

Knowledge and attitude of health-network physicians toward pediatric oral health in Tehran in 2016

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Objective Previous studies have shown the lack of oral health content in medical school programs. The aim of our study is to investigate knowledge and attitude of pediatric oral health care among public health physicians in non-affluent areas in 2016.

Methods Our sample was public health physicians in non-affluent areas of Tehran ($n = 107$) and the data collection tool was a self-administered questionnaire. Knowledge and attitude toward pediatric oral health, tendency and perceived necessity to gain oral health information, demographic characteristics and practice background were sections of our questionnaire.

Results The response rate was 79%. Knowledge scores of 19.5% and attitude scores of 45.3% of the participants were in the highest quartile while the correspondent highest quartile scores for the necessity and tendency of gaining oral health information were 74.1 and 13%, respectively. Those with more knowledge of pediatric oral health, feeling more necessity and reporting more tendency to gain oral health information were more likely to have positive attitude toward pediatric oral health.

Conclusion The irrefutable lack of pediatric oral health care knowledge was seen among public health physicians of non-affluent areas of Tehran. If an understanding of preventive care in children become more relevant among public health physicians, they will show better dental health.

Keywords attitude, health-network, knowledge, pediatric oral health, physician

Introduction

Children's oral health is still a major public health concern. Oral health problems in childhood can cause such problems as severe pain and discomfort, and if not controlled, lead to more serious consequences, such as malnutrition and mental health problems.^{1,2}

The American Academy of Pediatric Dentistry (AAPD) has recommended that the first dental visit occur within 6 months of the eruption of the first tooth and no later than 12 months of age,² but the American Academy of Pediatrics (AAP) previously recommended the first dental visit by age three. However, the guideline was changed in 2003 to establish a dental home visit by age one for children with caries risk.³ These discrepancies resulted in variation in the practices of family practice physicians, pediatricians, general dentists and pediatric dentists. Anyway, pediatric oral health care should be addressed by a multi-professional approach and sharing the responsibilities for the target population.^{4,5}

An effective strategy can be integrating pediatric oral health advices into general health messages in public health care systems and implementation of a common risk factor approach.⁶ On the other hand, this approach will benefit non-affluent people who commonly get their health needs from public sector. For this strategy, training physicians in pediatric oral health is of great importance.⁷

Nevertheless, previous studies have shown the lack of oral health content in medical school programs and residency curricula in many countries.^{8,9} Moreover, physicians have reported to have insufficient information on oral health care.^{3,4,8-14}

Therefore, the aim of our study is to investigate knowledge and attitude of pediatric oral health care among public health networks' physicians in non-affluent areas of Tehran, as well as their self-perceived need to gain oral health information.

Materials and Methods

Sampling

The study population was a sample of general practitioners ($n = 107$) working in primary health centers in non-affluent areas of Tehran, which were selected by census sampling method.

Questionnaire and Variables

The data collection tool was a self-administered anonymous questionnaire, content validity and reliability of which had been evaluated in former studies.^{15,16} The questionnaire requested information on demographic characteristics (age, gender), as well as the following items:

Practice Background

Practice background questions comprised years of practical experience, practice type (private or public), weekly hours of clinical practice and number of daily patients' visits.

Knowledge and Attitude toward Pediatric Oral Health

Knowledge part contained four multiple choice questions and 10 five-item Likert scale questions, which were ranged from strongly agree to strongly disagree, and were scored from 1 to 5.

By summing the scores, the final scores, with the range of 0–14 were calculated and sub-grouped into quartiles for knowledge. Respondents with a final score in the highest quartile were considered as those with high knowledge.

Questions included the timing of primary and permanent tooth eruption, the time/age to begin tooth cleaning and brushing for children and use of fluoride (toothpaste and sealant) for them, transmission of the bacteria that causes dental

decay, the effects of pacifier sucking and mouth breathing, and the advantages of sealant therapy.

In attitude part, there were seven five-item Likert scale questions, which ranged from strongly agree to strongly disagree and scored from 1 to 5. Calculating final scores, with the range of 0–40, and setting quartiles were done as explained above.

Questions included physicians' opinions about oral health care and enquired preventability of dental caries and periodontitis, the duty of physicians about examining children's oral cavity, effectiveness of routine dental visits in preventing dental disease, importance of physicians' role in preventing oral diseases, association of oral health problems and general health problems, and tendency to implement preventive oral health activities.

Tendency and Necessity to Gain Oral Health Information

Physicians' opinion about "tendency" and "necessity" to gain oral health care information was measured in the questionnaire by three multiple choice questions.

Tendency to gain oral health information among physicians was assessed through a five-point Likert scale question which was scored from 0 (not intended) to 4 (highly intended). Necessity to gain oral health information was assessed by two questions, each scored from 1 to 5. The necessity score was calculated by summing up the scores of these two questions, ranging from 1 to 10.

