

A child's first dental visit – age and reasons. A literature review

¹Private Dental Practice, Poronin

²Department of Dental Prophylaxis and Experimental Dentistry, Dental Institute, Jagiellonian University, Medical College, Krakow
Head of Department: Marta Cześniakiewicz-Guzik, MD, PhD

³Zbigniew Żak Provincial Dental Clinic in Krakow, Specialist Clinic of Pediatric Dentistry
Head of Clinic: Iwona Sanak, DDS

KEYWORDS

first dental visit, early childhood caries, dental caries, children's oral health

SUMMARY

Dental caries is a multifactorial disease, which may begin shortly after tooth eruption. The development of a carious lesion is conditioned by the lack of or irregular dental visits, incorrect oral hygiene, and poor dietary habits. Dental caries is still a very serious health problem in the paediatric population in Poland. It is extremely important that the child's first adaptation visit to the dentist takes place at an early stage of the child's life. The purpose of this early visit is not only to assess child's dentition, but first and foremost to provide parents with guidance on proper child's oral hygiene and to correct improper dietary and eating habits. The aim of this study was to determine the age at and the reasons for the child's first dental visit based on the current literature.

A review of the literature published in the years 1992-2017 was conducted using the PubMed and Google Scholar databases. The study was supplemented with papers published by Polish authors discussing the issues in question. A total of 39 literature positions regarding this field were selected and analysed.

The obtained data indicate that the first dental visit of a child takes place much later than recommended in medical guidelines. In most cases, it is a symptomatic visit resulting from the presence of advanced carious processes.

INTRODUCTION

Oral health is a component of the global human health and is mainly determined by health behaviours of an individual and environmental (sociodemographic, economic and cultural) factors. Proper hygiene and nutritional habits, as well as systematic dental visits are of key importance for oral health (1-3). Parents play the key role and are the primary source of knowledge and skills in the development of healthy behaviours in children (4). After reaching a certain developmental level, children begin to copy other people's behaviours. Proper models of systematic oral care, which promote

general health, should be passed to children as soon as possible – not later than at the age of 3-4 years (5, 6). Therefore, it is crucial that the child's first visit to the dentist takes place appropriately early, which is mainly aimed at parental education on health. An early visit provides an opportunity not only to check the child's dentition, but first of all to provide parents with important guidance on proper hygiene and cariostatic eating habits, educate them on the causes and infectivity of caries, factors contributing to malocclusions, as well as to provide advice on prevention and plan future dental appointments. The knowledge provided to parents during the first visit may contribute to an increased interest

in the child's dental condition and, as a result, modify the course of carious disease (7, 8).

Dental caries is a very serious health problem in the paediatric population in Poland. It is a multifactorial disease, which may begin shortly after tooth eruption. The development of a carious lesion is conditioned by the lack of or irregular dental visits, improper oral hygiene, as well as a diet rich in carbohydrates. Dental caries is characterised by a rapid course and can lead to hard dental tissue destruction in a short time, with particularly rapid carious process observed in children up to 3 years old. There are well-known serious clinical consequences of untreated caries, such as local inflammations, focal diseases, tooth loss leading to malocclusions, and impaired speech development (9, 10). Epidemiological studies conducted by the Ministry of Health (11) as part of the program "Monitoring of oral health of the Polish population" indicate poor oral health in Polish children. Dental caries affects up to 59.1% of 3-year-olds, 79.9% of 5-year-olds, 85.6% of 6-year-olds and 90.5% of 7-year-olds. Earlier studies in Poland showed the following caries frequency for primary teeth: 45.4-77.98% in 3-year-olds, more than 80% in 3-4-year-olds and 51-66.4% in 4-year-olds (12). Such high caries rates in young children are alarming, and achieving oral health goals set by the WHO for 2020 (80% of caries-free 6-year-olds) will be difficult (13, 14). The observed health situation among Polish children is conditioned by many factors, the main one being the lack of an effective, planned preventive and curative dental care model, and low health awareness of parents (12). Parental knowledge on oral health and attitude to dental care are certainly an important determinant of dental attendance (15).

