

Willingness to Treat Pediatric Patients Among Dentists in Bulgaria: A Nationwide Survey

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Abstract: ***Background:** Pediatric dental care is vital for public health but access is hindered by systemic challenges, including uneven resource distribution and limited pediatric dentistry specialization. Understanding dentists' willingness to treat children is critical for improving oral health outcomes. **Aim:** This study aims to comprehensively evaluate the willingness of Bulgarian dentists to provide dental care to pediatric patients in their practices. **Methods:** A cross-sectional survey was conducted from January to March 2025, involving 234 practicing dentists (78% response rate) across Bulgaria's urban and rural areas. A 17-question structured questionnaire assessed demographic and professional characteristics, experience with pediatric patients, perceived challenges, and motivations. The sample included 68% general dentists, 22% pediatric specialists, and 10% other specialists, represented by gender (51% female), age (34% aged 25–35, 44% aged 36–50, 22% over 50), and location (61% urban). Data were analyzed using SPSS version 27.0 with chi-square tests, t-tests, ANOVA, and logistic regression to explore relationships between willingness, dentist type, location, and age. **Results:** Overall, 62% of dentists reported moderate to high willingness to treat children. Pediatric specialists showed the highest willingness (89%) compared to general dentists (25%). Urban dentists were more willing than rural dentists. Younger dentists (25–35 years) were more willing than those over 50 years of age. Of respondents, 58% treated children weekly, with pediatric specialists (92%) more engaged than general dentists (48%). Most (72%) served children aged 6–12 years, but only 29% treated those aged 0–2 years. Key challenges included managing children's behavior (74%), time constraints (58%), and financial considerations (49%), with lack of training and financial issues predicting low willingness. Motivations included professional fulfillment (67%) and social responsibility (54%). **Conclusion:** The findings highlight the need to enhance pediatric training for general dentists and address rural disparities to increase dentists' willingness to treat children, thereby improving access to pediatric dental care and reducing oral health inequities.*

Keywords: dentist willingness, pediatric dentistry, child oral health, rural healthcare access, behavioral management in dentistry

1. Introduction

Pediatric dental care is a cornerstone of public health, demanding specialized skills, empathy, and a tailored approach to address the unique needs of young patients (1). In Bulgaria, where dental services operate within a mixed public-private healthcare system, understanding dentists' willingness to treat children is pivotal for enhancing access to care and improving oral health outcomes. Bulgaria's dental care landscape, shaped by several healthcare reforms, faces challenges such as uneven resource distribution, limited pediatric dentistry specialization, and disparities in care access, particularly in rural areas and among underserved populations. These systemic factors underscore the urgency of investigating dentists' attitudes toward pediatric care to address gaps in service provision.

This study is significant as it addresses a critical gap in the understanding of how systemic and demographic variables influence pediatric dental care access in Bulgaria, offering insights that may inform national training curricula and rural health policies.

Early childhood oral health is critical to overall well-being, with dental caries remaining the most prevalent chronic disease among children globally (2). International guidelines, such as those from the American Academy of Pediatrics, the American Academy of Pediatric Dentistry, and the American Dental Association, recommend that children receive their first dental visit by age one to facilitate prevention, early detection, and timely intervention (3, 4). However, in Bulgaria, as in many

countries, significant barriers hinder adherence to these recommendations. Children from low-income families or those enrolled in public insurance programs often face limited access to dental care due to low provider participation and geographic disparities (4, 5).

The willingness of dentists to treat pediatric patients is a key determinant of access to care. Surveys consistently reveal that general dentists are less likely than pediatric dentists to accept very young children, especially those aged 0–2 years, and are less likely to participate in Medicaid (USA) or other programs. Several factors influence a provider's willingness to manage pediatric patients, including the type of provider, years of experience, educational background, and their perceived preparedness. Additionally, barriers such as insufficient training, low reimbursement rates, and perceived behavioral challenges further restrict access to dental services for children. (4, 5, 6, 7).

Addressing these gaps requires targeted strategies, including enhanced pediatric training in dental curricula, interprofessional collaboration with pediatricians and public health professionals, and policy initiatives to incentivize care for underserved populations. Understanding the determinants of dentists' willingness to treat children in Bulgaria is essential for designing interventions that bridge access disparities and align with global best practices for pediatric oral health (2, 4, 5, 7, 8). This study employs a questionnaire to explore Bulgarian dentists' attitudes, challenges, and motivations regarding pediatric dental care, aiming to inform evidence-based

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strategies to strengthen the country's pediatric dental care system and improve oral health outcomes for children.

Aim: This study aims to comprehensively evaluate the willingness of Bulgarian dentists to provide dental care to pediatric patients in their practices.

