



Practice of Egyptian Paediatricians Regarding Children's Oral HealthCare

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ABSTRACT:

Aim: To evaluate the level of Egyptian pediatricians' practice toward children's oral health care.

Subjects and methods: Cross-sectional study was conducted among pediatricians from various cities in Egypt using questionnaire. The questionnaire composed of two parts regarding socio-demographic data and practice toward children's oral health. Statistical analysis was performed using SPSS ver.26.

Results: All the studied group (100%) revealed a positive practice toward children's oral health, 90% or more of the participants had appropriate practice regarding that they should provide dietary habits assessment and recommended the parents to brush their child's teeth regularly. A total of 72.2% had good practice about they should perform oral examination for caries detection and only 52.4% about provide parents with educational tools as books, pamphlets, or toothbrushes. Statistically significant correlation was found between age, years of experience, qualifications and practice score.

Conclusion: The present study revealed all of the participating pediatricians had appropriate practice regarding children's oral health care

KEYWORDS: Pediatricians, practice, Oral Health, Egypt.

I. INTRODUCTION

During the first and second years of life, newborns and young children are seen by pediatricians (known as well-baby or check-up visits) to assess their development and provide parents with appropriate nutrition or immunization advice. As a result, pediatricians are in a unique position to help ensure that parents receive accurate and up-to-date oral information about the best way

to prevent dental caries, as well as other oral diseases such as gum disease and malocclusion.^(1,2)

These health professionals commonly confront the morbidity associated with dental caries, so, they have the great opportunity to early intervene, in collaboration with dental colleagues, to prevent or control this disease and improve the oral health outcomes.⁽³⁾ Working together, pediatric dentists and pediatricians should reinforce coordinated efforts to provide education, guidance, and counseling to parents and caregivers pretending in this way to achieve a high-quality oral preventive and opportune restorative management to affected infants and young children.⁽⁴⁾

Many parents are unaware of the consequences of poor oral health for their children. Further, most children do not visit a dentist to control dental disease until after 2 or 3 years of age and many poor parents are unable to access pediatric dental care at all for them.^(5,6,7) Therefore, pediatricians must possess the knowledge to educate parents on common oral diseases and associated risk factors, basic preventive oral measurements such as brushing, breastfeeding, night bottle-feeding, fluoride varnishes, dietary recommendations, early diagnosis of dental caries, the establishment of a dental home and timely referral to the dental specialist for the child's first dental visit⁽⁸⁾

By increasing the pediatrician's role and involvement in their patients' oral health during the regular medical visits, this give them the chance to discuss the age appropriate anticipatory guidance on a variety of oral topics.⁽⁵⁾ So, it is necessary to periodically evaluate to what degree pediatricians are knowledgeable about oral and dental health care and prevention, their behaviors or practices regarding oral diseases, and their corresponding incidence in the professional clinical practice.⁽⁹⁾



Nowadays, many children suffer from caries and other dental problems, which might be related to the fact that some pediatricians attach little importance to dental health. Furthermore, dental care among pediatricians and dentists is not always well coordinated (10,11). There is lack of studies about practice among pediatricians in Egypt toward children's oral health care. Therefore, the aim of the current study is to assess the level of practice among Egyptian pediatricians toward children's oral health care.

II. SUBJECTS AND METHODS

A cross-sectional study was conducted in several cities in Egypt. The sample of this study was 408 Egyptian pediatricians of both genders, males and females, with different qualifications. Ethical approval from the committee of ethics in the Faculty of Dentistry, Mansoura University was first obtained. The questionnaire was anonymous to gain participants' trust. Returning the filled questionnaire was considered an implied consent. Data was kept confidential. The calculated sample size of the study was 408 participants at 5% level of significance and 80% power of the study, using the following formula (Daniel,1999).⁽¹²⁾

The questionnaire was designed either electronic or a hard copy form in the English language to evaluate practice among Egyptian pediatricians. A valid questionnaire was used. (13) Data collection extended over a period of five month. The hard copy form distributed by researcher among pediatricians while the electronic one uploaded via google form. The questionnaire consisted of two sections. The first section contained the sociodemographic data of the participants regarding age, gender, years of experience, working place and qualification. The second contained 6 questions measuring the practice with two responses (appropriate, inappropriate) regarding children's oral health care. The data were entered and coded on the Microsoft Office Excel database. Data were analyzed using SPSS Statistical Package of Social Science.