AGE AT FIRST DENTAL VISIT

The American Academy of Pediatric Dentistry (AAPD) (16) and the American Dental Association (ASA) (17) recommend that the first dental visit should take place within 6 months of eruption of the first primary tooth, and no later than 12 months of age. Polish experts (18, 19) also emphasise in their guidelines on fluoride prophylaxis, nutrition and oral hygiene published on the website of the Polish Society of Paediatric Dentistry (<http://ptsd.net.pl/wytyczne/>) and the website of the Polish Alliance for a Cavity-Free Future (<http://acff.pl/>) that the first dental visit should take place between 6 and 12 months of age. Other sources consider 12-18 months of age as the optimal time for child's first dental visit (20, 21). According to Argentine authors Furze and Basso (22), the first preventive dental visit should take place at 4 months of foetal life. During such a visit, the mother is educated on carious disease, its infectiousness, as well as on the fact that the mothers are the main source of transmission of *Streptococcus mutans*. Also, advice on oral hygiene and prophylaxis is provided. As a result, the pregnant woman pays more attention to both her own and her unborn child's health.

After birth, the child should have regular (every 3-6 months) visits to monitor oral health, implement prophylactic measures, enable early detection of carious lesions, and get the small patient accustomed to potential therapeutic procedures (23). It is also worth emphasising that first dental visits have a significant impact on both child's attitude to future treatment and trust in the dentist (24, 25).

Epidemiological studies conducted by The Ministry of Health (11, 13) showed that more than 60% of Polish 3-year-olds and about 25% of 5-year-olds had never been to the dentist. According to Grzesiak and Kaczmarek (23), who conducted their study in 1.5-3-year-olds, 33% of children had their first contact with the dentist at the mean age of 2.7 years. Marcinkowska et al. (21) showed in a group of 551 children aged 4-6 years that 22% of these children had never been to the dentist, 11.6% had their first visit in the first year of life, 19% – at the age of 2 years, and 24% – at the age of 3 years, with the mean age at first dental visit of 2.9 years. Rudnicka et al. (4) showed in their study in a group of 148 3-5-year-olds that 16.2% of these children had never been to the dentist. A questionnaire study conducted by Kargul et al. (1) among 363 parents/guardians of 2-5-year-olds, showed that 17% of parents declared that they had not reported their child to the dentist yet. Another questionnaire study (26) among parents of 6-12-year-olds demonstrated that 74% of parents reported their children to the dentist not earlier than after the age of 3 years; only 8% of children had their first dental visit in their first year of life, and 14% of children had their first dental visit at the age of 2 years. Bruzda-Zwiech et al. (27) observed in a group of 4-5-year-olds that 61% of children had their first appointment at the age of 1-3 years, 23% had their first visit after the age of 3 years, 5% of children had never been to the dentist, and only 4% of children had their first visit before the age of 1 year. Similar results were obtained by Topolska et al. (28): 66.5% of children had their first dental appointment at the age of 1-3 years, 24.8% – after the age of 3 years, and 8.7% – before the age of 1 year. Literature data indicate that 4-11.6% of Polish children are first reported to the dentist in their first year of life. Foreign authors also report incorrect health behaviours. Nainar and Straffon (29) showed in their study in children from Iowa (USA) aged up to 3 years that only 2% of these children were reported to the dentist before the age of 1 year, 11% – before the age of 2 years, and 31% – before the age of 3 years. Slayton et al. (30), who also conducted their study in the USA in children aged up to 3 years, showed that only 2% of parents confirmed that their child's first dental visit took place before the age of 1 year. Savage et al. (31) demonstrated that 73% of children from North Carolina in the US aged up to 5 years had never been to the dentist. Indian authors reported an older age range for first dental visit: Nino et al. (32) pointed out that the first dental appointment usually takes place at the age of 7 years; a retrospective

study by Meer et al. (33) showed that 59% of children had their first dental visit at the age of 6-12 years; and only 8.52% of children had their first dental visit before the age of 3 years. A study conducted in Bulgaria by Mileva and Kondeva (34) showed that the first dental visit usually takes place at the age of 3-6 years (51.9% of respondents), and only 1.73% of children below the age of 1 year were reported to the dentist. Ghimire et al. (35) from Nepal showed that children usually have their first dental visit at the age of 7-11 years (52.7%), and that only 7% of Nepalese children aged up to 3 years had already had their first dental appointment. However, in Saudi Arabia, Murshid (36) showed that children are usually reported to the dentist at the age of 3-5 years (52.9%), and that 32.2% of children attended a dental office before the age of 3 years.

