

# Study of Pediatrician Knowledge Level about Children Oral/Dental Health during Residency Program between 2012 and 2014 in Medical Universities

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## Abstract

**Background:** Since dental caries is a common problem in society, community health indicators must be developed to include it. So dental care in children is very important and should be considered in the evaluation of early childhood. So, this study was conducted to evaluate pediatricians' knowledge about oral/dental problems during residency program in educational hospitals affiliated to the medical universities in Tehran, Iran.

**Methods:** In this cross-sectional descriptive study, we evaluated 205 pediatricians at residency program about their dental care knowledge for children at Tehran educational hospital by approved questionnaire. The data were analyzed through descriptive statistics and central index tests.

**Results:** 205 pediatricians in residency program were participated in this study. 67.8% was female and 32.2% was male. The average score obtained in the questionnaire was 6.51 in female group and 6.28 in male group. The difference of scores was not significant between the groups. In total, the average was 6.43 with 1.64 SD. 72.7% had moderate knowledge and 27.3% had good knowledge about children dental care.

**Conclusion:** This study showed, pediatricians' knowledge about children dental care during residency program was not appropriate. According to the key role of pediatricians in dental health, care training should be added in residency program. And also they should be trained in clinics.

**Keywords:** Pediatrician; Dental caries; Dental health; Residency program

## Introduction

Tooth decay is a common problem in human societies and the importance of this issue has made it an indicator of community health assessment, retardation, and un-development. Tooth decay is the microbial disease of the teeth calcified tissues, and the most common chronic disease among children [1]. The importance of oral and dental health is unneglectable, despite this, it is often neglected nevertheless its vital importance [2].

Oral health problems like dental caries and periodontitis are common among children. The prevalence of dental caries and gingivitis in Iranian adolescents is high [3]. If left untreated, these conditions could lead to gingival bleeding, unpleasant appearance, tooth loss, and disruption of daily activities [4]. Prevalence of dental caries, the most common pediatric dental illnesses, have increased in developing countries over the past years [5].

Children may face several oral problems that interfere with the normal function, healthiness, and generally their quality of life. The most common problems causing these issues include dental caries and periodontal diseases [6].

It is shown that providing information on dental health to both children and their guardians could substantially improve their level of knowledge on dental health. Improving the knowledge of parents could lead them to encourage their children to do teeth brush [7,8].

Conducted studies for monitoring the oral health status of preschool children in Iran indicate a high prevalence of tooth decay in the primary dental system. The study conducted by the Ministry of Health (2002) showed that the average number of cavity, filled and extracted teeth in Iranian children at the age of 3 and 6 years was 9, 1, and 5, respectively. These numbers show that Iran has a high prevalence of caries in children with 6 years of age or less. These numbers are far behind the standards of World Health Organization for controlling caries in children [9].

Even after advanced treatment plans, the decayed tooth will never return to its original and natural state and full recovery of the function to the initial and normal tissue is not possible. Because of this, prevention is basically the only correct method in preventing the onset of the disease [10]. Since pediatricians are usually the first line in providing childcare, it seems wise for them to review children's oral health care as a preventive care.

There are a limited number of studies about this issue [11]. So, this study was conducted to evaluate pediatricians' knowledge about oral/dental problems during residency program in educational hospitals affiliated to the medical universities in Tehran, Iran.

## Material and Methods

In this descriptive cross-sectional study, 205 pediatrician residents in medical faculties in Tehran including students from Tehran and Shahid Beheshti medical universities in 2012 were studied. Their information about children oral and dental health was confirmed by a questionnaire, and it was collected. The questionnaire was based on pilot studies conducted in the field, which were reflected in the study of Fahimzad et al. (2015) [12] about the information of medical interns about oral and dental hygiene and child care. Then, it was reviewed and confirmed by dental professors.

After validation of the questionnaire, 220 residents in Tehran were randomly selected to collect the information. After removing incomplete questionnaires, 205 questionnaires were statistically analyzed. The questionnaire included 3 demographic and 15 information assessment questions. Therefore, in addition to the demographic variables, residents working experience was also assessed through the questionnaire. Each individual could receive a score between zero and fifteen out of four-item questions. In addition, the level of information was evaluated according to the score of the questionnaire, which was weak for scores 0 to 5, moderate from 6 to 10, and good from 11 to 15, and was considered in the study.

### Data Analysis

After collecting information and entering the data into the SPSS ver. 18 software, they were analyzed using t-test and chi-square statistical tests.

#### Result

205 residents participated in this study; 139 females and 66 males. The frequency percentages of the females and males were 67.8% and 32.2%, respectively. The mean score was 6.51 for the females and 6.28 for the males. There were no significant statistical differences between the two groups ( $p>0.05$ ).

The mean score for the pediatricians, regardless of gender, was 6.43 (standard deviation [SD]=1.64).

