

How can the lack of association between mothers' knowledge and practices regarding oral health and their children's oral health status at one year of age be explained?

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Dear Editor,

The literature indicates that assessing mothers' knowledge and practices regarding oral health is essential for ensuring effective health promotion and education strategies in general (1). On the other hand, the mother-child dyad is the focus of policies and interventions because this relationship promotes behaviors that may prevent chronic noncommunicable diseases, such as dental caries (2).

From this perspective, an educational strategy was implemented within the Prenatal Care Program at Hospital de Girón-Santander, in eastern Colombia, in an area bordering Venezuela. Using qualitative and quantitative tools, the outcomes of this strategy were evaluated to identify the relationship between mothers' level of knowledge and practices regarding oral health and their children's oral health at one year of age. The study began during pregnancy with a sample of 58 mother-child dyads and concluded with an assessment of the children's oral health at one year of age.

This strategy, entitled "In Tune: Mother and Child, a Bond of Love," ("En sintonía: madre e hij@, un lazo de amor" in Spanish) was implemented based on the identification of mothers' knowledge and practices regarding oral health. These were collected through interviews, participant observation, and the identification of communication and educational barriers. Five thematic areas were also addressed: 1) meanings attributed to the mouth and oral health; 2) maternal nutrition during pregnancy; 3) breastfeeding, considered a meaningful practice for mothers; 4) infant oral hygiene; and 5) caregiving practices related to complementary feeding and maxillary development. These topics were addressed using digital materials shared via WhatsApp and reinforced through in-person activities. Additionally, two dental examinations were performed on the participating mothers' children, at 6 and 12 months of age.

Mothers' knowledge and practices were assessed using an instrument validated for this project, which was initially tested in an analytical cross-sectional study. The questionnaire included sociodemographic variables and psychosocial, knowledge, and oral health practice dimensions (3). Subsequently, a

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quasi-experimental before-and-after study was conducted, from baseline (study initiation) to one year of age in the participating children. This design made it possible to assess changes in mothers' knowledge and practices after the implementation of the educational strategy (4).

To assess mothers' level of knowledge and practices regarding oral health, and based on the information obtained through the instrument (3), three score categories were established according to the responses obtained (positive or appropriate responses): low (0–59 points), good (60–79 points), and excellent (80–100 points). Subsequently, the results of the clinical examination of the children evaluated at one year of age were analyzed based on two variables: 1) oral care findings, with a frequency of 29.3%, including initial caries lesions (ICL), white tongue, and extrinsic iron staining; and 2) presence of ICL, with a prevalence of 19.0%.

To explore the association between mothers' oral care knowledge and practices and their children's oral health status at one year of age, tables were created to compare the mothers' scores on the questionnaire administered after implementation of the educational strategy with the presence of oral care findings and ICL in children. Nonparametric Mann–Whitney U tests were used for the analysis.

Subsequently, 2x2 contingency tables were created according to knowledge level (excellent: yes/no) and the presence or absence of clinical variables in the children, using chi-square statistical tests (Fisher's exact test). The results showed no statistically significant association between the maternal dimensions analyzed, either individually or collectively, and the children's oral health status (Tables 1 and 2). Nevertheless, the educational strategy itself had a positive effect on improving mothers' knowledge and practices regarding their children's oral health (4).

To explain the lack of association between the two variables, it is important to emphasize some considerations. This project was framed within a positive oral health approach; therefore, the goal was to maintain or achieve an excellent level of knowledge and practices after the implementation of the strategy, as well as a low prevalence of ICL. Other behavioral, social, and environmental variables that may determine the presence of ICL should also be considered (4). Furthermore, the follow-up period was too short to detect significant changes. Finally, the prevalence of ICL found at one year of age was low (19.0%) compared with the results reported by the Fourth National Oral Health Study (ENSAB IV) in Colombia, in which this condition was observed in 33.1% of boys and 25.3% of girls (5).

Overall, the results demonstrate the need to continue implementing educational strategies with longer follow-up periods in the pediatric population, involving other stakeholders and translating these efforts into health programs based on a life-course perspective (6). Early identification of caries lesions should also be considered, as this is a preventable condition through regular dental visits beginning at six months of age.

Table 1. Comparison of mothers' oral health knowledge and practice scores with the child's oral health clinical examination at one year of age.

Dimensions	Care finding				p-value*	Initial dental caries lesions				p-value*
	No		Yes			No		Yes		
	Me	IQR	Me	IQR		Me	IQR	Me	IQR	
Psychosocial	100.0	14.3	100.0	14.3	0.769	100.0	14.3	85.7	14.3	0.578
Knowledge	92.3	23.1	92.3	7.7	0.706	92.3	23.1	92.3	7.7	0.684
Practices	90.9	27.3	90.9	9.1	0.854	81.8	18.2	90.9	18.2	0.262
Psychosocial and knowledge	91.7	20.8	87.5	12.5	0.883	87.5	20.8	91.7	16.6	0.428
Psychosocial, knowledge, and practices	90.3	16.1	87.1	9.6	1.000	90.3	14.6	90.3	9.6	0.624

Me: median; IQR: interquartile range.

* Mann–Whitney U test.

Table 2. Comparison of mothers' oral health knowledge and practice levels with the child's oral health clinical examination at one year of age.

Dimensions	Care finding				p-value*	Initial dental caries lesions				p-value*
	No		Yes			No		Yes		
	n	%	n	%		n	%	n	%	
Psychosocial										
Not excellent	1	50.0	1	50.0	0.504	2	100.0	0	0.0	1.000
Excellent	40	71.4	16	28.6		45	80.4	11	19.6	
Knowledge										
Not excellent	13	76.5	4	23.5	0.753	15	88.2	2	11.8	0.480
Excellent	28	68.3	13	31.7		32	78.0	9	22.0	
Practices										
Not excellent	13	76.5	4	23.5	0.753	15	88.2	2	11.8	0.480
Excellent	28	68.3	13	31.7		32	78.0	9	22.0	
Psychosocial and knowledge										
Not excellent	17	73.9	6	26.1	0.772	19	82.6	4	17.4	1.000
Excellent	24	68.6	11	3.4		28	80.0	7	20.0	
Psychosocial, knowledge, and practices										
Not excellent	10	90.9	1	9.1	0.148	11	100.0	0	0.0	0.102
Excellent	31	66.0	16	34.0		36	76.6	11	23.4	

* Chi-square test (Fisher's exact test).

Conflict of interest:

The authors declare no conflict of interest.

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