2. Materials and Methods

This study utilized a cross-sectional survey design to evaluate the willingness of Bulgarian dentists to provide pediatric dental care, conducted from January 1 to March 31, 2025. A structured questionnaire was distributed to a target sample of 300 actively practicing dentists across Bulgaria, selected to represent diverse geographic (urban vs. rural) and practice settings. Inclusion criteria required dentists to be licensed, actively practicing in Bulgaria, and treating patients at least 20 hours per week. Exclusion criteria included retired dentists and students. Of the 300 distributed questionnaires, 234 were completed, yielding a 78% response rate.

The questionnaire was developed following an extensive review of international literature on pediatric dental care access. The final instrument comprised 17 questions across four sections:

- 1) **Demographic and Professional Characteristics** (5 questions): Age, gender, years in practice, specialty (general, pediatric, other) and practice location (urban/rural).
- 2) **Experience with Pediatric Patients** (3 questions): Frequency of treating children, age groups served (0–2, 3–5, 6–12 years), types of procedures performed.
- 3) **Perceived Challenges** (5 questions): Barriers such as behavior management, time constraints, financial reimbursement, training deficits, and parental involvement, rated on a 5-point Likert scale (1 = not a challenge, 5 = major challenge).
- 4) **Motivations** (4 questions): Factors encouraging pediatric care, including professional fulfillment, social responsibility, and practice growth, rated on a 5-point Likert scale (1 = not motivating, 5 = highly motivating), with one open-ended question for additional insights.

The final sample (n=234) comprised 68% general dentists (n=160), 22% pediatric dentistry specialists (n=52), and 10% other specialists (n=22, e.g., orthodontists, periodontists). The sample was balanced by gender (51% female, 49% male), age (34% aged 25–35, 44% aged 36–50, 22% over 50), and location (61% urban, 39% rural). Data were analyzed using SPSS version 27.0. Descriptive statistics (frequencies, percentages, means, standard deviations) summarized sample characteristics, willingness levels, challenges, and motivations. Inferential analyses included:

- **Chi-square tests** to examine associations between categorical variables (e.g., dentist type [general, pediatric, other] and willingness [high, moderate, low]).
- **Independent t-tests** to compare mean willingness scores (1–5 scale) between urban and rural dentists.

- **One-way ANOVA** with post-hoc Tukey HSD tests to assess differences in willingness across age groups (25–35, 36–50, over 50).
- **Descriptive statistics.**

3. Results

The questionnaire yielded 234 responses from 300 distributed surveys (78% response rate), providing insights into Bulgarian dentists' willingness to treat children, perceived challenges, and motivations.

Table 1 presents the distribution of willingness to treat children by dentist type, location, and age group.

Table 1: Willingness to Treat Children by Dentist Type, Location, and Age

Category	High Willingness	Moderate Willingness	Low Willingness
Dentist Type			
General Dentists	25% (40)	47% (75)	28% (45)
Pediatric Specialists	60% (31)	29% (15)	11% (6)
Other Specialists	18% (4)	45% (10)	36% (8)
Location			
Urban	30% (43)	35% (50)	35% (50)
Rural	25% (23)	33% (30)	42% (38)
Age Group			
25–35 years	40% (36)	30% (27)	30% (27)
36–50 years	25% (26)	40% (42)	35% (36)
Over 50 years	20% (8)	35% (14)	45% (18)

Statistics: Chi-square test for dentist type ($\chi^2 = 24.67$, $p < 0.001$); t-test for location ($t = 2.14$, $p = 0.033$); ANOVA for age ($p = 0.002$).

Overall, 62% of dentists reported moderate to high willingness, with pediatric specialists showing the highest enthusiasm (89%). Urban dentists were more willing than rural ones, and younger dentists (aged 25–35) showed greater openness than older colleagues (over 50).

Table 2 presents the experience of the dentists with pediatric patients.

Table 2: Experience with Pediatric Patients by Dentist Type

Category	Overall (n=234)	General Dentists (n=160)	Pediatric Specialists (n=52)	Other Specialists (n=22)
Treat Children at Least Weekly	58% (136)	48% (77)	92% (48)	36% (8)
Age Groups Served				
0–2 years	29% (68)	22% (35)	50% (26)	32% (7)
3–5 years	54% (126)	48% (77)	73% (38)	50% (11)
6–12 years	72% (168)	68% (109)	85% (44)	68% (15)
Common Procedures				
Preventive Care (e.g., Fluoride)	65% (152)	60% (96)	81% (42)	64% (14)
Restorations	52% (122)	48% (77)	65% (34)	50% (11)

The experience section revealed that 58% of respondents (n=136) treated children at least weekly, with pediatric specialists (92%) more likely to do so than general dentists (48%) or other specialists (36%). Most respondents (72%) served children aged 6–12 years, while only 29% treated those aged 0–2 years, reflecting lower engagement with very young patients. Common procedures included preventive care (e.g., fluoride treatments, 65%) and restorations (52%).

