

## Factors, Precautions and Solution Suggestions of Complication and Malpractice in Endodontic Treatment Practices

Mehmet Kutluhan UÇUK<sup>1\*</sup>  Asiye Nur DİNÇER<sup>2</sup> 

<sup>1</sup> Assist. Prof., T.C. Altınbaş University School of Dentistry, Department of Endodontics, İstanbul, Türkiye, [kutluhan.ucuk@altinbas.edu.tr](mailto:kutluhan.ucuk@altinbas.edu.tr)

<sup>2</sup> Assoc. Prof., Private Practice Dentist, Endodontics, İstanbul, Türkiye, [asiyedincer@yahoo.com](mailto:asiyedincer@yahoo.com)

Article Info	ABSTRACT
<b>Article History</b> <b>Received:</b> 22.12.2023 <b>Accepted:</b> 01.04.2024 <b>Published:</b> 30.08.2024	<b>Aim:</b> The aim of this study is to investigate the level of knowledge of dentists performing endodontic treatment on complications, malpractice and legal liability, to reveal the causes of adverse cases and to obtain solution suggestions. <b>Material and Methods:</b> The survey method was used in this study. 280 participants who were undergoing at least 3 endodontic treatments per week were asked 36 questions with content such as demographic characteristics, endodontic treatment procedures, questions about malpractice and complications, legal exposure, prepared on the Microsoft Forms platform. The statistical significance level was taken as $p=0.05$ . Chi-square test, SPSS statistical package program were used in the analysis. <b>Results:</b> Dental practitioners are mindful of concepts such as malpractice and complications, but a larger part of them consider themselves inadequate about lawful liability or about the lawful process that will be handled when complaints are made against them. Furthermore, the likelihood of filing a malpractice lawsuit due to the outcome of a hazardous procedure adversely affects the working conditions. <b>Conclusion:</b> Institutions and managers should provide support and motivation for the lawful awareness and preparation of the dentists they employ.
<b>Keywords:</b> Dentistry, Endodontics, Intraoperative Complications, Legal Liability, Malpractice.	

### Endodontik Tedavi Uygulamalarında Komplikasyon ve Malpraktisin Etkenleri, Önlemleri ve Çözüm Önerileri

Makale Bilgisi	ÖZET
<b>Makale Geçmişi</b> <b>Geliş Tarihi:</b> 22.12.2023 <b>Kabul Tarihi:</b> 01.04.2024 <b>Yayın Tarihi:</b> 30.08.2024	<b>Amaç:</b> Bu çalışmanın amacı endodontik tedavi uygulayan diş hekimlerinin komplikasyon, malpraktis ve hukuki sorumluluk üzerine bilgi düzeylerini araştırmak, istenmeyen olguların sebeplerini ortaya çıkartmak ve çözüm önerileri elde etmektir. <b>Gereç ve Yöntemler:</b> Bu çalışmada anket yöntemi kullanılmıştır. Haftada en az 3 adet endodontik tedavi uygulamakta olan 280 adet katılımcıya demografik özellikler, endodontik tedavi prosedürleri, malpraktis ve komplikasyon üzerine sorular, hukuki maruziyet gibi içerikleri olan 36 adet soru Microsoft Forms platformunda hazırlanarak soruldu. İstatistik anlamlılık düzeyi $p=0,05$ olarak alındı. Analizde Ki-kare testi, SPSS istatistik paket programı kullanıldı. <b>Bulgular:</b> Diş hekimleri komplikasyon, malpraktis gibi kavramlar hakkında bilinçlidirler, bununla birlikte büyük kısmı hukuki sorumluluklar hakkında veya şikâyete maruz kalındığında karşı karşıya kalacakları hukuki süreç hakkında kendilerini yeterli görmemektedirler. Ek olarak, riskli işlemin bir sonucu olarak malpraktis davası açılma ihtimali, çalışma koşullarını olumsuz etkilemektedir. <b>Sonuç:</b> İşverenler ve kurumlar, çalıştırdıkları hekimlerin hukuki olarak bilinçlenmesi ve eğitilmesi hususunda destek ve teşviklerde bulunmalıdırlar.
<b>Anahtar Kelimeler:</b> Diş Hekimliği, Endodonti, İntraoperatif komplikasyonlar, Kanuni Yükümlülük, Malpraktis.	