Practices of pediatricians were assessed using six questions. Each appropriate practice was given two points score while inappropriate practice was given one point score so, the total score was

twelve. The points were summed and the percentage was calculated to give a practice percentage. Participants scored either appropriate practice or inappropriate practice according to median score (6). Participants who scored above the median score were considered to have appropriate practice while those scored below the median score were considered to have inappropriate practice.

The two groups were compared with independent t test while more than two groups were compared by one-way ANOVA test. and in-between groups comparison was tested by post hoc LSD test. Pearson correlation was used to correlate continuous data. The level of significance was set at p value ≤ 0.05 .

III. RESULTS

All of the studied group (100%) had appropriate practice regarding children's oral health care with total mean practice score 10.79 and SD (1.04).

About 90% or more of the studied pediatricians had appropriate practice regarding that they should provide dietary habits assessment and recommended the parents to brush their child's teeth regularly. Around 80% or more had appropriate practice regarding that they should advise the parents to dentally examine their child and refer the child to the dentist. A total of 72.2% had good practice about they should perform oral examination for caries detection and only 52.4% about provide parents with educational tools as books, pamphlets, or toothbrushes (table1).

There was statistically significant association between practice score and age p value ≤ 0.05 . Mean practice score was higher among pediatricians aged 50 to 60 years and least practice score was among pediatricians aged 23 to 30 years as shown in Figure (8). Mean practice score was statistically higher among pediatricians with more than 20 years of experience and least score among pediatricians with 5 to 10 years of working experience. Regarding qualifications, mean practice score was statistically higher among pediatricians with PHD followed by master degree as compared to GP. No statistically significant association was detected between sex, working place and practice score, p value > 0.05 (table2) (figure 1&2).

Table (1): practice of pediatricians toward children's oral health.

Practice	The studied group (n=410)	
	Appropriate	Inappropriate
You always provide dietary habits assessment	379 (92.4%)	31 (7.6%)
You always perform oral examination for caries detection	296 (72.2%)	114 (27.8%)



You always advise the parents to dentally examine their child	342 (83.4%)	68 (16.6%)
You sometimes refer the child to the dentist	365 (89.0%)	45 (11.0%)
You always recommended the parents to brush their child's teeth regularly	369 (90.0%)	41 (10.0%)
You always provide parents with educational tools as books, pamphlets, or toothbrushes	215 (52.4%)	195 (47.6%)
Total practice score (Mean ± SD)	10.79±1.04	
Appropriate practice	410 (100%)	
Inappropriate practice	0 (0%)	

Table (2): Association between practice score and demographic data.

	No	Practice score	Test of significance	P value
		Mean ± SD		
Age (Years)				
23-30 y	86	10.63±1.11 ab	F=2.92	0.034*
30-40 y	220	10.74±1.08 c		
40-50 y	60	10.98±0.79 a		
50-60 y	44	11.11±0.89 bc		
Sex				
Male	129	10.76±1.07	t=0.365	0.715
Female	281	10.81±1.02		
Years of experience				
<5 y	95	10.70±1.14 a	F=4.31	0.005*
5-10 y	167	10.63±1.0 cd		
10-20 y	92	11.01±0.89 ac		
>20 y	56	11.07±0.84 bd		
Working place				
Teaching hospital	214	10.80±1.02	F=0.463	0.708
Public	107	10.71±1.0		
Private	29	10.93±1.38		
Public, private	60	10.85±0.95		
Qualification				
GP	83	10.54±1.21 ab	F=4.37	0.013*
Master degree	255	10.81±0.99 a		
PHD	72	11.02±0.91 b		

t: independent t test, F: ANOVA test, *significant $p \leq 0.05$, abcd: similar letters indicate significant difference between groups by post hoc LSD test.

