 (50.9)	132 (49.1)
		101 (37.5)	36 (13.4)	132 (49.1)					
P2	If you work outside the home, how will you feed the baby?	**I would have to give him/her formula milk n (%)**	**Breastfeeding when I'm with the baby and formula milk when I'm not with him/her n (%)**	**I would give breast milk expressed at home or work n(%)**				168 (62.5)	101 (37.5)
		16 (5.9)	152 (56.5)	101 (37.5)					
P3	Regarding baby teeth and permanent teeth, I think that:	**Baby teeth are not important at all n (%)**	**Baby teeth are slightly important n (%)**	**Baby teeth and permanent teeth are equally important n (%)**				66 (24.5)	203 (75.5)
		10 (3.7)	56 (20.8)	203 (75.5)					
P4	Until what age will you breastfeed your baby?	**Three months n (%)**	**Six months n (%)**	**One year n (%)**	**Two years n (%)**	**Until the baby wants to n (%)**	**Other n (%)**	214 (79.6)	55 (20.4)
		3 (1.1)	38 (14.1)	93 (34.6)	55 (20.4)	77 (28.6)	3 (1,1)		
P5	Who would carry out the baby's oral care practices?	**Yourself n (%)**	**A family member n (%)**	**External caregiver n (%)**	**Other n (%)**			65 (24.2)	204 (75.8)
		204 (75.8)	30 (11.2)	34 (12.6)	1 (0.4)				
P6	How will you feed your baby until six months?	**Only with breast milk n (%)**	**Primarily with formula milk n (%)**	**Breastfeeding and formula milk n (%)**	**Other n (%)**			107 (39.8)	162 (60.2)
		162 (60.2)	23 (8.6)	84 (31.2)	0 (0.0)				
P7	How will you feed your child from six months to one year of age?	**Only with breast milk n (%)**	**Breastfeeding and formula milk n (%)**	**Breastfeeding plus complementary feeding n (%)**	**Only complementary feeding n (%)**			84 (31.2)	185 (68.8)
		38 (14.1)	36 (13.4)	185 (68.8)	10 (3.7)				
P8	At what age will you take your child for their first visit to the dentist?	**At birth n (%)**	**Between six months and one year of age n (%)**	**After six years of age n (%)**	**When the child feels any pain n (%)**			79 (29.4)	190 (70.6)
		14 (5.2)	190 (70.6)	46 (17.1)	19 (7.1)				
P9	When do you think the cleaning of the baby's mouth should begin?	**As soon as the first tooth appears n (%)**	**After the eruption of all the primary teeth n (%)**	**The gums should be cleaned regularly after birth n (%)**	**I do not know n (%)**			147 (54.6)	122 (45.4)
		70 (26.0)	28 (10.4)	122 (45.4)	49 (18.2)				
P10	How often should you clean the baby's mouth?	**Once a day n (%)**	**Regularly after each feeding n (%)**	**No cleaning is required before the teeth appear n (%)**	**I do not know n (%)**			218 (81.0)	51 (19.0)
		51 (19.0)	133 (49.4)	36 (13.4)	49 (18.2)				
P11	How will you clean your baby's mouth before the teeth come in?	**With water n (%)**	**With a wet gauze n (%)**	**With a toothbrush n (%)**	**With toothpaste n (%)**	**I should not n (%)**		105 (39.0)	164 (61.0)
		51 (19.0)	164 (61.0)	9 (3.3)	7 (2.6)	38 (14.1)			

The sociodemographic characteristics of the study population are shown in Table 4. A total of 269 women participated. Over half were ≤ 26 years (Median 26±9 years). Those married or cohabitating were 80%. Those with education equal to or higher than secondary school were 61.4%. Multigravida were 63%. Those dedicated to housework or not working were 48%. Those from low socioeconomic strata were 78%. A third of the participant women were of Venezuelan origin. Only 3% of women reported belonging to minority ethnic groups. Regarding the items of the questionnaire, all the dimensions had high scores when the median and maximums/minimums were analyzed.

