A retrospective assessment of the dental malpractice cases filed in Riyadh from 2009-2015

Ali M. Abomalik¹, Jamal A. Alsanea², Omar H. Alkadhi²

¹Ministry of Health, Riyadh, Saudi Arabia, ²Department of Preventive Dentistry, Riyadh Elm University, Saudi Arabia

ABSTRACT

Introduction: Malpractice is one of the most significant hazards to patient safety in healthcare and is considered the second factor associated with the overall quality of the healthcare system. Aims and Objectives: This study aimed to assess the prevalence of malpractice in dentistry and its possible causes in Riyadh, Saudi Arabia during 2009-2015. Methodology: A cross-sectional retrospective analysis of the dental complaints filed by the patients in the general directorate of forensic medicine centers in Riyadh was reviewed, and the data was collected. Descriptive statistics of frequency distribution and percentages were calculated using the collected data. The Chi-square test for categorical variables was performed with a significance level set at \( P < 0.05 \). Results: The Riyadh region reported 168 (14.5%) dental malpractice cases during 2009-2015. The highest number of malpractice cases was reported in 2010 (18.45%), and the least number of cases was reported in 2011 (10.1%). Prosthodontic specialty had the highest number of lawsuits (32.4%), followed by orthodontics (20.2%) and endodontics (15.8%). The Chi-square test showed no association between the different specialties and types of malpractice \((P = 0.881)\) and between compensation and the type of malpractice \((P = 0.832)\). Among the 114 cases, financial compensation was the most common retribution. Conclusion: Dental malpractice prevalence was high in the private sector, followed by the government and military sectors, with the highest number of cases registered against the prosthodontic specialty. Dental malpractice is a serious concern that can be prevented by fair and honest policies and thorough patient education.

Keywords: Dental, informed consent, health care, malpractice, private practice

Introduction

The importance of patient safety was recognized in the 19th century, and as a result, decision-makers around the world have prioritized patient safety in the first place.⁶ Earlier the duties and responsibilities of the medical and dental professionals were regarded as noble and benevolent. However, with the surge in medical malpractice and negligence, this profession is now viewed with suspicion and contempt. The standard of patient treatment has deteriorated as a result of monetary gains, and patients are becoming more conscious of their rights.⁷

Medical malpractice is a term used to describe a medical act committed by a primary care physician/specialist that diverges from the rules and regulations specified as treatment protocols and results in a patient’s medical injury. As a result, there are iatrogenic conditions that can occur in any medical specialty.⁹ Malpractice is considered the second most significant concern to patient safety in healthcare sectors in terms of overall quality.⁴⁻⁶ Legally and administratively, dental malpractice is quite similar to medical malpractice.¹⁰

Dentistry is not classified as an allied health or paramedical profession. It is the only university-based, anatomically focused health care profession in which the professional maintains primary care responsibilities.¹¹ However, the term primary care varies between countries. In the USA, specialization such as Internal medicine, general paediatrics, and family practice

Address for correspondence: Dr. Ali M. Abomalik, Ministry of Health, Riyadh, Saudi Arabia. E-mail: ama552@hotmail.com

Received: 16-11-2021 Revised: 02-01-2022 Accepted: 12-01-2022 Published: 30-06-2022

Access this article online

Quick Response Code: Website: www.jfmpc.com

DO: 10.4103/jfmpc.jfmpc_2250_21

How to cite this article: Abomalik AM, Alsanea JA, Alkadhi OH. A retrospective assessment of the dental malpractice cases filed in Riyadh from 2009-2015. J Family Med Prim Care 2022;11:2729-34.
are included in the term “primary care” in contrast to a more particular general practice in the UK.[9]

Many factors may be attributed to the practitioner’s negligence if not carefully assessed. Systemic factors include but are not limited to psychological, gastrointestinal, cardiac, cross-infection, and allergies.[9] Adverse treatment effects include mishaps, accidental ingestions of appliances, treatment failures, reactions to medications, not knowing or neglecting the limitations of general dental practitioners, and iatrogenic damage.[10–13] To overcome such problems, professional governing bodies and societies such as the World Medical Association, American Dental Association and Saudi Commission for Health Specialties (SCFHS) usually recognize and enforce basic ethical practices, including patient safety, autonomy, non-maleficence, beneficence, confidentiality, justice and integrity.[14–16]