THE REASON FOR FIRST DENTAL VISIT

Wilk-Sieczak et al. (25) demonstrated in their study group of 100 children aged 3-6 years that 63% of children had their first dental visit due to the need for treatment (carious lesion, dental pain), while only 26.3% of children had a check-up, adaptation or prophylactic visit. Rogalska et al. (26) showed in their study among parents of 6-12-year-olds that 50% of first dental visits were symptomatic, associated with carious lesions or dental pain, while 40% of visits were check-up ones. Grzesiak and Kaczmarek (23), who conducted their study in 1.5-3-year-olds reported that 36.4% of children are reported to the dentist for the first time due to carious lesions observed by their mothers, while 63.6% attend a dental office for a check-up. The majority of Polish mothers report their children to the dentist only after noticing carious lesions, which are often accompanied by pain (37, 38). International studies indicate that, unfortunately, the child's first dental visit is usually a symptomatic one, mostly due to dental pain: Meer et al. (33) reported dental pain (42.04%) and carious lesions (28.49%) as the main reasons for the first dental visit; Murshid (36)

reported dental pain (71.5%) as the dominant reason for first dental appointment, and a check-up visit for 27.3% of cases; Ghimire et al. (35) reported dental pain (32.4%) and caries (26.5%) as the main reasons for the first dental visit; Mileva and Kondeva (34) reported adaptation visits in 26.99% of cases and symptomatic visits due to caries or its complications in most cases (59.86%); Daou et al. (39) demonstrated in their study among Lebanese children that dental caries (50.9%) and dental pain (29.5%) were the most common reasons for dental appointment.

CONCLUSIONS

The data from the literature review indicate low parental health awareness in terms of caries prevention, as well as insufficient preventive actions implemented as part of family-oriented individual primary caries prevention. The child's first dental visit takes place much later than recommended in medical guidelines, with only 4-11.6% of children reported to the dentist in their first year of life. In most cases, the child's first dental appointment is a symptomatic one, resulting from advanced carious processes and, often, pain. There is an urgent need to educate parents/legal guardians of small children on dental prophylaxis and healthy behaviours. It is necessary to increase parental awareness of the need for the first dental visit at an appropriate age, regular oral hygiene, supervised tooth brushing, and reduced intake of cariogenic food products. Numerous reports point to the lack of an effective model of dental care for the youngest patients in Poland. Measures implemented as part of institutional prevention, such as group prophylaxis in preschools and schools, are unsatisfactory. Currently, individual prevention implemented by the child and parents, which is also insufficient, is crucial. Therefore, it seems necessary to intensify the cooperation between paediatricians, gynaecologists, general practitioners and dentists, as well as to implement an effective dental care model for the youngest children in Poland, which will be aimed at early diagnosis, adaptation to treatment, preventive measures and early treatment if necessary.

CONFLICT OF INTEREST

None

CORRESPONDENCE

*Anna Mika
Prywatna Praktyka Dentystyczna
ul. Za Torem 28 D, 34-520 Poronin
tel.: +48 502-173-548
z.anna@interia.pl

REFERENCES

1. Kargul A, Koperny M, Bała M et al.: Ocena stanu wiedzy na temat czynników wywołujących chorobę próchnicową oraz metod jej zapobiegania na podstawie badania ankietowego wśród rodziców dzieci w wieku przedszkolnym. *Dent Med Prob* 2015; 52(3): 316-323.
2. Szatko F: Społeczne uwarunkowania stanu zdrowotnego jamy ustnej. *Rozprawa habilitacyjna*. Akademia Medyczna w Łodzi 2001.
3. Petersen PE, Bourgeois D, Ogawa H et al.: The global burden of oral diseases and risks to oral health. *Bull World Health Organ* 2005; 83: 661-669.
4. Rudnicka J, Kowalczyk K, Ganowicz E, Iwanicka-Grzegorek E: Czynniki warunkujące zdrowie jamy ustnej u dzieci w wieku przedszkolnym. *Stomatol Współcz* 2015; 22(1): 8-15.