Table 5 shows the bivariate comparison between the scores for the different dimensions of the questionnaire and the independent study variables. Statistically significant differences ($p<0.05$) were found between the age variable and the dimensions of knowledge, practices, combined knowledge and practices, and all three dimensions in total (trends toward higher scores in older women). Additionally, statistically significant differences ($p<0.05$) were observed between the marital status variable and the oral health practices dimension (higher scores in women in free unions). Regarding educational level, higher scores were found in the secondary or lower education levels in the psychosocial dimension and lower scores related to practices (statistically significant differences, $p<0.05$). As for occupation, unemployed women or homemakers presented higher scores in the practices dimension ($p<0.001$). Venezuelan and Afro-Colombian women reported lower scores in the psychosocial dimension compared to their reference groups included in this study, with statistically significant differences ($p<0.05$).

Multivariate analysis by linear regression showcased the potential factors explaining the dimension of the questionnaire that were significantly associated (Table 6). For the psychosocial dimension, women in medium and high socioeconomic strata and Venezuelans were negatively associated (decreasing the score). In the case of oral health knowledge, a positive association was found for women aged 27 years and older (increasing the score). For oral health practices, women not actively employed, and multigravida were positively associated, while women with technical and higher education were negatively associated. Finally, when analyzing the combined dimensions for oral health knowledge and practices, the variables positively associated were age and occupation, while for all three dimensions combined (psychosocial, knowledge, and practices), age was positively associated.

Table 4. General characteristics of the study participants. Santander, Colombia (n=269).

Variables	n	%
Sociodemographic		
Age*		
Median (IQR; Min- Max)	26	9; 14-49
Age categorized		
14- 26	143	53.1
27- 35	90	33.5
36 and more	36	13.4
Marital status		
Single	48	17.8
Married	57	21.2
Unmarried partner	158	58.7
Other	6	2.2
Education		
≤ Primary	29	10.8
Secondary	136	50.6
Technical- Technological	75	27.9
University	29	10.8
Number of children		
0 (Primigravida)	100	37.2
One	108	40.1
Two and more	61	22.7
Occupation		
Employed	49	18.2
Unemployed	16	5.9
Housewife	119	44.2
Independent	59	21.9
Student	26	9.7
Socioeconomic stratum		
Low (1-2)	210	78.1
Medium (3-4)	56	20.8
High (5- 6)	3	1.1
Origin Country		
Colombia	235	87.4
Venezuela	34	12.6
Ethnicity		
No	262	97.4
Afro-Colombians	5	1.9
Indigenous	2	0.7
Knowledge and practices in oral health Median (IQR; Min- Max)*		
Psychosocial** (score)- 7 items***	7	1; 0- 7
Knowledge (score)- 13 items***	9	4; 1- 13
Practices (score)- 11 items***	6	3; 1- 10
Knowledge and practices (score)- 24 items***	15	5; 3- 23
All dimensions- 31 items***	21	4; 4- 30
All	**269**	**100.0**

* Normality tests were carried out for the quantitative study variables. ** Psychosocial items refer to attitudes/opinions about oral health. *** The scores are based on the number of positive (D), correct (K) or adequate responses for each dimension.

Table 5. Bivariate comparisons between the scores for the knowledge and practices in oral health and the independent variables. Santander, Colombia (n=269).