Statistical Analysis

All numerical data were entered and analyzed using the Statistical Package for Social Sciences (SPSS version 21). Initial descriptive statistics were frequency, mean and standard deviation. Chi-square test served to assess the statistical significance of differences in frequencies between subgroups. Also, logistic regression models were fitted to the data to assess the association of outcome measures with interpretive factors and to compute odds ratios (OR) and 95% confidence intervals (CI).

Ethical Considerations

The study was considered by research ethic committee in Tehran University of Medical Sciences (TUMS). The questionnaires were anonymous. There was no obligation to participate in the study.

Results

Background

From 107 physicians, 85 returned the questionnaire and the overall response rate was 79%. The mean age of the physicians was 41.5 (STD = 7.8, range 27–61), 64 (75.3%) were female and 67 (79%) just worked in public health sector (Table 1).

Knowledge and Attitude Toward Pediatric Oral Health

A great majority (89.2%) of participants identified dental plaque as the strongest predictor of dental caries in future and 87.1% of them mentioned fluoride as caries-preventive component of tooth-pastes. However, just 10.6% agreed that pacifier sucking in children under 4-years old is not a risk factor for maxillofacial anomalies; and one third (32%) identified transmission of the

bacteria from mother to child as a cause of tooth decay. The mean knowledge score was 7.8 (STD = 1.9, range: 3–12). Knowledge scores of 19.5% of the participants were in the highest quartile.

Regarding attitude, the highest mean score (4.69) referred to the statement "Prevention is more important than other activities"; and the lowest mean score (3.69) referred to the statement "As physician I would like to implement preventive oral health activities." The mean attitude score was 32.47 (STD = 5.6, range: 10–40). Attitude scores of 45.3% of the participants were in the highest quartile. Figure 1 shows the percentages of respondents with favorable answers to attitude questions.

As it can be seen in Table 2, older physicians were more likely to acquire an attitude score in the highest quartile ($P = 0.015$).

Tendency and Necessity to Gain Oral Health Information

The mean of tendency scores was 2.52 (STD = 0.9, range: 0–4) and the mean of necessity scores was 8.11 (STD = 1.08, range: 5–10). The correspondent highest quartile scores for the necessity and tendency of gaining oral health information were 74.1 and 13% respectively.

Table 3 shows attitude and knowledge status of respondents according to their tendency and necessity to gain oral health information.

Table 4 shows factors associated with attitude of respondents though a logistic regression model.

Table 1. Characteristics of non-affluent health networks' physicians of Tehran ($n = 85$)

		N ^a (%)
Gender	Male	21 (24.7)
	Female	64 (75.3)
Working sector	Public (only)	67 (78.8)
	Public and private	17 (20)
Working experience (years)	0–5	21 (24.7)
	6–14	26 (30.6)
	15–30	30 (35)
Age	22–36	18 (21.2)
	36–57	61 (71.8)

^aWorking sector, working experience and age had some missing. The total number of respondents was 85.

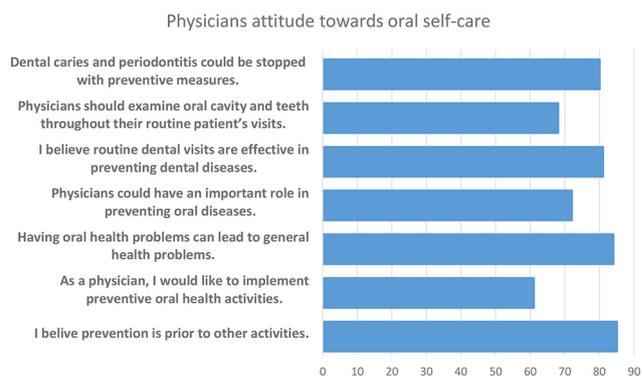


Fig 1. The percentages of respondents with favorable answers to attitude questions.

Table 2. Knowledge and attitude of non-affluent health networks' physicians of Tehran (n = 85) according to their background characteristics

	Highest knowledge score (quartile 4) N (%)	P-value*	Highest attitude score (quartile 4) N (%)	P-value*
Age				
22–36	3 (3.8)	1.00	5 (6.3)	0.015
36–57	12 (15.2)		38 (48.1)	
Gender				
Male	3 (3.5)	0.75	11 (12.9)	1.00
Female	13 (15.3)		35 (41.2)	
Working sector				
Public + private	4 (4.8)	0.73	12 (14.3)	0.095
Public only	12 (14.3)		33 (39.3)	
Working experience (years)				
0–5	5 (6.1)	0.77	8 (9.8)	0.2
6–14	4 (4.9)		14 (17.1)	
15–30	7 (8.5)		22 (26.8)	

*Chi–Chi-square test was used to evaluate statistical differences between subgroups.