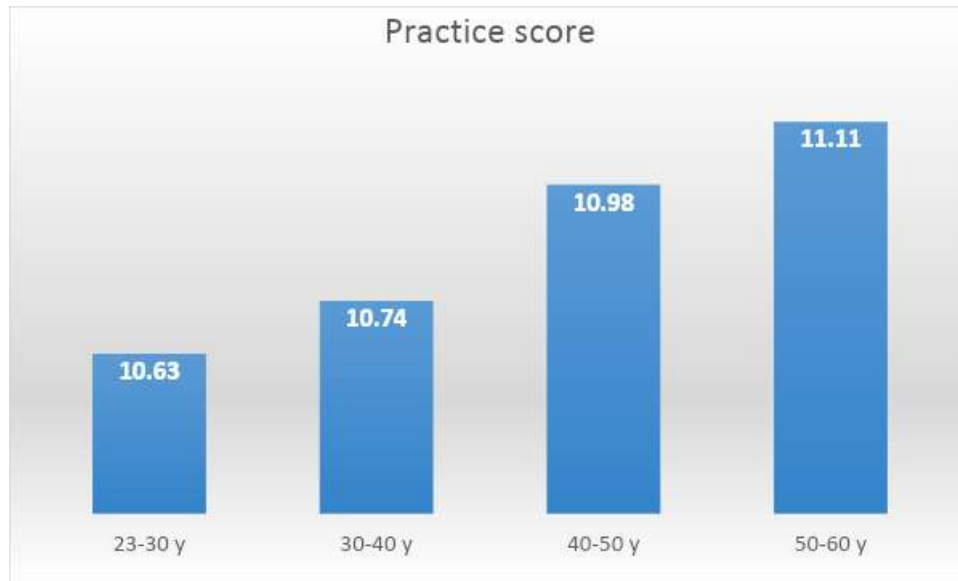


Figure (1): Association between practice score and years of experience

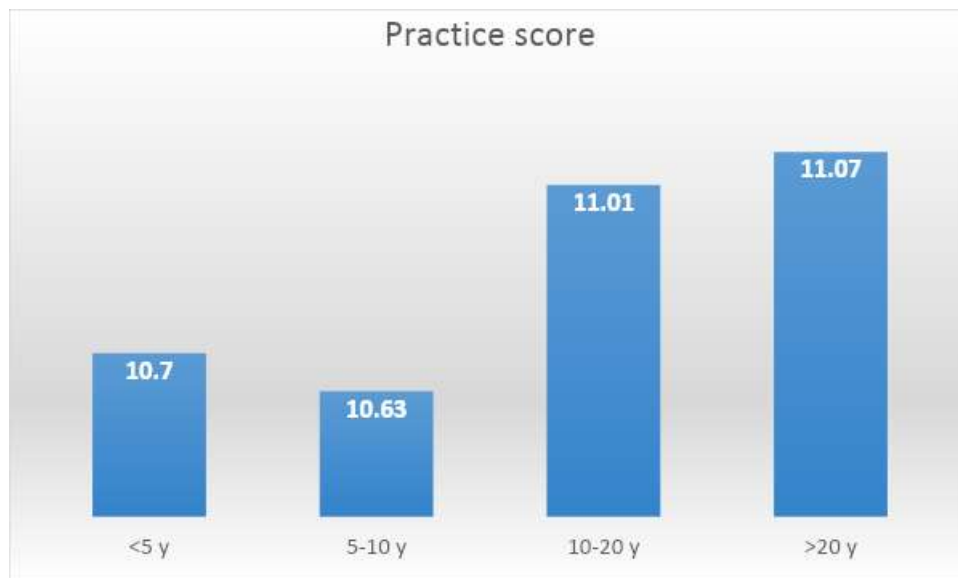


Figure (2): Association between practice score and years of experience

IV. DISCUSSION

Pediatricians can see child patients regularly in the first three years of life. They being one of the first health professionals to examine children, they can deliver proper oral hygiene measures at the earliest age possible.^(14,15) Dentists recommend that mouth cleaning be practiced by parents even before teeth come out, it is more possible for pediatricians to provide this essential educational information as part of their routine well-baby check-ups for the sake of a realistic preventive strategy against dental caries. It is a problem that a considerable number of parents are

not aware of standard preventive procedures especially brushing from the eruption of the first tooth onwards.⁽¹⁶⁾

This study was conducted to evaluate level of practice among pediatricians in Egypt regarding children's oral health due to lack of studies in Egypt concerning this issue.^(13,17)

The present study is cross-sectional study, used a previously validated questionnaire because it includes sufficient questions to assess the practice of pediatricians and give a comprehensive vision to pediatrician's involvement in preventive dental procedures.⁽¹³⁾ The questionnaire was either



an electronic (uploaded via google form) or hard copy form.

In the present study a total of 100% of the studied group presented appropriate practice. Dental caries is a biofilm-mediated, sugar-driven, multifactorial, dynamic disease resulting in the phasic demineralization and remineralization of dental hard tissues.⁽¹⁸⁾ The majority of pediatricians (92.4%) provided dietary habits assessment in their practice, this indicate that they had a good knowledge about the role of diet as risk factor of initiation of dental caries. This result is comparable to that result found by **Ramroop et al.(2019)**⁽¹⁹⁾, **Chouchene et al.(2021)**⁽²⁰⁾ who reported that (98%,93%) of Pediatricians provided a dietary habits assessment of their patients respectively. On the other hand, this result was different than that found by **Hegazy and Abdellatif(2016)**⁽¹³⁾ and **Alshunaiber et al.(2019)**⁽²¹⁾ who reported about 72.14%,48.7% of the pediatricians only provided dietary habits assessment respectively.