5. Bruzda-Zwiech A, Szydłowska-Walendowska B, Wochna-Sobańska M et al.: Wpływ nawyków higienicznych i żywieniowych na stan uzębienia dzieci w wieku przedszkolnym. *Dent Med Probl* 2005; 42(2): 267-272.
6. Marcinkowska U, Piekarz T, Mosler B et al.: Wybrane elementy profilaktyki próchnicy zębów dzieci w wieku przedszkolnym. I. Profilaktyka w rodzinie. *Dent Med Probl* 2013; 50(1): 45-51.
7. Hale K, Shah S: An infant's first dental visit. When, why and how. *J Mich Dent Ass* 2001; 83(2): 28-31.
8. Poulsen S: Child's first dental visit. *Int J Pediatr Dent* 2003; 13: 264-265.
9. Bagińska J: Próchnica wczesna – problem nie tylko stomatologiczny. *Nowa Stomatol* 2004; 3: 128-132.
10. Iwanicka-Frankowska E, Kępa J, Pierzynowska E: Ocena stanu zdrowotnego uzębienia dzieci w wieku przedszkolnym w Warszawie. *Nowa Stomatol* 2003; 3: 125-128.
11. Monitoring Zdrowia Jamy Ustnej; <http://www.mz.gov.pl/zdrowie-i-profilaktyka/programy-zdrowotne/wykaz-programow/monitorowanie-stanu-zdrowia-jamy-ustnej-populacji-polskiej-w-latach-2013-2015/>.
12. Szymańska J, Szalewski L: Próchnica zębów mlecznych w populacji polskich dzieci w wieku 0,5-6 lat. *Zdr Publ* 2011; 121(1): 86-89.
13. Monitorowanie zdrowia jamy ustnej populacji polskiej w latach 2016-2020; <http://www.mz.gov.pl/wp-content/uploads/2013/12/monitoring-2016-2020.doc>.
14. Strużycka I, Wierzbicka M, Jodkowska E et al.: Stan zdrowia jamy ustnej oraz potrzeby profilaktyczno-lecznicze dzieci w wieku 6 lat w Polsce w roku 2012. *Przegl Epidemiol* 2014; 68(1): 133-137.
15. Zanio-Kulaszewska A, Zduniak A, Zawadziński M, Jodkowska E: Ocena świadomości stomatologicznej matek dzieci sześciolatek w województwie mazowieckim. *Nowa Pediatria* 2012; 2: 32-39.
16. American Academy of Pediatric Dentistry: Guideline on infant oral health care. *Pediatr Dent* 2014; 36(6(1)): 1141-1145.
17. American Dental Association. Statement on early childhood caries; <http://www.ada.org/en/about-the-ada/ada-positions-policies-and-statements/statement-on-early-childhood-caries>.
18. Olczak-Kowalczyk D, Jackowska T, Czerwionka-Szaflarska M et al.: Stanowisko polskich ekspertów dotyczące zasad żywienia dzieci i młodzieży w aspekcie zapobiegania chorobie próchnicowej. *Nowa Stomatol* 2015; 20(2): 81-91.
19. Olczak-Kowalczyk D, Szczepańska J, Postek-Stefańska L et al.: Stanowisko Polskiego Towarzystwa Stomatologii Dziecięcej (PTSD), Sekcji Stomatologii Dziecięcej Polskiego Towarzystwa Stomatologicznego, Polskiego Oddziału Sojuszu dla Przyszłości Wolnej od Próchnicy (ACFF) i konsultanta krajowego w dziedzinie stomatologii dziecięcej dotyczące związku sposobu karmienia dziecka w 2. roku życia z próchnicą wczesnego dzieciństwa. *Nowa Stomatol* 2017; 22(1): 45-52.
20. Adamowicz-Klepalska B: Profilaktyka próchnicy zębów u dzieci. *Pediatr Pol* 2009; 84(6): 511-516.
21. Marcinkowska U, Piekarz T, Mosler B et al.: Wybrane elementy profilaktyki próchnicy zębów dzieci w wieku przedszkolnym. II. Profilaktyka instytucjonalna. *Dent Med Probl* 2013; 50(1): 52-56.
22. Furze H, Basso BM: The first dental visit: an Argentine point of view. *Int J Pediatr Dent* 2003; 13: 266-268.
23. Grzesiak I, Kaczmarek U: Pierwsza wizyta dziecka w gabinecie stomatologicznym. *Dent Med Probl* 2006; 43(3): 433-437.
24. Kaczmarek U: Metody behawioralne kształtujące zachowanie dziecka w gabinecie stomatologicznym na podstawie piśmiennictwa. *Czas Stomatol* 2009; 62(6): 456-466.
25. Wilk-Sieczak B, Zakrzewski M, Chmielewska-Łuczak D: Lęk matek przed leczeniem stomatologicznym i przyczyna pierwszej wizyty dziecka a czynniki prognozowania negatywnej postawy dziecka w wieku przedszkolnym podczas leczenia stomatologicznego. *Dent Med Probl* 2005; 42(1): 77-82.
26. Rogalska A, Zieleniewicz K, Mikołajczyk M, Pypeć J: Poziom wiedzy rodziców na temat stanu jamy ustnej dzieci. *Nowa Stomatol* 2004; 9(2): 80-82.
27. Bruzda-Zwiech A, Filipińska R, Szydłowska-Walendowska B et al.: Stomatologiczne zachowania prozdrowotne 4-5-letnich dzieci w świetle badań ankietowych rodziców. *Dent Med Probl* 2012; 49(2): 272-278.

