

# Why parents prefer university clinic for pedodontic treatment? Effect of caries/orthodontic treatment/trauma, education and media: A cross-sectional study

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## ABSTRACT

The aim of this study is to determine why parents prefer university clinics for pedodontic treatment, as well as describe caries, orthodontic treatment, trauma, education, and the media effect. A five-item, questionnaire-based, cross-sectional interview study was administered face-to-face to a nationally representative sample in Turkey in 2013 by the Gazi University, Department of Pediatric Dentistry. The researchers recorded the parents' educational status, reasons for referral, and the children's age and sex. A Chi-square test was used for the categorical variables. The continuous variables were compared using a Mann-Whitney U-test and a Kruskal-Wallis test in 90% confidence interval of  $\pm 3\%$ . A total of 572 patients and their parents agreed to participate in this study. Question 1: Statistically significant difference was found between parents educational status. Question 2: Increased education status led to increased confidence in academic facilities ( $P < 0.05$ ). Question 3: Just for over the 16 years education status has found significantly a low concern ( $P < 0.05$ ). Question 4: Only for over the 16 years education status was found significant information via media sources ( $P < 0.05$ ). Question 5: 56.6% said dentists should provide more information. Media sources are gaining importance and status for educating the public information source in pedodontic treatment. The increasing status of education showed a significant difference for confidence in academic facilities.

**Key words:** Cross-sectional Study, Education and Media, Pediatric Dentistry

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## INTRODUCTION

The utilization of dental services has major importance for dental health care planning. Patient utilization of dental services can be divided into three decision stages: Individuals must decide whether to go to a dentist; they must choose between public and private dentists; and they make a number of visits to the chosen dentist.<sup>[1,2]</sup> When selecting a dentist, parents consider several aspects: Access to care (location, office hours, and waiting time), technical aspects (technical quality of the clinic, equipment, and care), interpersonal aspects (the dentist — patient relationship), and service fees.<sup>[2,3]</sup> Choosing a dental clinic is a complex process that relies on one's experiences, environment, finances, sociodemographic background, knowledge, and expectations.<sup>[4-6]</sup>

In Turkey, it is hard to find reliable data and information regarding the utilization rate of dental services, due to a poor health information system.<sup>[1]</sup> A study showed that the prevalence of dental problems and treatment need in Turkey is high.<sup>[7]</sup> However, the dentist-to-population ratio is 1:3,250, which is very low when compared with developed countries. According to the Health Ministry of Turkey in 2011, approximately 52% of dental care was predominantly delivered by private clinics and 48% by employment-based insurance. This 48% includes 10% who were treated at a university and 38% at the Oral and Dental Health Ministry Hospitals.

Data on dental services utilization for children and the parent-related information are not available. Caries, orthodontic problems, and trauma in the pediatric

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population might have an adverse effect on patients' quality of life.<sup>[8,9]</sup> This may be linked to the increasing demand for pedodontic treatment, which might be attributed to social, cultural, and psychological factors, as well as personal norms. The perceived severity of the presenting pedodontic problems may also be a factor in whether individuals seek pedodontic treatment.<sup>[10]</sup> In addition to dentist referral, different media sources also help people to receive and evaluate dental treatments. Previous studies suggest that a better understanding of the role of social media can be helpful to improve dental practice.<sup>[11,12]</sup> Uslu and Akcam<sup>[13]</sup> reported that the media does not provide satisfactory information regarding orthodontic treatment.

### This paper will test four questions

1. Why do parents prefer university clinics for pedodontic treatment?
2. What is the impact of caries, orthodontic treatment, and trauma on this election?
3. Does education have an impact on this election?
4. Does media have an impact on this election?

## MATERIALS AND METHODS

### Public opinion survey

A five-item, questionnaire-based, cross-sectional study was administered in 2013 to a nationally representative sample in Turkey by means of a face-of-face interview survey admitted by the Gazi University Faculty of Dentistry, Department of Pediatric Dentistry. Parents of children between the ages of 6 and 12 during their first examination were included in the study ( $n = 572$ ). The questionnaire was modified and translated by a native speaker from the study of Uslu and Akcam<sup>[13]</sup> in which the reasons why orthodontic patients prefer the university clinics were evaluated. The survey contained five questions: Four consisted of multiple choices and one of them also required scoring [Table 1]. The data received by the researchers included the parents' educational status, reasons for referral, children age, and sex. For the scored question, the participants were asked to score their present pedodontic problem from 10 (least problematic) to 1 (most problematic). No modifications in the questions or the choices were made for the parents and patients. The participants were supervised by one investigator (MB) while they filled out the forms, but no comments on their answers were given. This study assumes maximum variance and a 90% confidence interval of  $\pm 3\%$ . The participants were given an explanation about the aims of the study, and if accepted to take part, each participant signed an informed consent form. All participants were assured that no names would be present on the questionnaires and that all information belonging to them would be

