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ABSTRACT • Background : The American Academy of Pediatrics and the American Academy of Pediatric Dentistry have recommended that the child's first dental visit should be during the child's first year of life for dental disease prevention and to decrease the invasive restorative interventions. In Lebanon, no study has been conducted to determine the age and the reasons of the first dental visit of children and who requested the first dental screening. **Objectives :** To assess at what age occurred the first dental visit in a group of Lebanese children visiting a private pediatric dental clinic and to explore the reasons for their first dental consultation. **Materials and methods :** An observational cross-sectional study was conducted. During a five-year period, all children visiting the pediatric clinic were invited to participate in the study. Parents were asked about the general health status of their child, the use of antibiotics before the age of 2 years. Parents were also requested to give the dental reasons for their initial visit to a pedodontist. **Results :** Two hundred and twenty children (mean age 4.24 ± 1.35 years) visited the pedodontic care office for the first time and were included in the study. All participants had visited a pediatrician before the age of 1 year. Fifty-seven (25.9%) children were referred by a dentist and 163 (74.1%) came with their parents without referral. All participants had at least one reason for the first consultation; the most common were the presence of decayed teeth (50.9%) and a dental pain perception (29.5%). **Conclusion :** All participants had visited a pediatrician at an earlier age but none was referred to a pedodontist by a pediatrician for check-up or prevention. Children came upon the decision of their parents. A dental problem was the major reason which triggered the first visit. Therefore, pediatricians in Lebanon need to keep themselves updated on recommendations regarding children oral health and be encouraged to play an important role in prompting oral health and first dental visits.

Keywords: first dental visit, children, Lebanon, oral health, pediatrician

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RÉSUMÉ • Contexte : Les pédiatres occupent une position privilégiée dans la promotion de la santé orale puisqu'ils sont susceptibles de voir les enfants plus tôt que les pédodontistes. Il serait important qu'ils soient conscients de la nature infectieuse des caries pour être en mesure de prendre des décisions appropriées en matière de prévention efficace. **Objectifs :** Évaluer l'âge des enfants libanais se présentant pour la première fois dans une clinique pédiatrique privée et explorer les raisons ayant motivé leur première consultation. **Matériel et méthodes :** Pendant une période de cinq ans, tous les enfants visitant la clinique pédiatrique ont été invités à participer à l'étude. Des questions sur l'état de santé générale de leur enfant, l'utilisation d'antibiotiques avant l'âge de 2 ans et le motif de leur première visite chez le pédodontiste ont été posées aux parents. **Résultats :** Deux cent vingt enfants (âge moyen : $4,24 \pm 1,35$ ans) ayant visité le cabinet dentaire pour la première fois ont été inclus dans l'étude. Cinquante-sept (25,9%) enfants ont été référés par un dentiste et 163 (74,1%) sont venus avec leurs parents sans aucune référence. Tous les participants avaient au moins une raison pour la première consultation; les plus courantes étaient la présence de caries (50,9%) et la douleur dentaire (29,5%). **Conclusion :** Les pédiatres au Liban doivent se tenir au courant des récentes recommandations en matière de santé bucco-dentaire infantile et pourraient, en outre, être encouragés à jouer un rôle important dans le déclenchement de la santé orale et des premières visites chez le dentiste.

INTRODUCTION

Dental caries is one of the most common chronic disease affecting children in developing countries. Early childhood caries prevalence increases and leads to psychosocial, functional and growing problems among children [1,2].

The recommendation that a child's first dental visit should be during the child's first year of life has had a significant effect on dental disease prevention and on decay prevalence [3,4]. Parents often take their children to the dentist just when a problem takes place and causes discomfort or pain. It has been reported that 25.7% of the children visit a dentist for the first time due to emergency situations, especially dental decay [5-8]. Moreover, studies have shown that less than 5% of children are subjected to their first dental examination at 12 months of age as

recommended by the American Academy of Pediatrics (AAP) and the American Academy of Pediatric Dentistry (AAPD) [9-10]. Prevention and early dental examinations give pedodontists the opportunity to supply parents with risk-based anticipatory guidance. These will also decrease the invasive restorative interventions when disease is already present and are a source of preventive care provided throughout childhood [11,12].