Variables	Knowledge and practices in oral health									
	Psychosocial (score)		Knowledge (score)		Practices (score)		Knowledge and practices (score)		All dimensions	
	Median (IQR)	p-value*	Median (IQR)	p-value*	Median (IQR)	p-value*	Median (IQR)	p-value*	Median (IQR)	p-value*
Age categorized										
14- 26	7 (1)	0.061	9 (3)	0.041	5 (3)	<0.001	14 (4)	0.008	21 (5)	0.007
27- 35	7 (1)		9 (3)		7 (3)		16 (5)		22 (4)	
36 and more	7 (0)		10 (4)		4 (3)		15 (4)		21 (4)	
Marital status										
Single	7 (1)	0.279	9 (3)	0.699	6 (2)	0.023	14 (5)	0.587	21 (4)	0.331
Married	7 (0)		10 (4)		5 (4)		14 (4)		21 (4)	
Unmarried partner	7 (1)		9 (4)		6 (2)		15 (4)		21 (4)	
Other	7 (1)		10 (7)		5 (2)		14 (6)		20 (5)	
Education										
≤ Primary	6 (2)	0.002	9 (4)	0.065	6 (3)	<0.001	14 (5)	0.775	20 (5)	0.860
Secondary	7 (1)		9 (4)		6 (3)		15 (4)		21 (4)	
Technical- Technological	7 (1)		10 (3)		5 (3)		15 (5)		21 (6)	
University	7 (0)		10 (4)		4 (3)		14 (3)		21 (3)	
Number of children										
0 (Primigravida)	7 (1)	0.660	9 (4)	0.867	5 (3)	0.072	15 (4)	0.261	21 (5)	0.299
One	7 (1)		9 (4)		6 (4)		14 (5)		21 (4)	
Two and more	7 (1)		9 (4)		6 (3)		15 (4)		21 (4)	
Occupation										
Employed	7 (1)	0.508	10 (2)	0.245	5 (3)	<0.001	14 (4)	0.294	21 (4)	0.0498
Unemployed	6 (1)		9 (4)		7 (3)		15 (7)		22 (8)	
Housewife	7 (1)		9 (4)		6 (3)		15 (4)		21 (4)	
Independent	7 (1)		9 (4)		5 (3)		15 (4)		21 (4)	
Student	7 (1)		9 (4)		5 (2)		15 (5)		22 (6)	
Socioeconomic stratum										
Low (1-2)	7 (1)	0.267	9 (3)	0.264	6 (5)	0.001	15 (4)	0.568	21 (4)	0.437
Medium (3-4)	7 (2)		10 (3)		5 (3)		15 (4)		21 (6)	
High (5- 6)	5 (--)		8 (--)		4 (--)		14 (--)		21 (--)	
Origin Country										
Colombia	7 (1)	0.013	9 (4)	0.224	6 (3)	0.419	15 (4)	0.714	21 (4)	0.411
Venezuela	6 (2)		8 (3)		6 (2)		15 (4)		21 (5)	
Ethnicity										
No	7 (1)	0.015	9 (4)	0.991	6 (3)	0.056	15 (5)	0.372	21 (4)	0.118
Afro-Colombians	6 (2)		10 (7)		5 (1)		15 (7)		19 (6)	
Indigenous	---		9 (--)		9 (--)		18 (--)		25 (--)	

* No parametric tests were used: Mann-Whitney U test for dichotomous variables, Kruskal-Wallis test for polychotomous variables.

Table 6. Lineal regression models for the scores of the scores for the knowledge and practices in oral health and the independent variables. Santander, Colombia (n=269).

Knowledge and practices in oral health	Variables included in the lineal regression model*	Type of association**	Non-standardized Regression Coefficient	Standardized Regression Coefficient	p-value	Determination Coefficient	F-value	p-value (Model)	Durbin-Watson statistic
	Socioeconomic stratum (Medium-High)	Negative	-0.393	-0.143	0.019				
Psychosocial (score)						4.1	5.659	0.004	1.889
	Origin Country (Venezuela)	Negative	-0.445	-0.130	0.032				
Knowledge (score)	Age categorized (27 and more)	Positive	0.728	0.140	0.022	1.9	5.300	0.022	2.181
Practices (score)	Occupation (Non-active)	Positive	0.895	0.211	0.001	11.8	11.849	<0.001	1.956
	Number of children (Multigravida)	Positive	0.710	0.165	0.005				
	Education (Technical or higher studies)	Negative	-0.710	-0.169	0.008				
	Age categorized (27 and more)	Positive	1.198	0.171	0.006				
Knowledge and practices (score)						3.5	4.886	0.008	2.032
	Occupation (Non-active)	Positive	0.938	0.132	0.035				
All dimensions	Age categorized (27 and more)	Positive	1.228	0.155	0.011	2.4	6.556	0.011	1.998

* Method for the multivariate lineal regression: Listwise. ** A positive association indicates that the presence of the variable under consideration is related to an increase in the score of the analyzed dimension, whereas a negative association indicates that the presence of that variable is related to a decrease in the score of the corresponding dimension.