### Table 1: Questionnaire for parents

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Who referred you to or suggested the pedodontic treatment?
A: Dentist
B: Myself/my parents
C: Television
D: Internet
E: Friends/relatives
F: Other
Why did you choose the university clinic for pedodontic treatment?
A: An official dispatch
B: Confidence in academic facilities
C: Private clinics are more expensive
D: No confidence in private clinics
How important of a health problem are you seeking pediatric treatment for? (scored 1-10, in which 1 indicates maximum and 10 indicates minimum concern)
(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)
Do you think that one can get satisfactory information about pedodontic treatment via the media (e.g., radio, TV, newspapers, magazines)?
A: Yes
B: No
C: I have no idea
How should the public be informed about pedodontic treatments?
A: Dentists should offer more information
B: By radio and TV programs
C: By internet
D: University dental hospitals should organize public seminars
E: Other

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kept confidential. No questionnaires were filled in the presence of any condition that would affect the person's ability to cooperate, understand, answer, and/or score the questions, such as mental problems, suspicious perceptual defects or loss of hearing, and any craniofacial defects. Willingness to participate in the survey was received, and no personal identifiers were collected.

### Statistical analysis

All statistical analyses were performed using SPSS Software version 15.0 for Windows (Statistical Package for the Social Sciences, SPSS Inc., Chicago, IL, USA). The continuous variables are presented as means and standard deviations, whereas the categorical variables include the number of cases and their percentages. A Chi-square test was used for the categorical variables while the continuous variables were compared with Mann-Whitney U-tests and Kruskal-Wallis tests. A  $P < 0.05$  was considered significant for all analyses.

## RESULTS

A total of 572 patients (294 females and 278 males) and parents (393 mothers, 157 fathers, and 22 others) agreed to participate in this study [Table 2]. 169 (29.5%) of the respondents had under 5 years (elementary school) of education, 101 (17.7%) had 5-8 years (secondary school)

education, 208 (36.4%) had 8-12 years (high school) of education, 80 (14%) had between 12 and 16 years of education (university), and 14 (2.4%) had over 16 years (postgraduate) of education [Table 2]. In this study, 51.2% of patients were referred to the pedodontic clinic due to caries, 21.9% sought orthodontic treatment, 6.3% had trauma, 2.1% sought fluoride application, 17.3% control examination, and 1.2% had other reasons [Table 2].

## Assessment of the questionnaire answers

### Question 1

In general, a plurality of the parents (46%) declared that they were referred to a pedodontist by a dentist, 43.2% referred themselves or were referred by their parents, and 7.7% used the internet [Table 3]. A statistically significant difference between reasons for referral was not found ( $P > 0.05$ ) [Table 4]. However, a significant difference between parents' educational status was found ( $P < 0.05$ ) [Table 5]. There was a significant difference between parents who had above and below 8 years of education ( $P < 0.05$ ) [Table 5].

**Table 2: The distribution of the sociodemographic variables and referral reasons**

Sociodemographic variables and referral reasons	n = 572	Percentage
Parents		
Mother	393	68.7
Father	157	27.4
Other	22	3.8
Education (years)		
<5	169	29.5
5-8	101	17.7
8-12	208	36.4
12-16	80	14
>16	14	2.4
Referral reasons		
Caries	293	51.2
Orthodontic	125	21.9
Trauma	36	6.3
Fluorid-application	12	2.1
Control	99	17.3
Other	7	1.2

**Table 3: The distribution of the participants' answers to the questionnaire**

Choice	n (%)				
	Question 1	Question 2	Question 3	Question 4	Question 5
A	263 (46)	281 (49.1)	1-3: 418 (73)	146 (25.5)	324 (56.6)
B	247 (43.2)	213 (37.2)	4-7:68 (12.1)	408 (71.3)	81 (14.1)
C	0 (0)	52 (9.1)	8-10: 86 (14.9)	18 (3.1)	51 (8.9)
D	44 (7.7)	26 (4.5)	—	—	108 (18.9)
E	14 (2.4)	—	—	—	8 (1.4)
F	4 (0.7)	—	—	—	—