Pediatricians can play an important role in improving the oral health of their patients since regular visits to pediatricians allow an early assessment of children's oral health. Pediatricians occupy a privileged position in promoting oral health, since they see infants much earlier than pedodontists. Thus it is essential for them to be conscious of the infectious nature of dental caries and make appropriate decisions regarding timely and effective intervention [2]. However, it is unclear to what extent Lebanese pediatricians may be influencing and participating in prevention, assessment and referring children to a pediatric dentist for oral prevention. The reason and the age of the first dental visit and the referral person are still unknown in Lebanon. The national social security fund does not cover dental problems, and a very low content of fluoride is available in water, it is therefore crucial to assess the oral health of Lebanese children at an early age [13]. The purpose of our study is to assess the timeline and the parents' motivations surrounding their children's first dental visit in Lebanon.

MATERIALS AND METHODS

An observational cross-sectional study was conducted. The project was approved by the Human Research Ethics Committee of Saint-Joseph University.

Participants were recruited in a private pedodontic office in Mount-Lebanon, Lebanon. The study lasted five years (May 2007-June 2012) during which all children visiting the pediatric dental clinic were invited to participate in the study. The inclusion criteria were the first dental visit for all children who were subjected to the study. Written informed consent was obtained from the parents of the children.

Data were collected from questionnaires administered by the pediatric dentist. The questionnaire included sociodemographic data such as age, gender and socioeconomic status. Parents were asked about the general health status of their child and the use of antibiotics (tetracycline and doxycycline) before the age of 2 years. These medications are known to discolor teeth when given to children whose teeth are still developing. Teeth discoloration is not esthetic and could be a reason for the dental visit.

They were also asked about the dental reason for their initial visit to pedodontist (pain, bleeding, trauma, ectopic eruption/exfoliation problems, soft-tissue lesions, and dental caries), the use of local fluoride by their child and the person who referred the child to the pediatric dentist. The same examiner performed all interviews for all patients' parents.

The statistical analysis was performed using a software program (SPSS for Windows version 16.0, USA). The alpha error was set at 0.05. Descriptive Statistics were used to describe variables among participants.

RESULTS

During the five-year period (mid-May 2007 till mid-June 2012), 220 children (mean age: 4.24 ± 1.35 years; range: 1-7 years) visited the pedodontic care office for the first time; 100 were boys (mean age: 4.30 ± 1.33 years) and 120 were girls (mean age: 4.19 ± 1.37 years). The majority of the participants belong to a high socioeconomic status. Fifty-seven (25.9%) children were referred by a dentist (18.0% were boys and 32.5% were girls), 163 (74.1%) came with their parents without any referral and no pediatrician referred children to the pedodontist (Table I).

TABLE I
REFERRALS TO THE PEDIATRIC DENTIST

Person who referred the child to the pedodontist	Number (%)
Pediatrician	0 (0%)
Dentist	57 (25.9%)
No referral. Child came with parents	163 (74.1%)

Eighty-five (38.6%) participants had at least one medical problem. The most frequent medical troubles reported were allergic/asthmatic problems (15.9%), ear, nose and throat (ENT) problems (12.7%). Twenty (9.1%) participants had already taken antibiotic(s) (penicillin) before the age of two years; the major reason was otitis. The clinical oral examinations showed the presence of molar incisive hypomineralization (MIH) in three children. Medical problems and their frequency reported at the first pedodontist visit are described in Table II.