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**\*Corresponding Author:** Mehmet Kutluhan UÇUK, [kutluhan.ucuk@altinbas.edu.tr](mailto:kutluhan.ucuk@altinbas.edu.tr)



## **INTRODUCTION**

Dentists have interactions with their patients as a result of the treatments they perform. Treatments may include both medical and aesthetic concerns. The dentist has a number of responsibilities and rights in terms of ethics and law due to the treatment that is performed. Unwanted results in treatments can be considered as a complication or malpractice. This judgment is guided by many factors, from the care of the dentist to his experience, and also from the procedures to the attitude of the patient. The patient's ability to search for rights for the alleged harm, the situation of arguing with the patient or his relatives may cause a change in the treatment process, and the dentist may prefer less risky treatment methods. The dentist should make predictions about unwanted results in treatments, and in cases where a dentist cannot foresee, dentist should be able to make the necessary medical intervention for the superior benefit of the patient. Treatments should be carried out following medical standards with informed consent received from the patient. The existence of consent provides both the patient and the dentist with assurance and a legal basis.

In the patient-dentist relationship, the patient and the dentist are two integral parts of a team and work together for the same purpose.<sup>1</sup> Consent is one of the reasons that make medical intervention under the law.<sup>2</sup> In the treatment performed, the unwanted results that are predicted to occur before the treatment, so precautions are taken, but the occurrence of which cannot be avoided, is referred to as a 'complication'; the dentist's medically defective application is called 'malpractice'. Failure to notice the complication in a timely manner, failure to take the necessary measures despite being noticed, and failure to comply with the medical standards of the measures taken are considered malpractice.<sup>3</sup> Legal and ethical responsibilities are increasing day by day. The highest number of malpractice claims in dentistry are related to the specialty of Endodontics.<sup>4</sup> No dentist in our country is far from malpractice cases.<sup>5</sup> For this reason, this study was needed to reduce dentist victimization in legal exposures that are

increasing today, to identify the causes of medical failures with dentists' legal knowledge levels, and to develop solutions

### **The legal duty of the dentist's medical intervention**

Any intervention that minimizes unwanted effects, such as the treatment of a disease, the elimination of a deficiency, or the correction of an abnormality can be defined. To generalize, all kinds of interventions on human beings related to medical science are medical interventions.<sup>6</sup> The main factor that makes the interventions in compliance with the law is the consent of the patient.<sup>7</sup> The indication constitutes the justified reason for the dentist in the treatment or prevention. There are legal regulations that nothing can be done and requested about the indication without the purpose of diagnosis, treatment or prevention.<sup>8-10</sup> When a cause-and-effect relationship cannot be established in the indication, the indication is excluded, and this legally creates liability for violation of the contract established between the dentist and the patient, tort, intentionally causing injury. In addition, non-indication procedures do not comply with ethical values.<sup>11</sup>

Undesirable disadvantages may occur in medical applications. There is a possibility that unwanted adverse events occurring in the same case may be evaluated as both malpractice and complications. The determining factors are the care of dentists, and taking precautions against possible negativities. As mentioned earlier, one of the elements that makes the default contract between a dentist and a patient compliant with the law is the presence of informed consent from the patient.<sup>5</sup>

### **Complication-malpractice?**

The damage caused as a result of the medical intervention by the dentist is a result of the intervention, if the care that a dentist should show under the same environmental conditions, at the same level of competence, taking into account the scientific and technical level that medical science has reached today, the conditions of the environment in which the intervention is performed, the educational level

of the intervener, and the state of expertise<sup>12</sup>, does not result in the responsibility of the dentist.<sup>13</sup> If a complication is not detected early, if necessary measures are not taken despite being noticed, or if these measures are not evaluated in accordance with medical standards despite being noticed and taken, the dentist has not taken care in the management of complications; in this case, a case that can be considered a complication may turn into malpractice, and at this point, the responsibility of the dentist arises.<sup>14</sup> There is a regulation on this issue in a convention.<sup>9</sup> The possibility of unintended consequences, complications, and risks of the procedure should be notified to the patient in advance. If the patient has not been informed about the possibility of complications, the trustee dentist is held responsible for the fact that the provisions of the information have not been fulfilled.<sup>15</sup>