### Question 2

When asked why they chose to attend a university clinic, most participants stated the importance of social security (49.1%) and confidence in academic facilities (37.2%), although they revealed no significant difference ( $P > 0.05$ ) [Table 3]. Trauma of all causes showed a significant difference with confidence in academic facilities ( $P < 0.05$ ) [Table 4]. Increased education status also had a statistically significant relationship with increased confidence in academic facilities ( $P < 0.05$ ) [Table 5].

### Question 3

Based on the mean scores, most participants rated their children's pedodontic problems as having a high level of concern (73%). Parents who only referred their children for a fluoride application had low concern [Table 4]. The scores for the other referral reasons were also examined and revealed no interaction ( $P > 0.05$ ) [Table 4]. Parents with over 16 years of education had a statistically significant low amount of concern ( $P < 0.05$ ) [Table 5]. However, no interactions between these scores and other educational status were found ( $P > 0.05$ ) [Table 5].

### Question 4

About 71.4% of parents did not agree that the media could provide satisfactory information about pedodontic procedures. About 25.5% of parents believed that valid information could be gained via media sources, and 3.1% had no idea [Table 3]. A statistically significant difference among reasons for referral was not found ( $P > 0.05$ ) [Table 4]. Only parents with over 16 years of education had a statistically significant with the usefulness of media sources ( $P < 0.05$ ) [Table 5].

### Question 5

About 56.6% said that dentists should provide more information about pedodontic treatment. About 14.1% of parents believed that radio and/or television programs could be effective, and 8.9% said that the Internet would be most helpful [Table 3]. These were followed by 18.9% who indicated the need for public seminars organized by university hospitals [Table 3]. A statistically significant difference among reasons for referral was not found ( $P > 0.05$ ) [Table 4]. However, for participants with higher educational status, being informed by the media was equally important as being informed by dentists. Overall, educational status significantly altered the desired source of information ( $P < 0.05$ ) [Table 5].

## DISCUSSION

To the best of our knowledge, this is the first study of its kind to evaluate parents' preferences for university dental care. Historically, relatively few studies have explored such public preferences, and most are noncomparable.<sup>[14-17]</sup>

**Table 4: The distribution of the participants' answers according to referral reasons**

Percentage	Question 1						Question 2				Question 3			Question 4			Question 5				
	A	B	C	D	E	F	A	B	C	D	1-3	4-7	8-10	A	B	C	A	B	C	D	E
Caries	47	42	0	2	8	1	48	38	8	6	73*	10	17	26	70	4	54	16	7	22	7
Orthodontic	52	40	0	2	5	1	53	33	12	2	79*	9	12	26	72	2	55	18	9	19	2
Trauma	38	47	0	3	10	2	33	55*	10	3	74*	12	14	25	73	2	61	12	7	17	2
Fluorid application	35	55	0	2	8	0	50	35	15	0	60	25	15	25	75	0	67	17	8	8	0
Control	41	53	0	0	6	0	52	37	8	3	72*	12	16	26	70	4	63	14	9	11	3
Other	41	59	0	0	0	0	57	43	0	0	61	29	10	29	71	0	57	20	9	14	0

\*The superscript letters indicate significant differences ( $P < 0.05$ )

**Table 5: The distribution of the participants' answers depending to ES**

ES	Question 1						Question 2				Question 3			Question 4			Question 5				
	A	B	C	D	E	F	A	B	C	D	1-3	4-7	8-10	A	B	C	A	B	C	D	E
<5	50*	42	0	0	8	0	58*	28	11	3	69*	15	16	21	75*	4	60*	18	3	19*	0
5-8	56*	34	0	0	8	2	59*	29	6	6	70*	12	18	18	79*	3	68*	11	5	16*	0
8-12	37	50*	0	2	9	2	46*	44*	5	5	82*	8	10	28	71*	1	55*	16	8	16*	4
12-16	33	56*	0	5	5	1	27	53*	18	2	70*	10	20	37	50	3	45	18	12	25*	0
>16	28	57*	0	5	10	0	24	47*	17	12	43	15	42*	57*	43	0	40	45*	14	1	0

\*The superscript letters indicate significant differences ( $P < 0.05$ ), ES: Educational status

Previous studies are generally associated with finances, public coverage levels, public perceptions and experiences, and orthodontic treatment for adults.<sup>[15-18]</sup> This study is investigating why parents prefer university clinics for pedodontic treatment and the effects of their children's condition (caries, orthodontic treatment or trauma), their education, and the media.