TABLE II
MEDICAL PROBLEMS REPORTED AT THE 1ST PEDODONTIST VISIT

Medical problems (N = 220)	N (%)
Absence of general problem	135 (61.4)
Allergic/Asthma	35 (15.9)
Ear, nose & throat (ENT) problem	28 (12.7)
Infectious disease	11 (5.0)
Eye disease	7 (3.2)
Benign hematologic problem	5 (2.3)
Epilepsy	3 (1.4)
Acid reflux	3 (1.4)
Traumatism	3 (1.4)
Mental disorder	1 (0.5)
Cardiac problem	1 (0.5)
Dermatologic problem	1 (0.5)
Speech problem	1 (0.5)
Growth problem	1 (0.5)
Other	1 (0.5)

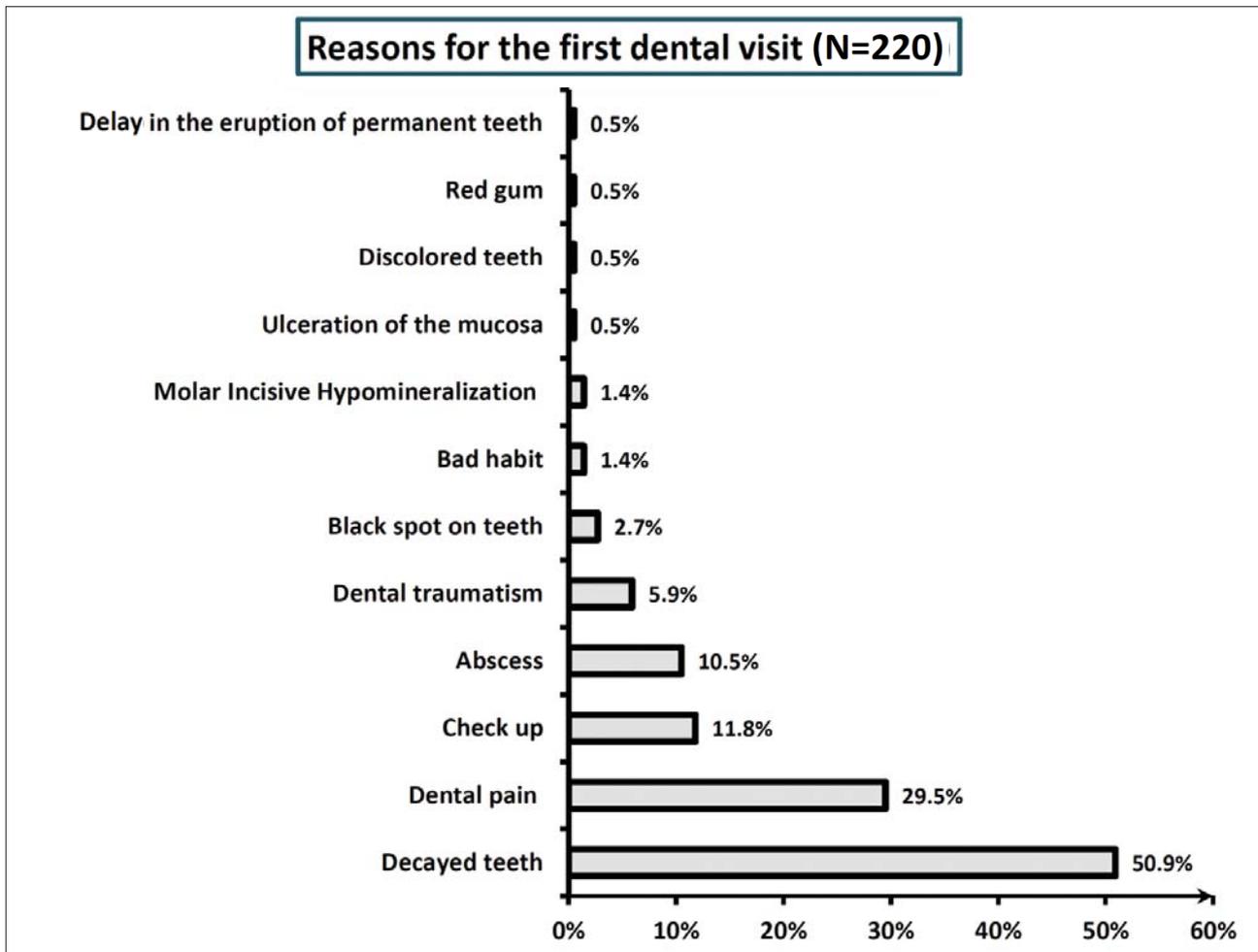


FIGURE 1. Reasons prompting the first consultation.