DISCUSSION

The main findings of this study provide insight into the level of knowledge and practices among pregnant women regarding their children's oral health, highlighting the influence of sociodemographic and occupational variables-some of which showed stronger and statistically significant associations. Additionally, psychosocial variables related to attitudes, perceptions, and the mother-child bond also emerged as relevant factors influenced by various conditions. The item-level analysis within each dimension revealed specific differences pointing to areas requiring greater effort and attention from healthcare personnel, particularly in developing educational and health promotion strategies. To the best of our knowledge, this is one of the few studies in Colombia specifically focused on evaluating pregnant women's knowledge and practices concerning their children's oral health.

When correlating oral health knowledge with the age of pregnant women, a positive association (higher scores) among those over the age of 27 (statistically significant). This value suggests that older participants demonstrated higher levels of knowledge, which may be attributed to empirical knowledge acquired from their environment, which does not necessarily stem from their own pregnancy experiences. These findings are consistent with a study in Saudi Arabia, which shows that oral health knowledge scores increase with the participants' age (16). Another study in Mexico indicated that younger women, especially those

aged 20-29 years, had regular knowledge of oral health (31).

The study results revealed an inverse relationship between socioeconomic status and psychosocial aspects, specifically attitudes related to oral health. This association appears mediated by the strength of the mother-child bond, which influences beliefs, opinions, and behaviors concerning oral health within the mother-child dyad. In other words, higher socioeconomic status was associated with a weaker mother-child bond. This finding may be related to the challenges of balancing professional and family life, as increased work demands may demand delegation of caregiving and hygiene responsibilities. A qualitative study among middle-class professional women reported that not all of them define motherhood as the central aspect of their lives, and their narratives regarding career decisions are often interwoven with their experiences of motherhood (32).

Occupation emerged as a variable that significantly influences the practices of pregnant women regarding their children's oral health. Notably, homemakers demonstrated the most favorable practices; in the multivariate analysis, the regression coefficient indicated an increased score for appropriate oral health practices. In this study population, such practices were related to breastfeeding, feeding habits, bottle use, and the cleaning of oral structures before the child's first year of life. Regarding breastfeeding as a protective practice for overall health, it may become more difficult to sustain when the mother lacks optimal working conditions or is employed in the informal sector. Research has shown that the work environment can be a determining factor in the early cessation of exclusive breastfeeding, often replaced with formula or complementary foods (33). There is a need for further research on occupational factors that may be associated with oral health practices among pregnant women, both concerning their own health and that of their children.

Our study found that with a greater number of children are more likely to demonstrate adequate oral health practices, which may be explained by the cumulative learning and experience acquired from previous pregnancies his interpretation is consistent with evidence from other studies, suggesting that multiparous mothers generally possess higher levels of knowledge and more refined parenting practices, including behaviors that positively influence infants' oral hygiene (34).

Early childhood care is influenced by the mother's level of education and employment status. This study found that higher educational attainment is associated with better knowledge and practices; however, these variables are also conditioned by socioeconomic status and unemployment, which ultimately affect the amount of time a mother can dedicate to childcare. In this context, one potential strategy to improve these conditions is women's integration into the labor force. However, this move often places young children in public institutions that assume responsibility for early caregiving practices (35).

Bivariate and multivariate analyses revealed that one of the variables influencing the psychosocial dimension was the country of origin. This variable was negatively associated with Venezuelan pregnant women, suggesting a weaker mother-child bond and, consequently, less favorable attitudes toward their children's oral health, as reflected in the questionnaire responses for this dimension. Potential explanations for these findings are related to the social determinants associated with the migration process and the conditions in the host country, which can significantly impact both general and oral health in migrant populations-particularly within South-South migration contexts (36).

