

Difficulties of Orthodontic Treatment

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Abstract

Background: A smile is a condition that makes a person attractive to the public, and this is the main motivation for people to adjust their oral cavity. Most patients turn to orthodontic therapy to improve facial aesthetics and oral function for a beautiful smile. Orthodontic treatment, along with complications and side effects, is accompanied by unusual difficulties, which depend directly on the behavior of patients.

Methods: This study was conducted in 400 patients, regardless of age and gender, who applied to the dental clinic for orthodontic treatment.

Results: According to the research analysis, it should be noted that patients and their parents rarely seek early orthodontic consultation. In many cases, the patient's parents refuse early treatment and are satisfied only with the result obtained with the bracket system. When planning orthodontic treatment, it is quite difficult to get patients to agree to tooth extraction, and the patient's agreement to orthognathic surgery is an exceptional case. It is worth noting the fact that almost all patients in the initial period of treatment follow well the rules established for the orthodontic therapist. However, after a certain period of time, problems with oral hygiene begin, which in many cases lead to periodontal diseases. Due to the duration of orthodontic treatment, patients do not stand out with great willpower, in many cases they request to end the treatment prematurely. There are cases when patients voluntarily stop treatment. Despite the many difficulties during orthodontic treatment, it should be emphasized that the biggest problem is the maintenance of the retention period after completion of orthodontic treatment. There is almost no patient who completes this procedure.

Conclusion: It should be noted that the difficulties during orthodontic treatment have a certain explanation. Neglect of early orthodontic consultations, unsatisfactory oral hygiene and complete orthodontic treatment are mainly caused by the low medical education of the mentioned population, and the main reason for refusal of extractions is the fear of said manipulation. (TCM-GMJ August 2025; 10 (2): P13-P16)

Keywords: Orthodontic treatment and oral hygiene, Endless orthodontic treatment, Patient towards orthodontic treatment

Introduction

A smile is a condition that makes a person attractive to the public [4] and this is the main motivation for people to adjust their oral cavity. Dentition anomalies have a great impact on oral health-related quality of life regardless of age and gender [17].

Dentition anomalies in many cases, in addition to aesthetics, affect the function of the maxillo- dental system, which leads to the need for dental treatment. The

seriousness of the oral condition is the primary factor for patients to seek orthodontic therapy [4, 6, 17].

The patient or his parent can apply for orthodontic therapy as a result of professional consultation or on their own initiative [17]. It depends on the quality and severity of teething anomalies, how it is perceived by others.

Early diagnosis, planning and treatment of potential anomalies [6] is a contributing factor in avoiding complications of orthodontic treatment and selecting the most effective therapy to achieve functional occlusion [22, 23].

As already mentioned, most people strive for an attractive smile, which is most often achieved through orthodontic treatment [4].

As a result of orthodontic treatment, in addition to

From the ¹Georgian National University
Received July1, 2025; accepted July 25, 2025.

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facial aesthetics, the functional improvement of the oral cavity is achieved by various mechanical and functional means, which ensures the ideal condition of the teeth or as close to it as possible [8]. However, over the years, the consensus regarding what features are considered ideal or normal occlusion has been a matter of debate. Although it is very rare for a person to have a perfect dentition without orthodontic treatment [8], in simple cases there are anomalies in the position of the teeth [9, 13, 16, 18].

It is known that genetics, environment and ethnic factors play an important role in the formation of dentition anomalies [19]. Only 8% of cases of occlusal anomalies have a known cause, the remaining 92% have an unknown etiology [8].

Accordingly, the ideal dental condition for each patient is determined individually and depends on several factors [8].

Orthodontic procedures to correct mandibular retrusion may improve pediatric obstructive sleep apnea (OSA) [2].

There are many studies on the occurrence of mandibular disorders (TMD) that manifest as pain after orthodontic treatment [5]. A patient undergoing orthodontic therapy is 1.84 times more likely to develop TMD [5].

As the number of people seeking orthodontic treatment increases, so does the number of periodontal diseases, especially during orthodontic treatment. Orthodontic treatment often negatively affects the periodontal soft tissue and causes gingivitis, gum recession. However, orthodontic treatment can also correct dental arches during tooth movement caused by periodontitis [12].