### **General scopes of malpractice**

Malpractice is called a defect in medical practice. Although 'Medical Negligence' can also be used as an associated term, it is the careless verb of a healthcare professional who compromises health standards.<sup>16</sup> The word malpractice comes from the Latin term mala praxis.<sup>17</sup> Contracts or torts form the basis of medical malpractice lawsuits. Any medical intervention should be performed under the established standards. The legal regulation on this issue is regulated under a convention.<sup>18</sup> In the same environmental conditions, the care and diligence expected of a dentist with the same level of competence is referred to as the standard of care.<sup>19</sup> Legislatures primarily want to reduce the incidence of dentist inattention and patient injuries.<sup>20</sup> Shortcomings in practice lead to deviations from the medical standard. The non-use of rubber dams is the most basic example of deviation from the medical standard and is an unacceptable situation.<sup>21</sup> The aspiration of files and materials used in treatment may cause serious enough consequences to require surgical intervention.<sup>22</sup> Although malpractice and complication are close concepts, malpractice is related to the

defect and the dentist is responsible. Although the concept of complication is considered an accident-coincidence in the sense of criminal law, the dentist is not held responsible here.<sup>3</sup> The treatment standards brought by current science bring with them the need for up-to-date devices and equipment.

Examples of inadequacy in the level of knowledge of the dentist, errors in decision-making, inaccuracies in communication, lack of care and attention, intensity, inappropriate environmental factors, cyclicity, or inadequacy in medical devices can be given.<sup>23</sup>

### **Malpractice lights on dentistry**

Among the causes of malpractice in dentistry, failure to meet the standard of treatment and dissatisfaction with the treatment outcome are the most frequently observed deficiencies.<sup>24</sup> While the various specialties may set the stage for scenarios tied to the nature of medical interventions, such as not fulfilling aesthetic expectations, incorrect tooth extraction, patient dissatisfaction with prostheses, and instrument breakage, it is the lack of meticulous and careful practice that underlines the core issues at hand. Lawsuits related to the endodontics department are the most common malpractice lawsuits filed in dentistry.<sup>4</sup> The patient may file a complaint against the dentist or initiate legal action on the grounds of having suffered harm. The number of lawsuits filed against dental medical interventions is increasing day by day, and changes are being observed in related medical interventions today.<sup>25</sup> Defensive medicine, in particular avoidance behavior, encompasses both everyday clinical decisions that affect individual patients and more systematic changes in the scope and style of practice.<sup>26</sup> Due to legal regulations, dentists are concerned that they may experience problems due to errors in medical practice. This is observed in many countries around the world due to similar practices.<sup>5</sup> Although defensive medicine causes an increase in the level of anxiety, it also leads to an increase in the amount of medical expenses.<sup>27</sup>

## **MATERIAL AND METHODS**

### **Survey preparation and target group**

The study was initiated after obtaining ethical approval (27.10.2020-18/354). The questionnaire was created on the internet using the Microsoft Forms platform (Microsoft Windows operating, Albuquerque, New Mexico, USA) and the responses of the participants were accepted for about 8 months. In the research, which was a cross-sectional study type, the target group is dentists who routinely (at least 3 times a week) perform endodontic treatment. Dentists working in public and private have been reached. The survey questions and test solvability were first solved by 10 people as a pilot study, and the missing items were completed and presented to the participants as an online survey after revision.

### **Survey questions**

The survey questions, numbered 1 to 8 include demographic characteristics, branch, professional experience, place of work and frequency of work, questions numbered 8 to 12 include the frequency of endodontic treatment, the time spent on treatment, the preference for single or multiple sessions, the adequacy of the treatment time, questions numbered 13 to 18 include the types of complications, the frequency of complications, the methods and time of obtaining consent, informing the patient, between questions 19 and 21, medical standard, complication, and malpractice information questions are included, between the questions numbered 22 and 28 are cases of complications, causes of malpractice, withdrawal of the dentist from treatment, questions numbered 28 to 36 include questions about the dentist's knowledge of the legal process, the status of receiving legal education, the status of exposure to legal sanctions or complaints, and the impact of complaints on working conditions.