Some authors have suggested that the most important factor in preventive dentistry performance is the knowledge and expertise of Pediatricians regarding the root cause of the problem⁽²²⁾ About 72.2% of the participants always performed an oral examination for caries detection. This finding is comparable to that found by **Chouchene et al.(2021)**⁽²⁰⁾ who reported approximately 67% of participants perform oral examination for their patients in their practice. On the other hand, this finding was different than that found by **Hegazy and Abdellatif(2016)**⁽¹³⁾, **El Bayoumi(2021)**⁽¹⁷⁾ who reported that only 15.06%,9.61% performed oral examination for cavitation respectively. This indicates that level of pediatricians' awareness toward children's oral health increased over the years.

Studies indicate that pediatricians believe they play an important role in preventing dental disease and promoting oral health, and report a willingness to examine children for dental disease.^(5,14) The majority of participants 83.4% advise parents to dentally examine their child. This result is comparable to that result found by **Alanzi et al.(2022)**⁽²³⁾ who reported the majority of participants (84.8%) counseling the parents or caregivers on the prevention of dental problems at a well -childcare visit in their practice. On the other hand, this result is different than that result found by **Divyashree and Raj(2021)**⁽²⁴⁾ who reported only 15% always counsel parents or care-givers regarding prevention of dental problems. This indicates improvement in the role of Pediatricians

as educators and instructors toward the children's oral health.

Some pediatricians don't diagnose dental health problems and refer children to dentists. This can prevent early intervention, which is essential for children's dental care.^(25,26) The majority of the respondents (89%) sometimes refer the child to the dentist. This result is comparable to the result found by **Sezer et al.(2013)**⁽²⁷⁾ who reported 84.3% of them referred the child to a dentist while this result is different than that found by **Hegazy and Abdellatif(2016)**⁽¹³⁾ who reported only 44.76% of the participants referred the child to a dentist due to problems.

According to National Health Service (NHS) guidelines, brushing should only be supervised by the parent until the child is at least 7 years old.⁽²⁸⁾ One of the reasons may be that primary school (6 years of age and up) children have the ability to brush their own teeth.⁽²⁹⁾ In this study, about 90% of the studied sample recommended the parents to brush their child's teeth regularly. This result was comparable to the result found by **Herndon et al.(2010)**⁽³⁰⁾ who reported about 94% of the participants counsel parents on toothbrushing. On the other hand, this result was different than that found by **Hegazy and Abdellatif(2016)**⁽¹³⁾ & **El Bayoumi(2021)**⁽¹⁷⁾ that they reported only 21% ,32.69% respectively of the participants recommended to the parents to brush their child's teeth regularly.

Educational tools as books, pamphlets are considered an effective way in oral health promotion and prevention, they become a viral and widely used means of educating the public. The advantages of them as an educational tool are their economic, convenience, ease of circulation, and easy display and distribution. There is also the possibility of re-reading material whenever the reader wants or when information is needed.^(31,32) Almost half of the participants (52.4%) provide parents with educational tools as books, pamphlets about the prevention of oral diseases. This result was higher than the result found by **Bozorgmehr et al.(2012)**⁽³³⁾ who reported that about 23.3% of the participants sometimes provided the parents with educational tools. On the other hand, this result is conflicted with the result found by **Hegazy and Abdellatif(2016)**⁽¹³⁾ that they reported about 72.61%, of Pediatricians never provided the parents with any educational materials. However, the current study revealed that educational and counseling role of pediatricians has developed and the awareness of pediatricians has increased.

The practice of participants was significantly correlated with age, years of



experience and qualifications. Pediatricians aged 50-60 and who have more than 20 years of experience had significantly better practice than other categories. On the other hand, practice was significantly correlated with qualifications. Pediatricians with PHD qualification demonstrated significantly higher practice compared to those who had Master degree and GP. These findings appear to be logical as older Pediatricians have accumulated a wealth of experience, skills and practice.

V. CONCLUSION

The present study revealed all of the participating pediatricians had appropriate practice regarding children's oral health care. Statistically significant association was found between age, years of experience, qualifications and practice score. No statistically significant association was detected between sex, working place and practice score.

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