Orthodontic therapy involves the use of mechanical and functional devices in a delicate part of the body, which is accompanied by the presence of some discomfort, which is both psychological and physical. This discomfort can have a detrimental effect on the patient's willingness to receive therapy and the effectiveness of treatment [17].

In the process of orthodontic treatment, there is a constant, light pressure on the teeth [21], which is often a cause of discomfort on the part of the patients. Objections can also be caused by device design, past painful memories, environmental factors such as age, gender, and culture. However, in most cases these problems are temporary [17].

One of the challenges of orthodontic treatment is the optimal treatment of adult patients with hyperdivergent facial morphology, class III malocclusion, bilateral posterior crossbite, and skeletal disharmony, requiring orthodontics with extractions, orthognathic surgery, or both. Patient refusal is mainly due to fear of surgery or cost [10].

Aesthetics and functional occlusion resulting from orthodontic therapy do not mean the end of orthodontic intervention. In order to avoid post-treatment relapse, it is necessary to plan the length of the retention period in advance [14]. Patients in most cases ignore the mentioned process and as a result there is a relapse.

As already mentioned, orthodontic treatment with indications and contraindications is accompanied by certain difficulties.

Dental health is closely related to quality of life and work efficiency [15]. Recently, oral health has received much attention [20]. Dental problems vary between populations [3], but it is a fact that the prevalence of dental anomalies increases over time.

Therefore, professional dental ethics is based on the promotion of oral health for dental patients. There is an urgent need to provide ways to improve dental services [1, 15], conduct educational events for the population,

Public access to oral health services [7] and equity [11] are important.

Methods

This study was conducted in 400 patients, regardless of age and gender, who applied to the dental clinic for orthodontic treatment. The study has been approved by the bioethical body (IRB00002150).

Results and discussion

According to the results of the mentioned research, mostly patients aged 7 to 18 applied to the orthodontist for treatment. (Table 1)

As you know, when planning orthodontic treatment, extraction of certain teeth and in some cases orthognathic surgery is required in many cases (Table 2).

During the course of orthodontic treatment, the biggest difficulty is maintaining oral hygiene, especially against the background of the bracket system (Table 3).

Due to the duration of orthodontic therapy, during the said procedure, patients are not distinguished by great willpower and in many cases they request to end the treatment at an early stage. There are cases when treatment is stopped arbitrarily (Table 4).

The biggest difficulty associated with orthodontic treatment is maintaining the retention period to maintain the result obtained from the treatment. After debonding the brace system, patients rarely visit the orthodontist for a check-up (Table 5). They generally do not use retainers

Patients often turn to orthodontic treatment mostly for a beautiful smile and rarely for oral health. Despite prior informing of the patients, the mentioned procedure by the doctor is associated with many wishes.

It should be emphasized that patients and their parents rarely seek early orthodontic consultation and therefore functional or mechanical appliance treatment in school-age children is rare. In most cases, the average age of starting orthodontic treatment is 11-12 years.

Most patients during orthodontic therapy do not maintain good oral hygiene, which in most cases leads to periodontal diseases.

When planning orthodontic treatment, it is very difficult to get patients to agree to tooth extraction, and the exception is to convince patients to undergo orthognathic surgery.

Almost all patients in the initial period of treatment follow well the rules established for orthodontic treatment. However, after a certain period of time, willpower

declines and arbitrary decisions are made to stop treatment.

In spite of the above, the biggest problem can be named the maintenance of the retention period after completion of orthodontic treatment. There is almost no patient who completes this procedure.

Conclusion

Neglect of early orthodontic consultations, unsatisfactory oral hygiene and complete orthodontic treatment are mainly caused by the low medical education of the mentioned population, and the main reason for refusing

extractions is the fear of the said manipulation.

It is very important to conduct educational events for the public regarding the rules of oral care. These activities will be most effective during childhood. In kindergartens, oral hygiene education can be made fun, and in schools, thorough education can be provided on the importance of oral hygiene, oral diseases, the connection between them, treatment methods, etc. It is also important to emphasize the involvement of parents and their role in this issue.

Table 1: Orthodontic therapy in patients according to age.