28. Topolska J, Bałanda W, Malicka M et al.: Ocena świadomości prozdrowotnej rodziców dzieci w zakresie nawyków higienicznych i żywieniowych oraz ich wpływu na stan uzębienia mlecznego. *Dent Forum* 2006; 34(1): 37-41.
29. Nainar SMH, Straffon LH: Targeting of the year one dental visit for United States children. *Int J Pediatr Dent* 2003; 13: 258-263.
30. Slayton RL, Warren JJ, Levy SM et al.: Frequency of reported dental visits and professionals fluoride application in a cohort of children followed from birth to 3 years. *Pediatr Dent* 2002; 24: 64-68.
31. Savage MF, Lee JY, Kotch JB, Vann WF: Early preventive dental visits: effects on subsequent utilization and costs. *Pediatrics* 2004; 114: 418-423.
32. Nino J, Ashino J, Varsha J et al.: First dental visit of a child: a retrospective study. *Pushpagiri Medical Journal* 2010; 2(1): 21-23.
33. Meera R, Muthu MS, Phanibabu M, Ratnaprabhu V: First dental visit of a child. *J Indian Soc Pedod Prev Dent* 2008; 26: 68-71.
34. Mileva SP, Kondeva VK: Age at and reasons for the first dental visit. *Folia Med* 2010; 52(4): 56-61.
35. Ghimire N, Kayatsha B, Nepal P: The first dental visit. *J Chitwan Med Coll* 2013; 3(6): 30-33.
36. Murshid EZ: Children's ages and reasons for receiving their first dental visit in a Saudi community. *Saudi Dent J* 2016; 28: 142-147.
37. Chłapowska J: Sterowanie dietą dziecka w profilaktyce przeciwpróchnicowej. *Pozn Stoma* 1992; 20: 115-119.
38. Giermakowska A, Gielniowska E, Chraniuk Z et al.: Wpływ higieny i diety na występowanie próchnicy u dzieci po 3. roku życia. *Magazyn Stomat* 1994; 4(9): 19-23.
39. Daou MH, Eden E, El Osta N: Age and reasons of the first dental visit of children in Lebanon. *J Med Liban* 2016; 64(1): 18-22.

submitted:

14.02.2018

accepted:

03.06.2019