**1.** What is your age range?

23-39/ 40-49/ 50+

**2.** What is your gender?

Male / Female

**3.** What is your specialty?

General Practitioner/ Endodontics/ Pediatric Dentistry/ Other specialty-PhD

**4.** What is your professional title?

Dentist/ Research Assistant Dentist/ Specialist Dentist-Dentist Dentist/ Assistant Professor/ Associate Professor/ Professor

**5.** How many years have you worked? (If you are not currently working, please answer according to the period you were employed)

0-5/ 6-10/ 11-25/ 26+

**6.** Where do you work?

Private practice-Private clinic/ State hospital-Public Oral Health Services Center/ University Hospital

**7.** How many days do you work in a week?

1-3 / 3-5 / 5-7

**8.** What is the frequency of endodontic treatments you perform in a week?

3-10 / 11-20 / 21

**9.** How much time do you allocate for root canal treatment, excluding permanent restoration, in multi-rooted symptomatic teeth?

0-1 hour / 1-2 hours / 2-3 hours / 3-4 hours

**10.** How much time do you allocate for root canal treatment, excluding permanent restoration, in single-rooted asymptomatic teeth?

0-1 hour / 1-2 hours / 2-3 hours / 4 hours+

**11.** What is your preference for choosing single-session or multiple-session treatments?

Single session under all conditions / Single session if the tooth is asymptomatic, multiple sessions if symptomatic / Multiple sessions under all conditions / Undecided

**12.** Is the session time you allocate for treatment sufficient?

Sufficient / Insufficient / Undecided

**13.** What are the two most common complications you encounter?

Perforation / Instrument breakage / Extrusion of irrigant through the apex

Flare-up / Complications related to anesthesia / Damage to the tooth-surrounding tissues / Non-healing post-treatment-tooth extraction / Other

**14.** What is the frequency with which you encounter complications?

Never-very rarely / 1-2 times a month / 1-2 times a week / 3+ times a week

**15.** What is your method of obtaining consent from the patient?

Written consent / Verbal consent / Both written and verbal consent / I do not obtain consent

**16.** If you obtain a pre-prepared written consent form, what is your method?

I give the consent form for them to sign / An assistant provides the consent form for signing/ In addition to the consent form, I have them write 'I have read, understood, and give my consent' / I do not obtain written consent

**17.** Do you provide additional information to your patients about the treatment or anticipated complications?

I provide additional information only if there is a high risk of complications / I provide additional information under all conditions/ I never provide additional information/ Undecided

**18.** At what stage of the treatment process is consent obtained from the patient?

Before examination / After examination, before treatment / After the first session of multi-session treatments / Normally I don't, but if a problem occurs during the procedure, I obtain it at the end of the session

**19.** What is the medical standard?

The rules generally accepted among medical science and dentists for the treatment performed/ The treatment varies according to

dentists/ Treatment methods subject to recent research/ Practices in university hospitals

**20.** What is a complication?

An unexpected and unpreventable adverse action during treatment/ The result that displeases the patient after treatment due to a lack of necessary materials/ An adverse result anticipated before treatment but not prevented/ Harm that could not be avoided despite being anticipated and measures taken before treatment/ An adverse situation developing due to skipping sequential procedures due to lack of time

**21.** What is malpractice?

It is the dentist performing a medically faulty application/ The result of treatment not leading to complete healing/ The patient being harmed despite treatment adhering to medical standards and precautions taken/ Harm occurring despite the patient being adequately informed about the medical treatment

**22.** If a file breaks during treatment, would you inform the patient?

I always tell them/ I do not tell unless the prognosis is negatively affected/ I never tell/ Undecided

**23.** When a file separation can be considered a complication rather than malpractice? (multiple options can be selected)

It is sufficient if instrument breakage is mentioned in the consent obtained from the patient/ Mentioning the possibility of instrument breakage in addition to the consent obtained, and it occurs during the use of sequentially used instruments without deformation in treatment with a rubber dam/ When the canal file breaks due to being used more than recommended