All participants had at least one reason for the first consultation (Figure 1); the most common reasons were the presence of decayed teeth (112 [50.9%]; mean age: 4.14 ± 1.31), dental pain perception (65 [29.5%]; mean age: 4.72 ± 1.09), dental check-up (26 [11.8%]; mean age: 4.54 ± 1.20), and dental abscess (23 [10.5%]; mean age: 4.85 ± 1.13). The age and reasons for the first dental visits are described in Figures 1 and 2.

According to the parents, participants brushed their teeth once a day with a topical fluoride toothpaste. Only one 6-year-old boy had undertaken local fluoride and all parents reported that potable water does not contain fluoride.

DISCUSSION

The findings of our study revealed that the mean age for children visiting the pedodontic care office for the first time was 4.24 ± 1.35 years. These results were not in accordance with the AAP and AAPD guidelines. The mean age of children visiting the dental office was higher than the age recommended by the American Academy

of Pediatrics and the American Academy of Pediatric Dentistry and this influences the lack of knowledge of parents about the age of the first dental visit [4].

The most common reasons for the first dental visit were the presence of decayed teeth and dental pain perception. Only 11.8% of children had visited the dentist for dental check-up. The asymptomatic dental clinic attendance was not common in this report. This could provide evidence that parents in Lebanon are neither aware nor conscious about oral health prevention of their child.

Oral hygiene measures in Lebanon should be implemented no later than the time of eruption of the first primary tooth [14]. Every infant should receive an oral health risk assessment from his qualified health care professional by six months of age. This initial assessment should evaluate the patient's caries-risk assessment and provide education on infant oral health [3-4].

On the other hand, the majority of the participants have visited frequently their pediatric physician as confirmed by their parents. However, 25.9% of these children were referred to the first dental visit by a dentist

general practitioner, and 74.1% came with their parents without any referral.

No child was referred by a pediatrician. Lebanese physicians are not aware about their important role in prompting first dental visits.

Also, there were problems expressed by parents about finding a pediatric dentist. This fact indicates the need for strategies to promote public oral health and re-orientation of services that facilitate dental access for children in Lebanon [2].

Our study has also revealed that 38.6% participants have at least one medical problem and as proved, patients having medical problems are special care patients and should improve their oral health by visiting pediatric dentist before occurrence of oral problems.

Pediatricians in Lebanon should be alert to oral problems affecting the child and should be conscious about the importance of early pediatric dentist visits by the age of 12 months for preventive reasons.

The molar incisor hypomineralization was encountered in three participants who had already taken penicillin before the age of one year. Pediatricians should be aware that frequent use of antibiotics is positively asso-

ciated with enamel hypomineralization in developing tooth structure that could be an important risk factor for dental caries [15-18].

During the first dental visit, parents showed positive attitudes towards oral health. Nevertheless, they expressed having some difficulties in performing a good preventive care for their child; for instance, concerning the brushing routines since participants brushed their teeth only once a day. Many parents stated a need for more contact with dental professionals or physicians regarding oral health care advice and assistance.

Additionally, it is well known that the use of fluoride for the prevention and control of caries is documented to be safe and effective [19-21]. According to the parents, the percentage of participants that had undertaken local fluoride was very low and they all reported that potable water does not contain fluoride. Optimal exposure to fluoride is important to all dentate infants and children. Systemically-administered fluoride should be considered for all children at caries risk who drink fluoride deficient water (less than 0.6 ppm) after determining all other dietary sources of fluoride exposure as reported by the AAPD [13,19,21].