The most frequent reason for visiting a university was caries (51.2%). 17.3% of the participants replied that they attended for a regular check-up. This is a very low rate, when compared with many other countries,<sup>[19]</sup> and indicates that this behavior pattern may be for economic and/or cultural reasons.

In this study, 46% of parents preferred university-based pedodontic treatment because of dentists' recommendations, versus 43.2% who were self-motivated or were persuaded by their parents. No comparison with similar studies is available, but previous studies found that 35.5% of patients had been suggested orthodontic treatment by a general dentist.<sup>[2,3,20]</sup> Admission to university clinics for caries and orthodontic treatment was typically directed by a dentist, but those who were referred due to trauma had self/parent preferences.

In this study, the main factors that motivate parents to apply to a university clinic were the existence of social security and trust in academic facilities due to faculty supervision. Individuals with who had heard official dispatches (49.1%) reported higher rates of dental visits than the others, but the differences between their confidences in academic facilities (37.2%) were not statistically significant. This result appears to be normal,

because publically-insured people normally receive care at the university. The reason for preferring dental faculties at a university may be good service, as shown in a study.<sup>[1]</sup> Based on this study, we thought that confidence in academic facilities was the reason for preferring universities. Those who were referred to university clinics for caries and orthodontic treatment usually received official dispatches, but those who referred due to trauma were usually confident in academic facilities.

Participants were also asked to rate their level of concern for their existing pedodontic problems by rating them from 1 to 10. About 73% of parents determined had high concern. Those who were referred for caries, orthodontic treatment, and trauma had no difference in their existing concern.

In recent years, the role of social media as a source of receiving and sharing information is increasing. An increasing number of patients are using the Internet to find information about medical conditions or treatments. Patients are also interacting with other Internet users to provide and receive support and to share information. As the use of media sources becomes common for medical conditions, the public's perception about the media is becoming a concern.<sup>[12,18,21]</sup> This is why the reliability of media sources is one of the basic aspects of this questionnaire. About 25.5% of parent agreed that they rely on media sources for information about pedodontic treatment. About 23% also wanted to be informed about treatments via the Internet, radio, and/or television programs, which was quite apparent for the parents. There was a positive correlation between those who rely on and accept the media as a source of information. On

the contrary, participants who did not trust media wanted dentists to educate them about pedodontic treatments. Among all participants, “seminars organized by university clinics” was the least attractive source of information. These results can represent the fact that people need sources of information that can be reached easily and quickly. As education increases, so too did the impact of the media.

In this study, 29.5% of respondents had under 5 years of education, 17.7% had 5-8 years education, 36.4% had 8-12 years education, 14% had 12-16 years of education, and 2.4% had over 16 years of education. Education status was found to have a significant influence on dental service in this study, as in various others.<sup>[1,22,23]</sup> However, people with high education status in Turkey generally prefer private clinics. In this study, low education status individuals usually preferred university clinics.

Question 1: Increased education status is correlated with increased self/parent decision and decreased suggestions by dentists.

Question 2: Education status is positively correlated with confidence in academic facilities.

Question 3: Those with 16 years of education or more had a statistically significant low concern.

Question 4: Only those with over 16 years of education had a statistically significant use of media sources.

Question 5: For parents with higher educational status, being informed by the media was equally important as being informed by dentists.

The current study is one of the few studies to report the attitudes of parents toward pedodontic treatment in a university clinic and the potential factors that may affect their decisions. Our sample has thus likely under-represented the medium-income segment of Turkey’s population.

## CONCLUSIONS

Within the limitations of this study, although dentists are still the major information source for pedodontic treatment, media sources are gaining in importance, with their increasing educational status. The trauma cases and increased status of education were the main reasons of preferring university clinics with confidence in academic facilities.