Communication with patients or their legal guardians is of paramount importance, and obtaining informed consent before commencing treatment is required.[17] Negligence of giving enough information about diagnosis and treatment can lead to lawsuits,[18,19] and lack of informed consent is commonly added to claims of dental negligence or malpractice.[19] In the literature, several studies have reported on dental malpractice incidents and their consequences from different parts of the world.[9,12,20] In Spain, 4000 lawsuits were filed in 10 years, and malpractice accounted for 40% of the cases.[12] In Iran, the highest malpractice cases were in prosthodontics (27.8%) and oral surgery (23.5%) specialties.[20] In Turkey, over 1500 cases were identified, among which 14 (0.9%) cases were against dentists.[14] Medical malpractice decisions give useful information about patient-physician interactions and physicians’ justifying behaviours.[20] Furthermore, studies on malpractice prevalence are deemed necessary due to the increasing trend in dental malpractice/negligence. This will enlighten the health governing bodies to frame specific policies and regulations for the betterment of the patients and clinicians.

This study aimed to determine the prevalence of dental malpractice and its causes in the Riyadh region, Saudi Arabia, between 2009 and 2015. Furthermore, the study also reviewed the more common type of retribution in these cases.

### Materials and Methods

Ethical approval was obtained from the Institutional Review Board (IRB) at [Blinded for review process].

### Study design

This is a cross-sectional, retrospective study of records/cases on dental malpractice in the Riyadh region, Saudi Arabia during 2009-2015. The inclusion and exclusion criteria for the study are as below:

**Inclusion Criteria**

- Cases in dentistry with court’s decision for seven years (2009-2015).
- Cases with the investigation and a legal board opinion.
- All dentists practising in Saudi Arabia.

**Exclusion Criteria**

- Decision ending with the parties reconciled only.
- Decision from Court of Grievance.
- Non-dental complaints.

### Data collection

The dental complaints filed at the general directorate of forensic medicine centres were reviewed and the information about the court’s decision for seven years (2009 – 2015) was collected and computed based on five categories:

a. Iatrogenic: Any condition or effect that has been induced by the dentist’s or dental specialist’s activity, manner, or treatment.

b. Non-specialist treatment: Any specialty or advanced treatment performed by a general practitioner without a specialist’s skills or knowledge.

c. No documentation: practitioners’ attitude towards documenting the treatment progress (e.g. patient file and treatment progress).

d. No records: no records on patients before or during treatment (e.g. models, radiographs).

e. No informed consent: failure to obtain signed informed consent from patients before treatment.

### Retribution

For assessing the retribution type, the cases were classified as either compensation or others. a) The compensation included plaintiff payment, clinic payment, settlement, refund of the amount of treatment, and payment of future treatment. b) The other types of retribution included dismissal, not guilty, warning, cancellation of plaintiff license, revocation of clinic license, publishing punishment in a newspaper, re-certification of the dentist, re-certification of the clinic, and postponement of the case.

### Statistical analysis

All the data collected were computed using statistical software (IBM SPSS for Mac, v. 24, IBM Corp., Armonk, NY, USA). Descriptive statistics of frequency distribution and percentages were calculated. The associations between different variables were tested using the Chi-square test. For cells where the count was less than 5, the likelihood ratio was used. The level of significance was set at \( P < 0.05 \).

### Results

The malpractice incidences were reported to be high in the private sector (95.5%), followed by the Ministry of Health (MOH) (3.6%), and the least cases were found in the military sector (0.9%). The highest number of claims about dental malpractice was reported in 2010, and the least number of cases was reported in 2011 [Table 1]. Among the 114
documented cases, 103 (90.3%) cases were reported by the Saudis (55 males and 48 females) and 11 (9.7%) cases were reported by non-Saudis (6 males and 5 females). The number of male claimants was more compared to their female counterparts. There was no statistically significant association between the gender and nationality of claimants ($P = 0.816$) [Table 2].

The majority of cases were from prosthodontic specialty (32.4%) followed by orthodontics (20.2%), endodontics (15.8%), oral surgery (13.2%), restorative dentistry (8.8%), implantology (6.1%), pedodontics (2.6%). The least cases were reported in infection control (0.9%), while no case was registered in periodontics [Figure 1].