**24.** When can perforation at the pulp floor while searching for canal openings be considered malpractice?

If it occurs while cleaning decay with a steel bur at low speed/ Even if moving slowly, it occurs due to the patient suddenly turning their head/



While searching for the canal entrance at the pulp floor with an aerator after cleaning the decay/ If the possibility of perforation has been mentioned to the patient during the examination, informed consent has been obtained, and perforation occurs while working according to the standard

**25.** In your opinion, what are the most common causes of malpractice? (multiple options can be selected)

Allocating too little time for treatment/ Reusing materials that should be used a maximum of 2-3 times, multiple times/ Not keeping records or keeping incomplete records/ Insufficiencies in physical conditions, material problems/ Treating according to outdated schools of thought/ Proceeding without taking radiography/ Lack of professional experience/ Carelessness of staff / Insufficient communication with the patient.

**26.** When can a dentist discontinue a patient's treatment? (multiple options can be selected)

If the dentist goes on leave or becomes ill / If the patient insults the dentist / If the treatment fee is not paid / If the patient says they will complain if not healed / The dentist can discontinue treatment at any time without any special condition / The dentist can never discontinue treatment / Undecided

**27.** Can a dentist withdraw from treating a patient? (multiple options can be selected)

The dentist can withdraw when they decide they cannot use their medical knowledge as required and another competent dentist is available to apply the treatment/ The dentist can withdraw if the treatment prognosis is very low and the treatment will not respond/ The dentist can withdraw if the patient's infectious disease poses a risk to the dentist; themselves, their family, or other patients have a high probability of transmission/ The dentist can withdraw from treating a patient brought in for emergency intervention but has the potential to complain if a problem occurs/ The dentist can withdraw if a consultation is necessary but the patient refuses the consultation/ The dentist can never

withdraw from treatment/ Undecided

**28.** Your patient claims to have been harmed due to a negative outcome of the treatment. Do you have knowledge about the legal and penal process?

I know / I don't know

**29.** How does the possibility of a malpractice lawsuit arising from a risky procedure affect your working conditions? (Multiple options can be selected)

It has a positive effect/ It has a negative effect/ Undecided

**30.** Have you received course on legal responsibility (seminar, symposium, etc.)?

Yes / No

**31.** Do you think you have sufficient knowledge about the distinction between malpractice and complications and the related legal process?

Yes/ No

**32.** Have you ever been subject to complaints or legal sanctions in your professional life as a result of treatment outcomes?

I have been complained about/ I have been subject to legal sanctions/ I have not experienced any complaints-sanctions

**33.** During your student years, were you ever subject to complaints or legal sanctions as a result of treatment outcomes?

I have been complained about/ I have been subject to legal sanctions/ I have not experienced any complaints-sanctions

**34.** If you have faced legal sanctions, what was the outcome? (If there are multiple cases, please specify separate outcomes)

It concluded in my favor/ It concluded against me/ The process is ongoing/ I have not been subject to legal sanctions/ Other

**35.** What impact has the complaint or legal sanction you experienced had on your professional life?

It had a wearing effect, but I can continue with

my daily life/ It was an opportunity for me to improve myself/ It had no impact/ I experienced a traumatic process, thought about quitting/left the profession/ I have not experienced any complaints/sanctions/ Other

**36.** After experiencing a complaint or legal sanction, how has it affected your evaluations regarding the diagnosis and treatment of the patients you apply medical intervention to? (multiple options can be selected)

I continue with the same techniques and treatment methods, no change/I continue with the same techniques and treatment methods but now inform the patient more about complications than before/I now apply treatments with fewer complications, in the slightest risk I either refer the patient to another physician or apply more problem-free treatment procedures/I have not experienced any complaints/sanctions/Other.