A qualitative study of 29 Brazilian migrant women in the United States identified several barriers to maintaining optimal oral hygiene in their

children, which were related to time constraints, the level of parental dedication, and certain cultural factors and contextual limitations within the host country's healthcare system (37). An earlier study in Taiwan similarly found that immigrant mothers exhibited lower levels of caries-related knowledge, attitudes, and oral health behaviors compared to native mothers (38). In contrast, another study focused on exploring the health beliefs of immigrant and Taiwanese mothers regarding their children's dental caries status using the Health Belief Model (39). This study employed a structural equation model to explain how maternal oral health knowledge, beliefs, and care behaviors influence children's dental caries outcomes. The results showed that nationality-specifically being Taiwanese, Chinese, or from another country-was significantly associated with oral health knowledge, but not with oral health beliefs or self-efficacy.

It is important to acknowledge the strengths and limitations of this study, considering both conceptual and methodological aspects. This research significantly contributes to the understanding of maternal knowledge and practices related to their children's oral health. A substantial portion of the existing literature focuses on mothers' knowledge, allowing for meaningful progress in health education strategies targeting the mother-child dyad. From a methodological perspective, the data collection instruments were reviewed by subject-matter experts grounded in current scientific literature and tested through a pilot study to ensure clarity and relevance.

However, the results should be interpreted with caution, considering the characteristics of the study design. While generalizability to the broader population is not a primary aim, the study's cross-sectional nature limits such inferences. Moreover, the dimensions assessed through the data collection instrument-and their corresponding variables-are highly sensitive to internal and external circumstances and therefore subject to change. From this perspective, it is reasonable to assume that maternal knowledge and practices may vary over time. Additionally, self-report instruments, while valuable for capturing participants' perspectives and moving beyond the traditional biomedical paradigm of health and disease, are inherently subject to bias. Participants may consciously or unconsciously omit or alter responses, potentially leading to an underestimation of certain findings. Finally, the response and participation rates depended on the women's attendance and motivation to engage in the maternity-related courses offered at the participating healthcare institutions. This factor may have influenced the profile of the women included in the study and introduced a selection bias.

Accepting the aforementioned limitations. This study contributes to health education research by highlighting maternal knowledge and practices related to children's oral health, while underscoring the need to integrate oral health promotion into interdisciplinary prenatal care strategies that address mothers' social realities and educational needs. In addition, this research represents a valuable foundation for developing new research initiatives-particularly those employing qualitative approaches-to explore mothers' perceptions and opinions regarding oral health knowledge, beliefs, and practices, which are closely linked to their children's oral health. Furthermore, this study will be followed by subsequent phases aimed at evaluating an educational program and its influence on improving maternal knowledge and practices related to both general and oral health in infants. These future phases will incorporate clinical evaluations by pediatric dentists from birth to the first year of life. The implementation of intervention studies using mixed-methods research tools offers a promising framework for capturing social realities and transforming them through a lens focused on social determinants of health and the pursuit of equity. The implementation of this project will provide essential evidence to inform

and strengthen the design of local and national oral health promotion strategies for pregnant women and their children.

This study should continue to align with the guidelines established by Resolution 3280 of 2018 from Colombia's Ministry of Health, which outlines the technical and operational framework for the Comprehensive Health Care Routes (RIAS, acronym in Spanish) (40). These routes are part of the national strategy to ensure integrated and person-centered health services across the life course, particularly concerning maternal and child health. In this strategy, oral health should be included with promotion, prevention, and rehabilitation activities, integrating interdisciplinary and interprofessional aspects. Considering the characteristics of this study, its analytical methods, data collection instruments, and results, it could be useful for other countries to examine its alignment with current policies and regulations on oral health promotion, while the social and cultural realities specific to each geographical context should be taken into account.