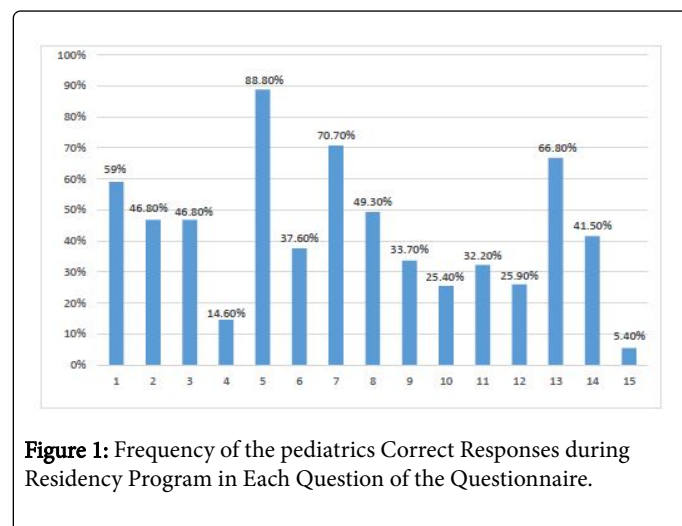
In addition, the minimum score was 1, and the maximum score was 10. The mean age of the pediatricians was 31.65 (SD=2.92). There were no statically significant difference between their age and their knowledge level ( $p>0.05$ ).

During the study, it was found that no resident had completed any course for oral hygiene.

False		True		Question
Frequency %	Frequency	Frequency %	Frequency	
41%	84	59%	121	1
53.2%	109	46.8%	96	2
52.2%	107	46.8%	96	3
83.9%	172	14.6%	30	4
10.7%	22	88.8%	182	5
61%	125	37.4%	77	6
27.8%	57	70.70%	145	7
49.3%	101	49.3%	102	8
63.9%	131	33.7%	69	9
74.1%	152	25.4%	52	10
64.4%	132	32.2%	66	11
73.7%	151	25.9%	53	12
32.7%	67	66.8%	137	13
58%	119	41.5%	85	14

93.7%	192	5.4%	11	15
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**Table 1:** Chart of frequency distribution of residents based on answers to the questions.



**Figure 1:** Frequency of the pediatricians Correct Responses during Residency Program in Each Question of the Questionnaire.

\*The x-axis stands for the number of questions. There were 15 questions in each questionnaire

Knowledge	Frequency	Frequency percentage
Moderate	149	72.7 %
Weak	56	27.3 %
Good	0	0 %

**Table 2:** Knowledge of residents based on the score obtained from the questionnaire.

### Discussion

Pediatrician residents will serve as pediatricians specialists sometime in the near future. They could be recognized as the last reference or perhaps the first reference to protect children's health. Since oral and dental diseases start as early as at 6 months of age and they are generally not referred to dentists until the age of three, the diagnosis of oral and dental problems by the pediatricians is very important [13]. Regarding the importance of this issue, we decided to evaluate the knowledge of pediatricians residents about oral health in Tehran. The average age of residents in this study was 31.65 years old with a standard deviation of 2.92, which 67.8% of them were females and 32.8% were males. The average score from the questionnaire was 6.43 with a standard deviation of 1.64. Gender and duration of residency had no effect on the score obtained by the participants. Furthermore, all participants mentioned that they did not have any course for oral and dental health.

Lewis et al. conducted a study entitled "Role of Pediatrician in Oral and Dental Health". They stated that the level of oral and dental health education during the residency program was less than necessary, and 37.5% of participants took no education in this area. The average education time of other participants was 4.2 hours throughout the whole program [14].

Krol investigated the education course of pediatrician for assessing oral and dental health in the United States. He stated that the basic medical information needed by physicians to diagnose oral health problems should be presented to them during their medical education program. This matter is not presented by a complete plan during the education program of many medical schools [15]. According to our study, none of the pediatrician residents had any course for oral and dental health. Furthermore, there is no emphasis on issue, which should be a major concern.

Giuseppe et al. (2000) investigated the level of knowledge, attitude, and practice of pediatricians in the prevention of oral and dental diseases in Italy. They found that physicians with higher working hours and more workload had a better attitude for prevention of oral and dental diseases [9].

In addition, Eslami Poor, et al. (2010) investigated the knowledge, attitude, and practice in a group of general practitioners and pediatricians in preventing oral and dental diseases in children in Shiraz. The results indicated that physicians with more knowledge, working hours, and workload had a higher attitude. In addition, physicians working in public health centers had a practice in preventing oral and dental diseases [16]. In contrast, there was no relationship between the amount of time spent from the residency and increasing level of knowledge in residents. Therefore, considering the experimental nature of health and diagnostic activities, the results of the two above-mentioned studies are reasonable and predictable. However, considering that oral hygiene is a basic health principle, it should be a priority, so that any pediatrician with any degree of workload and any amount of work experience can diagnose dental problems and refer it to the dentist in case.

Herndon et al. investigated the knowledge of general practitioners and pediatricians about oral and dental health in Florida. They evaluated the results to be relatively low. However, pediatricians generally had better knowledge, and interestingly only 20% of physicians provided their information to parents of children [7].

Battenberg et al. (Belgium) concluded that the level of pediatricians' knowledge about oral and dental health was 71%, which is considered to be proper [8]. Our study results showed that 27.3% of residents had poor knowledge, and 72.7% of residents had moderate knowledge about oral and dental hygiene of children. Obviously, special concern should be raised to increase their level of knowledge.

Fahimzad et al. (2015) investigated the oral and dental health knowledge of 391 interns from medical faculties in Tehran. In their study, the average age of participants was 25.18 years with a standard deviation of 1.25 years. 44.2% of the participants were males and the rest were females. The average score of knowledge level in interns was 4.87 with a standard deviation of 1.73. In addition, age, gender, and duration of internship did not affect the level of knowledge of interns [12].

## Conclusion

This study showed, pediatricians' knowledge about children dental care during residency program was not appropriate. According to the key role of pediatricians in dental health, care training should be added in residency program. And also they should be trained in clinics.

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