#### **Statistical analyses**

The sample width in the study is at least 200 people, additionally, the number of participants reached is 280. As a result of the power analysis, the power of the test was calculated at 92%. Descriptive statistics for the categorical variables in the study were expressed as numbers (n) percentages (%). The chi-square test was calculated to clear the relationships between categorical variables. The significance level was taken as 5% statistically in the calculations. For analysis, the SPSS (IBM SPSS for Windows, ver.25) statistical package program was used. In this study, the meaningful p-values obtained are calculated using the Chi-square method, taking into account all subcategories. Which specific subcategory contributes to the observed differences is indicated through lettering assigned by the Bonferroni method within individual subcategories. Here, individual p-values do not exist; rather, it is determined whether the result is meaningful or not. In essence, when the table is considered as a whole, a p-value is identified; however, if we delve into the categories, we can only examine the differences. Consequently, the

relationships between parameters cannot be defined with absolute and definitive boundaries.

#### **RESULTS**

In the survey study applied to the participants in this study, the following data were obtained: 85.7% of the participants are between the ages of 23 and 29, the majority of them are women, 72.1%, and 35% are endodontics specialists. The second largest majority are general practitioners with 33.9%. The majority (61.8%), preferred a single session if the tooth is asymptomatic, and multiple sessions are preferred if it is symptomatic, 82.9% of dentists found the treatment time allocated to the patient sufficient. The first two most common complications were instrument fracture (67.85%) and flare-up (27.85%). The incidence of complications was 1-2 per month for 72.1% of the participants. The method of obtaining consent is written by 40% of the participants, and the time of obtaining consent is after examination, before treatment by 60%. The definitions of medical standards (91.4%), complications (80.7%), and malpractice (87.5%) are known. The rate of not giving information to the patient when the file was broken during treatment was 4.3%. When asked in which case the case of file fracture can be considered a complication and not malpractice, most of the participants (82.49%) gave the correct answer that included receiving consent from the patient, mentioning the possibility of tool separation, non-deformed tools that are used in order with all with rubber dam'. Situations caused by malpractice, according to participants: Taking a short time to treat patients (58.21%); repeatedly using materials that should be used 2-3 times 89.28%; not keeping records or incompletely keeping records (34.64%); inability in physical conditions, material problems 70.35%; appropriate treatment for outdated schools 53.57%; performing procedures without taking radiography 62.85%; lack of professional experience 59.64%; sloppiness of auxiliary personnel % 33.21; inadequate communication with the patient was selected by 31.07%. The

majority (75.35%) thinks that the dentist may leave the treatment unfinished if the patient insults. When asked about the withdrawal status, the majority (92.4%) thinks that the dentist may withdraw it is decided that the dentist cannot use the medical knowledge properly and in the presence of another dentist competent to administer the treatment. The majority of the participants do not have information about the civil and criminal process of claiming harm on the grounds that the patient's treatment resulted negatively (72.1%). The possibility of a malpractice lawsuit filed by dentists negatively affects working conditions (72.5%). The majority of the participants have not received legal liability training before (77.1%) and think that they do not have sufficient knowledge about malpractice, separation of complications and the related legal process (75.4%). 76.1% of the participants were not subjected to complaints or legal sanctions in their professional lives, and 88.6% did not experience any complaints or sanctions during their student years as a result of treatment.

## DISCUSSION

The majority of the participants' ages were young dentists profile, and most of the participants were female dentists. In addition, 35% of the participants were endodontists. If the tooth was asymptomatic in the majority (61.8%), single-session treatment was preferred. According to Greaves' review<sup>28</sup> when looking at recovery or success rates, there was no significant difference between single sessions or multiple sessions. In terms of the time allocated for treatments, 82.9% of the participants found the time allocated for treatment sufficient. According to Hayran et al.,<sup>29</sup> conducted on patients, the rate at which patients found the allotted time sufficient for themselves is 56.4%. The most common complications were instrument fractures and flare-ups. According to the findings of our study, the incidence of complications was 1-2 times a month at 72.1%. More than 40% are written consent forms. Arican's research revealed that merely 63.1% of the participants acknowledged obtaining