CONCLUSION

This study highlights the influence of sociodemographic variables on maternal knowledge, practices, and psychosocial outcomes related to children's oral health. Higher maternal age was positively associated with better knowledge, while being unemployed and multigravida were linked to more favorable practices. Conversely, higher education levels were unexpectedly associated with lower practice scores. Belonging to middle or high socioeconomic strata and being Venezuelan were related to poorer psychosocial outcomes, suggesting the need for targeted strategies that consider both social and cultural contexts. This data could be attributable to learning acquired through personal or family experience, which shapes caregiving practices. Women not engaged in formal employment may have more time to dedicate to their children, although caregiving responsibilities can also be assumed by third parties such as public or private childcare institutions. These findings emphasize the importance of tailoring health promotion and disease prevention interventions to the realities of specific maternal populations.

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REFERENCES

1. Abanto J., Oliveira L.B., Paiva S.M., Guarnizo-Herreño C., Sampaio F.C., Bönecker M. Impact of the first thousand days of life on dental caries through the life course: a transdisciplinary approach. Braz Oral Res. 2022; 36: e113.
2. Guevara-Lagos P.C., Mueses-Cuasquer L.M., Mueses-Yandun R.F., Corchuelo-Ojeda J., Gutiérrez B. Conocimientos y actitudes frente a la salud bucodental de la primera infancia: La visión de los médicos, enfermeras y pediatras. Duazary. 2024; 21 (1): 62-8.
3. Chalvatzoglou E., Anagnostou F., Arapostathis K., Boka V., Arhakis A. Assessment of Young Mothers' Oral Hygiene Practices during Pregnancy and Their Knowledge of Children's Oral Health in Northern Greece. J Contemp Dent Pract. 2023; 24 (3): 202-6.
4. Corchuelo Ojeda J., Soto Llanos L., Villavicencio J. Situación de caries, gingivitis e higiene oral en gestantes y no gestantes en hospitales del Valle del Cauca, Colombia. Univ Salud. 2017; 19 (1): 67-74.
5. Tenenbaum A., Azogui-Levy S. Oral Health Knowledge, Attitudes, Practices, and Literacy of Pregnant Women: A Scoping Review. Oral Health Prev Dent. 2023; 21: 185-98.
6. Corchuelo-Ojeda J., González Pérez G.J., Casas-Arcila A. Factors Associated With Self-Perception in Oral Health of Pregnant Women. Health Educ Behav. 2022; 49 (3): 516-24.
7. Rengifo Reina H.A., Muñoz Ordóñez L.M. Creencias, conocimientos y prácticas de madres respecto a la salud bucal en Popayán, Colombia. Universitas Odontologica. 2019; 38 (80).
8. Abanto J., Diaz Cárdenas S., Veloso Duran A., Garza M., Reis Brigato V., Guinot F. Association between socioeconomic factors, attitudes and beliefs regarding the primary dentition and caries in children aged 1-5 years of Brazilian and Colombian parents. Eur J Paediatr Dent. 2024; 25 (4): 258-65.
9. Heller L.S., Pithavadian R., Micheal S., Chandio N., Sanagavarapu P., Parmar J., et al. Parental perceptions of an oral health promotion program in early childhood education and care settings: A qualitative study. J Public Health Dent. 2024; 84 (4): 407-19.
10. World Health Organization. Global oral health status report: towards universal health coverage for oral health by 2030. Geneva: World Health Organization; 2022.
11. Uribe S.E., Innes N., Maldupa I. The global prevalence of early childhood caries: A systematic review with meta-analysis using the WHO diagnostic criteria. Int J Paediatr Dent. 2021; 31 (6): 817-30.
12. Ministerio de Salud y Protección Social (Colombia). IV Estudio Nacional de Salud Bucal. ENSAB IV: Para saber cómo estamos y saber qué hacemos. Bogotá (Colombia): Ministerio de Salud y Protección Social 2013-2014.
13. Sampaio F.C., Bönecker M., Paiva S.M., Martignon S., Ricomini Filho A.P., Pozos-Guillen A., et al. Dental caries prevalence, prospects, and challenges for Latin America and Caribbean countries: a summary and final recommendations from a Regional