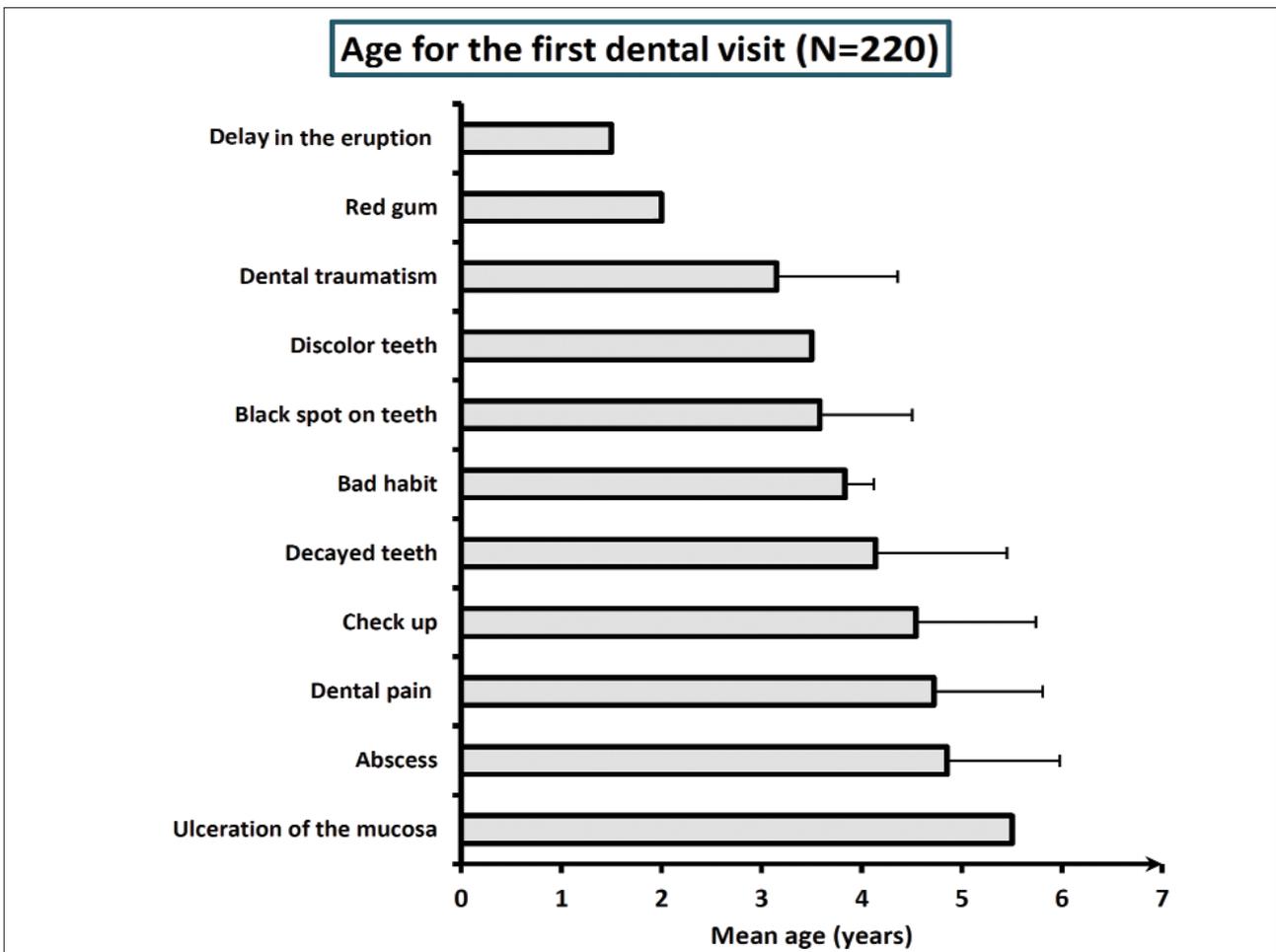


FIGURE 2. Age according to the reason of the first dental visit.

CONCLUSION

Our study proved that the mean age for the first dental visit in Lebanon was not in accordance with the AAP and AAPD guidelines and that a small percentage of children had visited the dentist for a dental check-up. No child was referred to the dentist by a pediatrician. Therefore, it is important to develop an oral health information program for pediatricians in Lebanon to bring them up to date on recommendations regarding children oral health and to ensure that all their patients receive timely preventive and restorative dental care. Lebanese physicians should be encouraged to play an important role in prompting first dental visits. Oral health promotion in Lebanon should also include effective dissemination of oral health information and dental screening at 12 months old.

COMPETING INTERESTS: The authors declare that they have no competing interests.

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