Age	0-6	7-18	18
Percent	4.5% (18)	75.75% (303)	19.75% (79)

Table 2: Percentage of need for extraction during orthodontic treatment.

	It is not necessary	Needed and refused	Needed and extracted	It is needed in the future
Percent	79.5%	10%	10,25%	0.25%

Table 3: Oral Hygiene Index.

Quality of Hygiene	Good	Moderate	Poor	Bad
Persent	11.25%	33.25%	29.5%	26%

Table 4:

Patients treated	He brought it <u>to</u> the end	Was lost	It made the doctor stop
Persent	75.5%	17.75%	6.75%

Table 5:

Retention Period	Patient used the retainers	Patient used the retainers for a while	Patient was lost Immediately after orthodontic treatment
Persent	19.25%	36.75%	44%

References

- Antoniadou, M., Masoura, E., Devetziadou, M., & Rahiotis, C. (2023). Ethical Dilemmas for Dental Students in Greece. *Dentistry Journal*, 11(5), 118. <https://doi.org/10.3390/dj11050118>
- Bucci, R., Rongo, R., Zunino, B., Michelotti, A., Bucci, P., Alessandri-Bonetti, G., Incerti-Parenti, S., & D'Antò, V. (2023). Effect of orthopedic and functional orthodontic treatment in children with obstructive sleep apnea: A systematic review and meta-analysis. *Sleep Medicine Reviews*, 67, 101730. <https://doi.org/10.1016/j.smrv.2022.101730>
- Büyükgöze-Dindar, M., & Tekbaş-Atay, M. (2022). Prevalence of Dental Anomalies Assessed Using Panoramic Radiographs in a Sample of the Turkish Population. *The Chinese Journal of Dental Research*, 25(3), 189–196. <https://doi.org/10.3290/j.cjdr.b3317997>
- Coppola, G., Christopoulou, I., Gkantidis, N., Verna, C., Pandis, N., & Kanavakis, G. (2023). The effect of orthodontic treatment on smile attractiveness: A systematic review. *Progress in Orthodontics*, 24(1), 4. <https://doi.org/10.1186/s40510-023-00456-5>
- Coronel-Zubiate, F., Marroquín-Soto, C., Geraldo-Campos, L., Aguirre-Ipenza, R., Urbano-Rosales, L., Luján-Valencia, S., Tozo-Burgos, J., & Arbildo-Vega, H. (2022). Association between orthodontic treatment and the occurrence of temporomandibular disorders: A systematic review and meta-analysis. *Journal of Clinical and Experimental Dentistry*, e1032–e1043. <https://doi.org/10.4317/jced.59970>
- Ezzeldin, M., Gee, S., Curtis, J., Clark, V. J., Smallridge, J., & Collard, M. (2023). Dental anomalies in cleft lip and/or palate children at age 10 - a retrospective review across three cleft centres: Part 1. *British Dental Journal*, 234(12), 926–930. <https://doi.org/10.1038/s41415-023-5976-5>
- Galvão, M. H. R., & Roncalli, A. G. (2023). Explaining public dental service utilization: A theoretical model. *PLOS ONE*, 18(9), e0290992. <https://doi.org/10.1371/journal.pone.0290992>
- Ghodasra, R., & Brizuela, M. (2023). Orthodontics, Malocclusion. In *StatPearls*. StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK592395/>
- Guarnieri, R., Germanò, F., Altieri, F., Cassetta, M., Grenga, C., Padalino, G., Di Giorgio, R., & Barbato, E. (2022). Predictive Analysis of Maxillary Canine Impaction through Sella Turcica Bridging, Ponticulus Posticus Calcification, and Lateral Incisor Anomalies: A Retrospective Observational Study. *Methods and Protocols*, 5(6), 91. <https://doi.org/10.3390/mps5060091>
- Hollander, Z., Fraser, A., Paredes, N., Bui, J., Chen, Y., & Moon, W. (2022). Nonsurgical maxillary orthopedic protraction treatment for an adult patient with hyperdivergent facial morphology, Class III malocclusion, and bilateral crossbite. *American Journal of Orthodontics and Dentofacial Orthopedics: Official Publication of the American Association of Orthodontists, Its Constituent Societies, and the American Board of Orthodontics*, 162(2), 264–278. <https://doi.org/10.1016/j.jajodo.2021.02.027>