Consensus. Braz Oral Res. 2021; 35 (suppl 01): e056.
14. Frey-Furtado L., Fonseca M., Melo P., Listl S., Pereira M.L. Oral healthcare access: self-perceived barriers faced during pregnancy - a systematic review. BMC Public Health. 2025; 25 (1): 1394.
15. Williams T.M., Babalola A.E., Bolarinwa O., Somoye V.A., Azeez O.A., Onasanya O.J., et al. Oral health knowledge, perceptions and attitudes of pregnant women in Sub-Saharan Africa: a systematic review. BMC Oral Health. 2025; 25 (1): 937.
16. Hebbal M., AlSagob E.I., Kotha S.L., Santhosh V.N., Kumar R.S,. Mertins S., et al. Oral health-related knowledge, practice, and utilization of dental services among pregnant women in Riyadh, Saudi Arabia. PLoS One. 2025; 20 (4): e0319508.
17. Çabuk A., Çabuk D.S., Üstdal K., Sucu M., Akpinar E. Oral Health Literacy Status, Knowledge Levels, Beliefs, and Behaviors of Pregnant Women. Niger J Clin Pract. 2024; 27 (8): 977-82.
18. Velosa-Porras J., Rodríguez Malagón N. Perceptions, knowledge, and practices related to oral health in a group of pregnant women: A qualitative study. Clin Exp Dent Res. 2024;10 (1): e823.
19. Cagetti M.G., Salerno C., Ionescu A.C., La Rocca S., Camoni N., Cirio S., et al. Knowledge and attitudes on oral health of women during pregnancy and their children: an online survey. BMC Oral Health. 2024; 24 (1): 85.
20. von Elm E., Altman D.G., Egger M., Pocock S.J., Gøtzsche P.C., Vandenbroucke J.P. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. J Clin Epidemiol. 2008; 61 (4): 344-9.
21. Zarei F., Dehghani A., Ratansiri A., Ghaffari M., Raina S.K., Halimi A., et al. ChecKAP: A Checklist for Reporting a Knowledge, Attitude, and Practice (KAP) Study. Asian Pac J Cancer Prev. 2024; 25 (7): 2573-7.
22. General Assembly of the World Medical A. World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. J Am Coll Dent. 2014; 81 (3): 14-8.
23. Ministerio de Salud- Ministry of Health (Colombia). Resolución nº 008430 de 1993 (4 de octubre de 1993). Por la cual se establecen las normas científicas, técnicas y administrativas para la investigación en salud [Resolution No. 008430 of 1993 (October 4, 1993). By which the scientific, technical, and administrative standards for health research are established]. Bogotá (Colombia): Ministerio de Salud [Ministry of Health]; 1993.
24. Council for International Organizations of Medical Sciences. International Ethical Guidelines for Health-Related Research Involving Humans. Geneva, Switzerland: Council for International Organizations of Medical Sciences (CIOMS) in collaboration with the World Health Organization (WHO); 2016 January 16, 2025.
25. Alyousef A.M., Almehrej B.A., Alshahrani M.A., Almutairi K.M., Alqasir M.A., Alassaf A., et al. Arabian Parents' Knowledge, Attitude and Practice towards their Children's Oral Health and Early Childhood Caries Resided in Riyadh Province: An Online-Based Cross-Sectional Survey. Ann Med Health Sci Res. 2021; 11 (S2): 73-81.
26. Alshehri A., Nasim V.S. Infant oral health care knowledge and awareness among parents in Abha city of Aseer Region, Saudi Arabia. Saudi J Dent Res. 2015; 6 (2): 98-101.
27. BenGhasheer H.F., Saub R. Oral health knowledge, attitude, practice, perceptions and barriers to dental care among Libyan parents. J Oral Res. 2022; 11 (1): 1-14.
28. Desai J., Varkey I.M., Lad D., Ghule K.D., Mathew R., Gomes S. Knowledge and Attitude about Infant Oral Health: A Paradox