Table 3. Knowledge and attitude of non-affluent health networks' physicians of Tehran (n = 85) according to their tendency and necessity to gain oral health information

	Highest knowledge score (quartile 4) N (%)	P-value*	Highest attitude score (quartile 4) N (%)	P-value*
Necessity to gain oral health information				
High (quartile 4)	12 (14)	0.92	41 (48.2)	0.001
Low (quartiles 1–3)	4 (4.7)		5 (5.9)	
Tendency to gain oral health information				
High (quartile 4)	13 (15)	0.44	9 (10.6)	0.058
Low (quartiles 1–3)	3 (3.5)		37 (43.5)	
Total (%)	16 (18.8)		46 (54.1)	

*Respondents reporting high necessity to gain oral health information were more likely to acquire an attitude score in the highest quartile ($P = 0.001$).

Table 4. Factors associated with attitude of non-influent Tehran health networks' physicians (n = 85) by a logistic regression model

	B	SE	P-value	Exp (B)	95% CI for Exp (B)	
					Lower	Upper
Age	0.082	0.108	0.445	1.086	0.879	1.341
Gender (male)	–0.904	0.776	0.244	0.405	0.088	1.853
Working sector (private and public)	–0.792	0.871	0.364	0.453	0.082	2.499
Working experience	–0.006	0.107	0.955	0.994	0.807	1.225
Knowledge	0.381	0.180	0.034	1.464	1.028	2.083
Tendency for oral health information	0.839	0.383	0.028	2.315	1.093	4.902
Necessity to get oral health information	0.856	0.347	0.014	2.354	1.192	4.648

Those with more knowledge of pediatric oral health (OR = 1.464, 95% CI: 1.028–2.083), feeling more necessity (OR = 2.35, 95% CI: 1.192–4.64) and reporting more tendency (OR = 2.31, 95% CI: 1.093–4.9) to gain oral health information were more likely to have positive attitude toward pediatric oral health.

Discussion

The present study investigates knowledge and attitude of pediatric oral health care among public health networks' physicians in non-affluent areas of Tehran. According to the results, attitude toward pediatric oral health among participants was associated to their age, their knowledge, and their motivation toward the subject.

Although, this is not the first study on health network physicians in Iran to assess their knowledge and attitudes toward oral health care, our results can provide perspectives toward the formulation of at least, pediatric oral health care programs for medical students or continuing educational programs for physicians.

Although, our relatively high response rate (79%) speaks for representativeness of the sample, our results are subject to cautious interpretation as we used self-administered questionnaire for data collection. This is due to social desirability bias.¹⁷ On the other hand, our participants were all professionals, which decreases the probability of misconceptions and errors occurring in questionnaire surveys on lay populations.¹⁸

In agreement to Rabiei et al.¹⁵ study on physicians and primary health nurses,¹⁶ the present study showed lack of knowledge in the field of pediatric oral health care among the primary care physicians working in the non-affluent health centers in Tehran, as just 19.5% of the participants were in the highest quartile of knowledge score.

Results highlighted that most of our respondents (72%) consider their role as important in preventing oral diseases among children. The corresponding percentage among nurses in Rabiei et al.¹⁵ study was 40%. On the other hand, this finding was in concurrence with that of di Giuseppe et al.¹⁶ study in Italy in which, 68% of physicians mentioned that they should examine oral cavity and teeth through their routine patients visit. In concordance to Rabiei et al.¹⁹ study, a great majority of our respondents (85%), believed that prevention is prior to treatment in pediatric dentistry.

Necessity and tendency to gain oral health information had a considerable difference among respondents (74% vs. 13%) which was similar to Rabiei et al.¹⁵ study in the field of necessity that reported majority of physicians were aware of

their lack of information on oral health and reported being willing to receive more education. Although, physicians knew about the lack of their oral health knowledge, they may think if they learn more in this field their duties will be extended.

In the present study, being older ($P = 0.015$) was in association with higher scores of oral health attitude. This may reflect changes in practice and training of physicians in Iran. Moreover, higher attitude scores among participants working just in public sector compared to the others were near to significant ($P = 0.095$). This may relate to preventive mission of public health centers and the effect of socio-economic status of referring patients. The present study was conducted in non-affluent parts of Tehran and most of their patients cannot afford private dental services which will increase physicians' exposure to oral health problems and consequently improve their attitude toward oral health. In Rabiei et al.¹⁵ study, physicians who worked in both public and private sector had better knowledge.

Moreover, higher attitude scores were connected to higher "necessity to gain information" which may be a reflection of this fact that more understanding leads to more temperament for learning.

As last tables showed, "higher knowledge", "necessity and tendency to gain oral health information" were significantly connected to higher levels of pediatric oral health attitude among physicians of our study. In Rabiei et al.¹⁵ study, attitude was connected to working area, willingness to receive information and oral health care knowledge among nurses of health networks of Tehran in 2012.

Conclusion

The irrefutable lack of pediatric oral health care knowledge was seen among health network physicians of non-affluent areas of Tehran. Beside they demonstrated positive attitude and tendency to gain oral health care information. If an understanding of preventive care in infants and children become more relevant among primary care physicians, children and adults will show better dental health.

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Conflicts of Interest Disclosure

All authors state any actual or potential conflicts of interest with regard to the present study. ■

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