Table 3 lists the primary challenges facing dentists with the work with young children.

Table 3: Reported Challenges in Treating Children

Challenge	Percentage (%)	Number of Respondents
Managing Children's Behavior	74%	173
Time Constraints	58%	136
Financial Considerations	49%	115
Lack of Training	43%	101
Parental Involvement	38%	89

Statistics: lack of training ($p = 0.012$), financial considerations ($p = 0.025$), behavior management ($p = 0.061$).

Managing children's behavior was the primary barrier at 74%, followed by time constraints at 58% and financial considerations at 49%. General dentists reported a lack of training more often than specialists.

Table 4 outlines the motivations for providing pediatric care.

Table 4: Motivations for Treating Children

Motivation	Percentage (%)	Number of Respondents
Professional Fulfillment	67%	157
Social Responsibility	54%	126
Practice Growth	41%	96
Personal Satisfaction (Specialists)	92% (of 52)	48

Professional fulfillment (67%) and social responsibility (54%) were the primary drivers, with pediatric specialists reporting personal satisfaction most frequently (92%).

4. Discussion

The questionnaire results illuminate a multifaceted landscape for pediatric dental care in Bulgaria, shaped by professional, systemic, and societal factors influencing dentists' willingness to treat children. The significant variation in willingness by dentist type—89% of pediatric specialists versus 28% of general dentists reporting low willingness highlights the critical role of specialized training (9). Pediatric specialists, equipped with expertise in behavior management and sedation, are better prepared to navigate the emotional and technical complexities of treating young patients (9).

The urban-rural divide reveals stark geographic disparities, with rural dentists (42% reporting low willingness) facing barriers such as outdated equipment, limited continuing education, and others. These align with findings from a

qualitative study across four Balkan countries, including Bulgaria, which identified organizational barriers and inadequate public sector infrastructure as impediments to children's oral health programs (10). Rural areas, where 39% of respondents practice, also face transportation and distance challenges, particularly for underserved groups like Roma children, who encounter additional cultural and financial barriers (11).

Younger dentists are more willing to treat children, especially very young children, compared to older generations of dentists, demonstrated in our study (table 1 and 2). Multiple studies indicate that general dentists who are more recently trained, female, or have had more extensive pediatric experience during dental school are more likely to provide care to children under age 3, including infants and toddlers. For example, in Iowa, the proportion of general dentists treating children under age 2 increased from 6% in 2005 to 18% in 2012, with younger dentists significantly more likely to treat this age group. Similarly, in Connecticut, general dentists in practice less than 10 years were more likely to see children aged 0–2 years (12, 13). Willingness to treat young children is also closely linked to the amount and quality of pediatric training received during dental school education. Dentists who report more hands-on pediatric experience during their education are more likely to treat preschool-aged children, including those enrolled in Medicaid (6). However, despite some improvement, a substantial proportion of general dentists—especially those who have been in practice longer—remain reluctant to treat very young children, often citing lack of training or confidence (14).

Dentists face several key barriers and challenges in treating children, including behavior management, time constraints, lack of training, and parental involvement (table 3). Behavior management is a central challenge, as many children exhibit anxiety, fear, or uncooperative behavior during dental visits (table 3). The medical literature demonstrates that while basic behavioral management techniques such as distraction, music, and graduated exposure are effective, clinicians must be familiar with a range of techniques and tailor them to individual patient needs, often requiring parental involvement for optimal outcomes (15, 16). Children with developmental disabilities or behavioral conditions present additional complexity as behavioral challenges and oral aversions are noted as significant barriers to care (15, 16, 17).

Time constraints are a practical barrier, as managing child behavior and providing individualized care often require longer appointment times. Dentists may not be reimbursed for the additional time needed, and long waiting times or limited access to sedation or general anesthesia further complicate care for children with special needs (17). Lack of training is another significant issue. Many general dentists report insufficient training or confidence in managing pediatric patients, particularly those with complex behavioral or developmental needs. This leads to reluctance in accepting young or special needs children into their practices. The American Academy of Pediatrics emphasizes the need for more provider training to

address these gaps (8, 17). Parental involvement can be both a barrier and a facilitator. Parental attitudes, knowledge, and oral health literacy influence children's access to care and cooperation during visits (18). Conflicts between parents and children, uncertainty about oral health practices, and inconsistent messaging from health professionals can impede optimal care (19). The American Academy of Pediatrics also notes that obtaining consent and navigating family dynamics, especially in foster or kinship care, can further complicate access (17, 19).

5. Conclusion

In summary, the study reveals that while pediatric dental specialists in Bulgaria demonstrate high willingness to treat children, general and rural practitioners face significant barriers—including limited training and systemic constraints. Targeted efforts to enhance pediatric training and improve rural infrastructure are essential for improving access to child dental care and addressing public health inequities.

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