among Pregnant Women. J Contemp Dent Pract. 2022; 23 (1): 89-94.
29. Hamasha A.A.H., Rasheed S.J., Aldosari M.M., Rajion Z. Parents Knowledge and Awareness of their Children's Oral Health in Riyadh, Saudi Arabia. Open Dent J. 2019; 13: 236-41.
30. Nassar A.A., Fatani B.A., Almobarak O.T., Alotaibi S.I., Alhazmi R.A., Marghalani A.A. Knowledge, Attitude, and Behavior of Parents Regarding Early Childhood Caries Prevention of Preschool Children in Western Region of Saudi Arabia: A Cross-Sectional Study. Dent J (Basel). 2022; 10 (12).
31. Luengo Fereira J.A., Toscano García I., Carlos Medrano L.E., Anaya Álvarez M. Conocimientos sobre salud bucal en un grupo de gestantes mexicanas. Acta universitaria. 2018; 28 (3): 65-71.
32. Arteaga Aguirre C., Abarca Ferrando M., Pozo Cifuentes M., Madrid Muñoz G. Identidad, maternidad y trabajo. Un estudio entre clases sociales en Chile. Revista de Ciencias Sociales. 2021; 34 (48): 155-73.
33. Asimaki E., Dagla M., Sarantaki A., Iliadou M. Main Biopsychosocial Factors Influencing Breastfeeding: a Systematic Review. Maedica (Bucur). 2022; 17 (4): 955-62.
34. Kharouba J., Mansour S., Ratson T., Naishlos S., Weissman G., Blumer S. Knowledge of Breastfeeding Mothers Regarding Caries Prevention in Toddlers. Children (Basel). 2023; 10 (1).
35. Rousseau S., Cavagnoud R., Espinosa Anaya N. Cuidado infantil, género y política pública en los barrios marginales de Lima, Perú. Revista de Estudios Sociales. 2025 (92): 77-92.
36. Murillo-Pedrozo A.M., Agudelo-Suárez A.A. [South-South migration as a social determinant of impact on oral health inequalities and inequities in Latin America]. Rev Peru Med Exp Salud Publica. 2019; 36 (4): 692-9.
37. Nogueira D.L., Miranda Fontenele M.G., Bento A., Cohen S.A., Greaney M.L., Lindsay A.C. Exploring Brazilian Immigrant Mothers' Beliefs and Practices Regarding Their Preschool Children's Oral Health: A Qualitative Study Conducted in the United States. Int J Environ Res Public Health. 2024; 21 (12).
38. Chen C.C., Chiou S.J., Ting C.C., Lin Y.C., Hsu C.C., Chen F.L., et al. Immigrant-native differences in caries-related knowledge, attitude, and oral health behaviors: a cross-sectional study in Taiwan. BMC Oral Health. 2014; 14: 3.
39. Lo Y.Y., Lee P.L., Kuo H.W. Effects of mothers' health beliefs on the dental status of schoolchildren in Taiwanese and immigrant women. BMC Oral Health. 2025; 25 (1): 875.
40. Ministerio de Salud- Ministry of Health (Colombia). Resolución n° 003280 de 2018 (4 de Agosto). Por la cual se adoptan los lineamientos técnicos y operativos de la Ruta Integral de Atención para la Promoción y Mantenimiento de la Salud y la Ruta Integral de Atención en Salud para la Población Materno Perinatal y se establecen las directrices para su operación [Resolution N° 003280 of 2018 (October 4th, 2028). By which the technical and operational guidelines of the Comprehensive Health Care Route for Health Promotion and Maintenance, and the Comprehensive Health Care Route for the Maternal-Perinatal Population are adopted, and the directives for their implementation are established]. Bogotá (Colombia): Ministerio de Salud [Ministry of Health]; 2018.