informed consent from their patients, with 74.5% acquiring written consent and 25.5% receiving verbal consent.<sup>30</sup> Obtaining consent increases the patient's confidence and participation in medical interventions.<sup>31</sup> In the information-only questions about medical standards and complications, 91.4% of the correct answers were received to the concept of medical standards, 80.7% to the definition of complications and 87.5% to the definition of malpractice. The patient should be informed if any negativity occurs during the treatment.<sup>13</sup> It is possible to distinguish the fact that a file fracture can be evaluated as a complication, not malpractice. When the situations that cause the most malpractice are asked with the multi-option, material and physical conditions are indicated. However, giving a short time for treatment to patients with two close results and a lack of professional experience are the next two causes of malpractice. According to Kiani and Sheikhzadi,<sup>24</sup> equipment problems account for 4.5% of the reasons for compensation. In a study conducted in Denmark,<sup>32</sup> technical complications and malpractice accounted for 28.4% of malpractice cases. For the question for withdrawing from treatment, the received correct answer rate was 92.14%. Withdrawal or discontinuation of treatment is subject to the HMEK (Hekimlik Meslek Etiği Kuralları) m.25<sup>33</sup> with, the dentist's refusal of the patient, TDN (Tıbbi Deontoloji Nizamnamesi) was sentenced with m.18.<sup>8</sup> When asked about information about the legal process in case the patient is harmed as a result of treatment, 72.1% of the participants do not have information. According to Yıldırım et al.,<sup>34</sup> this number reflects as 60% result of a study conducted with 125 dentists. Moreover, the probability of filing a malpractice lawsuit as a result of a risky procedure, compared to 72.5%, negatively affects working conditions. In addition, the majority has not received legal responsibility training, however, they find their knowledge about malpractice, complication discrimination and the related legal process is insufficient. According to Saruhan et al.,<sup>35</sup> dentists mostly think that the distinction between complications



and malpractice cannot be made clearly. When questioned about experiencing legal sanctions, most did not report exposure. According to a study conducted in Denmark,<sup>32</sup> dentists were prosecuted for malpractice in 43% of 3611 malpractice cases. A study revealed that from 1991 to 2000, the High Health Council (HHC) made a total of 1,548 decisions. Of these, 14 (0.9%) pertained to the field of dentistry, within which 8 cases identified dentists as being at fault.<sup>36</sup> In Iran, a study made inference that most of the dental malpractice complaints (86.9%) occurred in the private sector.<sup>24</sup> In another study from Turkey refers that Approximately 83.3% of lawsuits alleging dental malpractice against dentists arise within the context of private sector.<sup>37</sup> According to Saruhan et al.<sup>35</sup>, 5.2% always and 11% never responded to avoiding patients with a high potential to sue dentists in order to protect themselves from malpractice claims. In a study conducted with 175 dentists<sup>38</sup>, the proportion of individuals who responded "I am indecisive" to the question "Do you use defensive medicine to protect against verbal and physical violence by patients and their relatives?" exceeded those who answered "yes" or "no". Defensive medicine applications also increase their effect in dentistry. Dentists tend to stay away from complaints. The development of defensive medicine leads to an increase in the level of anxiety<sup>27</sup>. Dentists in Turkey should possess a deeper understanding of patient rights, the obligations of dentists, and the legal documents that can safeguard them from potential lawsuits.<sup>30</sup>

The frequency of facing complications is 1-2 per month, moreover, instrument fractures and flare-ups occur more often. The main reasons for the occurrence of malpractice have been negative effects on the use of tools and duration. Dentists consider their level of knowledge in terms of the legal dimension of medical interventions insufficient. They have not received any training on legal responsibility, and they do not know the exact limits under which treatment can be left unfinished or withdrawn. Courses should be increased, and legal training should be provided. Dentists

should be motivated by current treatment practices. Institutions and organizations should support the dentist to allocate sufficient time to the patient and keep their records. Training on malpractice, complications and patient communication should be increased in undergraduate and specialty education curricula. Health institutions and organizations should inform their dentists about their rights and obligations.

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### **Ethical Approval**

Ethical approval for this study was obtained from the Non-Drug Clinical Research Ethics Committee of Bezmialem Vakıf University on 27.10.2020, with No. 18/354.

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The authors declare that this study received no financial support.

### **Conflicts of Interest**

All authors declare that they have no conflict of interest.

### **Author Contributions**

Study concept/design: MKU, AND. Data collection: MKU. Data analysis/interpretation: MKU, AND. Manuscript writing: MKU, AND. Critical revision of the content: AND. Final approval and responsibility: MKU. Material and technical support: MKU. Supervision: MKU, AND.

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