Table 3 presents the association between the dental specialties and malpractice type. The most common reason for lodging a complaint was due to iatrogenic factors. This was followed by cases due to lack of patient records, general practitioners practicing as a specialist, no patient's file documentation and lastly, cases with no consent form. Chi-square test showed a non-significant association between the dental specialties and malpractice type ($P = 0.881$), thus demonstrating that the type of malpractice was not affected by dental specialties.

Table 4 presents the distribution of the claims based on the dentist's classification in the SCFHS. The maximum number of cases were documented against non-Saudi dentists (95.6%) compared to Saudi dentists (4.4%). The highest cases were reported against general dentists (77.2%) followed by specialists (16.7%), residents (3.5%) and the least cases were against consultants (2.6%). There was no statistically significant association between the specialisation and nationality of the practitioner ($P = 0.628$).

Among the 114 cases, financial compensation was the most common retribution (53.4%) compared to other retribution (46.6%). There was a non-significant association between the different retribution means and malpractice type ($P = 0.832$).

**Discussion**

Healthcare practitioners, including dentists, are expected to provide and promote the quality of care for their patients. However, practitioners can make mistakes. Mistakes range from being minor to having detrimental effects on patients' health and wellbeing. Mistakes could lead to injury, pain, or even death. It is necessary to understand and assess risks associated with dental treatments, and the management protocols for such risks.

Patients’ safety may be jeopardized if health care practitioners have a poor or bad malpractice liability record. Studdert et al. examined associations between malpractice-claims experience and the incidence of four types of clinical practice changes: leaving the practice, limiting clinical volume, resettling, and moving to a different-sized practice in a national cohort of physicians that were followed for up to 8 years.

The present study was conducted to determine the prevalence of dental malpractice in the Riyadh region, Saudi Arabia. It presents...
information on patients’ complaints against dental practitioners practicing in Riyadh region, Saudi Arabia. This is the second study after Al‑Ammar and Guile study in 2000.[23] Studies on malpractice prevalence are necessary on a regular basis as they provide knowledge about the ongoing situation and enlighten practitioners and regulators about their commitments towards patients’ care. The current study faced a challenge in obtaining previous data because the processing of patients’ complaints in the past was not well organized and the records were not maintained properly.

In the present study, we found a non-statistically significant increase in claims against prosthodontic specialty, which comes in agreement with previous dental malpractice studies by Rene and Owall in Sweden, Ozdemir et al.[24] in Turkey, Kiani and Sheikhazadi in Iran, and Nassar et al. in Israel.[20,24,25] The likely reason for increased lawsuits against prosthodontic specialty is probably that prosthodontic treatment is expensive, complex, and also irreversible. Furthermore, patients’ high expectations for aesthetic treatment results and psychological factors may also increase the number of complaints. Orthodontic specialty came in with second-highest lawsuits, in contrast to the study by Kiani and Sheikhazadi,[26] where no orthodontic lawsuits were found among 277 malpractice claims in Tehran in a period of five years. However, Al‑Ammar and Guile[23] reported no orthodontic lawsuits among the 32 malpractice claims in Riyadh during one year. This increased number in orthodontic cases may be attributed to the side effects associated with orthodontic treatment, such as root resorption.[28] Another possible reason could be that a significant number of orthodontic treatments are performed by general practitioners.

The lawsuits involving paediatric dentistry in this study were low which can be explained by that paediatric patients are children, and they might not complain about the problems they face. Moreover, no lawsuits were recorded against periodontists, this could be due to the fact that knowledge and awareness of periodontal diseases among laypeople is low.[27] This outcome was similar to the findings of Nassar et al.[25] who found only 4.5% of the claims for periodontal disease treatment by periodontists, while 95.5% of the claims were for problems related to another treatment. In contrast to the findings of this study, Perea‑Pérez et al.[23] reported that the highest number of complaints were in implant dentistry, endodontics, and oral surgery in a study involving 4000 cases in Spain over five years. Interestingly, malpractice prevalence in implant dentistry in our study and the Spanish study was very much different.