- Huang, Z., Kawamura, K., Kitayama, T., Li, Q., Yang, S., & Miyake, T. (2023). GIS-Based Study of Dental Accessibility and Caries in 3-Year-Old Japanese Children. *International Dental Journal*, 73(4), 550–557. <https://doi.org/10.1016/j.identj.2022.11.002>
- Interactions between Orthodontic Treatment and Gingival Tissue. (2023). *Chinese Journal of Dental Research*, 26(1), 11–18. <https://doi.org/10.3290/j.cjdr.b3978667>
- Kolokitha, O.-E., Balli, D., Zarkadi, A.-E., & Gizani, S. (2023). Association between maxillary canine impaction and other dental anomalies: Radiological study of a mixed dentition children's cohort from an orthodontic clinic. *European Archives of Paediatric Dentistry: Official Journal of the European Academy of Paediatric Dentistry*, 24(3), 401–407. <https://doi.org/10.1007/s40368-023-00798-y>
- Lyros, I., Tsolakis, I. A., Maroulakos, M. P., Fora, E., Lykogeorgos, T., Dalampira, M., & Tsolakis, A. I. (2023). Orthodontic Retainers—A Critical Review. *Children*, 10(2), 230. <https://doi.org/10.3390/children10020230>
- Mi, W., Guo, H., Yu, W., Wang, S., Pan, T., & Wang, S. (2023). Need for dental care among medical staff working in the China Antarctic stations. *International Journal of Circumpolar Health*, 82(1), 2179453. <https://doi.org/10.1080/22423982.2023.2179453>
- Pallikaraki, G., Sifakakis, I., Gizani, S., Makou, M., & Mitsea, A. (2020). Developmental dental anomalies assessed by panoramic radiographs in a Greek orthodontic population sample. *European Archives of Paediatric Dentistry: Official Journal of the European Academy of Paediatric Dentistry*, 21(2), 223–228. <https://doi.org/10.1007/s40368-019-00476-y>
- Raji Alrwuili, M., Jamal Alwaznah, F., Ahmed, R., Anwar, S., Shaikh Omar, F. A., & Hadi Tairan, E. (2023). A Detailed Correlation of Oral-Health-Related Quality of Life of Patients Undergoing Fixed Orthodontic Therapy. *Cureus*, 15(1), e33854. <https://doi.org/10.7759/cureus.33854>
- Schonberger, S., Kadry, R., Shapira, Y., & Finkelstein, T. (2023). Permanent Tooth Agensis and Associated Dental Anomalies among Orthodontically Treated Children. *Children*, 10(3), 596. <https://doi.org/10.3390/children10030596>
- Shirazi, M., Mortazavi, M., Jalali, Y. F., & Hessari, H. (2023). A population-based survey on interarch malocclusion and background determinants. *Journal of Clinical and Translational Research*, 9(1), 8–15.
- Sivari, E., Senirkentli, G. B., Bostanci, E., Guzel, M. S., Acici, K., & Asuroglu, T. (2023). Deep Learning in Diagnosis of Dental Anomalies and Diseases: A Systematic Review. *Diagnostics (Basel, Switzerland)*, 13(15), 2512. <https://doi.org/10.3390/diagnostics13152512>
- Umalkar, S. S., Jadhav, V. V., Paul, P., & Reche, A. (2022). Modern Anchor-age Systems in Orthodontics. *Cureus*. <https://doi.org/10.7759/cureus.31476>
- Vinjoli, F., Zeqaj, M., Dragusha, E., Malara, A., Danesi, C., & Laganà, G. (2023a). Dental anomalies in an Albanian orthodontic sample: A retrospective study. *BMC Oral Health*, 23(1), 47. <https://doi.org/10.1186/s12903-023-02711-x>
- Vinjoli, F., Zeqaj, M., Dragusha, E., Malara, A., Danesi, C., & Laganà, G. (2023b). Dental anomalies in an Albanian orthodontic sample: A retrospective study. *BMC Oral Health*, 23(1), 47. <https://doi.org/10.1186/s12903-023-02711-x>