## REFERENCES

1. Mumcu G, Sur H, Yildirim C, Soylemez D, Atli H, Hayran O. Utilisation of dental services in Turkey: A cross-sectional survey. *Int Dent J* 2004;54:90-6.
2. Bayat F, Vehkalahti MM, Murtomaa H, Tala H. Why do adults entitled

to free or highly subsidized dental services select fully out-of-pocket-paid care? *Community Dent Oral Epidemiol* 2010;38:88-95.

3. Newsome PR, Wright GH. A review of patient satisfaction: 1. Concepts of satisfaction. *Br Dent J* 1999;186:161-5.
4. Freeman R. Barriers to accessing dental care: Patient factors. *Br Dent J* 1999;187:141-4.
5. Lahti S, Tuutti H, Hausen H, Kääriäinen R. Dentist and patient opinions about the ideal dentist and patient – Developing a compact questionnaire. *Community Dent Oral Epidemiol* 1992;20:229-34.
6. Kronström M, Palmqvist S, Söderfeldt B, Vigild M. Utilization of dental health services among middle-aged people in Sweden and Denmark. *Acta Odontol Scand* 2002;60:276-80.
7. Kulak-Ozkan Y, Ozkan Y, Kazazoglu E, Arıkan A. Dental caries prevalence, tooth brushing and periodontal status in 150 young people in Istanbul: A pilot study. *Int Dent J* 2001;51:451-6.
8. Berger TD, Kenny DJ, Casas MJ, Barrett EJ, Lawrence HP. Effects of severe dentoalveolar trauma on the quality-of-life of children and parents. *Dent Traumatol* 2009;25:462-9.
9. Krisdapong S, Prasertsom P, Rattanarangsima K, Sheiham A. School absence due to toothache associated with sociodemographic factors, dental caries status, and oral health-related quality of life in 12-and 15-year-old Thai children. *J Public Health Dent* 2013;73:321-8.
10. Bimstein E, Gardner QW, Riley JL, Gibson RW. Educational, personal, and cultural attributes of dental students’ humanitarian trips to Latin America. *J Dent Educ* 2008;72:1493-509.
11. Panic K, Cauberghe V, De Pelsmacker P. Promoting dental hygiene to children: Comparing traditional and interactive media following threat appeals. *J Health Commun* 2014;19:561-76.
12. Heavilin N, Gerbert B, Page JE, Gibbs JL. Public health surveillance of dental pain via Twitter. *J Dent Res* 2011;90:1047-51.
13. Uslu O, Akcam MO. Evaluation of long-term satisfaction with orthodontic treatment for skeletal class III individuals. *J Oral Sci* 2007;49:31-9.
14. Hancock M, Calnan M, Manley G. Private or NHS General Dental Service care in the United Kingdom? A study of public perceptions and experiences. *J Public Health Med* 1999;21:415-20.
15. Hayran O, Mumcu G, Sur H, Yildirim C, Söylemez D, Atli H. Financing of dental services in Turkey: Opinions and expectations of dentists, residents, and patients. *J Public Health Dent* 2004;64:82-7.
16. Quiñonez C, Figueiredo R, Azarpazhooh A, Locker D. Public preferences for seeking publicly financed dental care and professional preferences for structuring it. *Community Dent Oral Epidemiol* 2010;38:152-8.
17. Ugur ZA, Gaengler P. Utilisation of dental services among a Turkish population in Witten, Germany. *Int Dent J* 2002;52:144-50.
18. Rachel Henzell M, Margaret Knight A, Morgaine KC, Antoun JS, Farella M. A qualitative analysis of orthodontic-related posts on Twitter. *Angle Orthod* 2014;84:203-7.
19. Woolfolk MW, Lang WP, Borgnakke WS, Taylor GW, Ronis DL, Nyquist LV. Determining dental checkup frequency. *J Am Dent Assoc* 1999;130:715-23.
20. Oliveira PG, Tavares RR, Freitas JC. Assessment of motivation, expectations and satisfaction of adult patients submitted to orthodontic treatment. *Dental Press J Orthod* 2013;18:81-7.
21. Burns A, Wolstencroft S. The internet: Education, social media and dental practice. *J Ir Dent Assoc* 2011;57:268-71.
22. Stewart DC, Ortega AN, Dausey D, Rosenheck R. Oral health and use of dental services among Hispanics. *J Public Health Dent* 2002;62:84-91.
23. Brothwell DJ, Jay M, Schönwetter DJ. Dental service utilization by independently dwelling older adults in Manitoba, Canada. *J Can Dent Assoc* 2008;74:161-161f.

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