Previous studies reported more complaints filed by females compared to male patients,[23‑25] nevertheless, in the present study male patients filed more complaints than their female counterparts, which is in agreement with the results of a study by Kiani and Sheikhazadi.[24] However, this difference was not statistically significant. This outcome could be explained by females having a lack of information about the law, legal advice and representation and their reduced access to legal counselling in the near past. However, this is bound to change within the reforms taking place in Saudi Arabia in line with vision 2030.[29]

We found that iatrogenic causes were the most common and frequent allegations for filing dental lawsuits. These findings were similar to Perea‑Pérez et al.[23] and Al‑Ammar and Guile[23] studies. We also found that the prevalence of malpractice was high in the private sector (95.5%) followed by MOH (3.6%) and least in the military sector (0.9%). This is probably due to the fact that complaints in the government sector, MOH and military sector are settled internally, and do not reach the level of a formal review by the legal board at the directorate of forensic medicine, since each governmental sector has its own internal review committee. Moreover, as most treatments in the private sector are performed by general dentists while in the governmental sector it is performed by specialists or consultants. On the contrary, in a study, which included the Israeli population, Nassar et al.[25] revealed that the public sector was sued more than the private sector due to delays in diagnosis and erroneous diagnoses.

In the current study, most cases were documented against non-Saudi dentists (95.6%) compared to Saudi dentists (4.4%). This could be explained by the fact that most of the employees in the private sector are non-Saudi. According to the data from SCFHS in 2018, the total number of dentists registered in Saudi Arabia as general dentists are 16123 (6934 Saudi and 9729 Non-Saudi) of which approximately 3499 (2654 Saudi and 845 Non-Saudi) are MOH employees. The number of Saudi doctors (physicians and dentists) working in the private sector until 2015 was 837 practitioners.[29] These findings were similar to those reported by Al‑Ammar and Guile[23] who also reported a higher number of complaints against non-Saudi practitioners.

Concerning the retribution for malpractice, we found that financial pay-out was the most common compensation (53.4%). This is in agreement with the previous study by Al‑Ammar and Guile,[23] which concluded that 51.5% of the cases were settled by payment (penalty fee).

The limitations of this study included that we only reviewed records in the Riyadh region and that it was conducted in the general directorate of forensic medicine at the MOH and did not include the records of public and military internal review committees. In the light of our findings, we recommend further studies involving nationwide representative samples including government (public and military) and private sectors. It is preferable to have the medical court take up such issues from all sectors for a clear mechanism of case processing, archiving,
enforcing judgments and strengthening the health system. The practitioners should make it a routine to follow the fundamental risk-management procedures such as obtaining informed consent regularly, completing records, treatment progress reports, and constant communication with the patient, parents and referring dentist. Furthermore, a national electronic system for reporting medical malpractice cases in all sectors should be established.

**Conclusion**

Malpractice is a serious concern that can be prevented by fair and honest policies and thorough patient education. Dental malpractice prevalence was high in the private sector, followed by the government and military sectors. The highest number of cases was registered against the prosthodontic specialty followed by orthodontics.

**Key messages**

Patient safety and satisfaction should be a top priority for any medical or dental health care practitioners.

Dental health care professionals should perform their duties and responsibilities in line with the standard treatment protocols and ethics.

The most common reason for filing dental lawsuits was iatrogenic causes and the lawsuits filed against the prosthodontic specialty was the maximum among the total case filed during the seven years.

The number of cases filed was high against the non-Saudi dentists working in the private sector.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Financial support and sponsorship**

Self-supported.

**Conflicts of interest**

There are no conflicts of interest.

**References**

1. Alanazi M, Alamry A, Hussein M, Alanazi M. Canonical correlation between safety culture and quality of healthcare in Saudi Arabia. Glob Adv Res J Med Med Sci 2015;4:402-7.
2. Gambhir RS, Dhaliwal JS, Anand S, Bhardwaj A. Knowledge and awareness of consumer protection act among private dentists in Tricity, Punjab. J Family Med Prim Care 2015;4:347-51.
3. Lazar AC, Buhajel D, Mureșan O, Todor L, Păcurar M. Legal approach regarding dental malpractice in Romania. Rom J Morphol Embryol 2021;62:319-23.
4. Ozdemir MH, Saracoglu A, Ozdemir AU, Ergonen AT. Dental malpractice cases in Turkey during 1991-2000. J Clin Forensic Med 2005;12:137-42.
5. Vanderheyden LC, Northcott HC, Adair CE, McBurney-Morrison C, Meadows LM, Norton P, et al. Reports of preventable medical errors from the Alberta Patient Safety Survey 2004. Healthcare quarterly (Toronto, Ont) 2005;8:107-14.
6. Alanazi AS, Alquirashi MA, Al-Hanawi MK. Causes and outcomes of dental malpractice litigation in the Riyadh Region of the Kingdom of Saudi Arabia. Saudi J Health Syst Res 2021;1:108-14.
7. Gambhir RS. Primary care in dentistry-an untapped potential. J Family Med Prim Care 2015;4:13-8.
8. Wallace E, Lowry J, Smith SM, Fahey T. The epidemiology of malpractice claims in primary care: A systematic review. BMJ Open 2013;3:e002929.
9. Lau PY-W, Wong RKW. Risks and complications in orthodontic treatment. Hong Kong Dent J 2006;3:15-22.
10. Ireland AJ, Willmot D, Hunt NP. An introduction to dento-legal issues and risks in orthodontics. Br Dent J 2015;218:197-201.
11. Naragond A, Kenganal S, Rajasigamani K, Kumar NS. Accidental ingestion of molar band and its management: Maintenance is better than management. Case Rep Dent 2013;2013:891304.
12. Perea-Pérez B, Labajo-González E, Santiago-Sáez A, Albarrán-Juan E, Villa-Vigil A. Analysis of 415 adverse events in dental practice in Spain from 2000 to 2010. Med Oral Patol Oral Cir Bucal 2014;19:e500-5.
13. Puryer J, McNamara C, Sandy J, Ireland T. An ingested orthodontic wire fragment: A case report. Dent J (Basel) 2016;4:24.
14. World Medical Association. World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. JAMA 2013;310:2191-4.
15. Hussein G, Alkabba A, Kasule O. Professionalism and Ethics Handbook for Residents (PEHR): A Practical Guide. Riyadh, Saudi Arabia: Saudi Commission for Health Specialties; 2015.
16. McCarley DH. ADA principles of ethics and code of professional conduct. Tex Dent J 2011;128:728-32.
17. Cocanour CS. Informed consent-It’s more than a signature on a piece of paper. Am J Surg 2017;214:993-7.
18. Paranjos I, Salazar M, Torres F, Pereira AC, Silva R, Ramos A. Profile evaluation of orthodontic professionals as for their legal actions. Dental Press J Orthod 2011;16:127-34.
19. Cameron CA. Informed consent in orthodontics. Semin Orthod 1997;3:77-93.
20. Kiani M, Sheikhhazadi A. A five-year survey for dental malpractice claims in Tehran, Iran. J Forensic Leg Med 2009;16:76-82.
21. Hamasaki T, Hagiwara A. Dentists’ legal liability and duty of explanation in dental malpractice litigation in Japan. Int Dent J 2021;71:300-8.
22. Studdert DM, Spittal MJ, Zhang Y, Wilkinson DS, Singh H, Mello MM. Changes in practice among physicians with malpractice claims. N Engl J Med 2019;380:1247-55.
23. Ammar W, Guile EE. A one-year survey of dental malpractice claims in Riyadh. Saudi Dent J 2000;12:95-9.
24. René N, Owall B. Malpractice reports in prosthodontics in Sweden. Swed Dent J 1991;15:205-17.
25. Nassar D, Tagger-Green N, Tal H, Nemcovsky C, Mijiritsky E, Beitlitum I, et al. The incidence and nature of claims against dentists related to periodontal treatment in Israel during the years 2005-2019. Int J Environ Res Public Health 2021;18:4153.
26. Roscoe MG, Meira JB, Cattaneo PM. Association of orthodontic force system and root resorption: A systematic review. Am J Orthod Dentofacial 2015;147:610-26.
27. Al-Zarea BK. Oral health knowledge of periodontal disease among university students. Int J Dent 2013;2013:647397.
28. Al-Hanawi MK, Khan SA, Al-Borie HM. Healthcare human resource development in Saudi Arabia: Emerging challenges and opportunities—a critical review. Public Health Rev 2019;40:1.
29. Ministry of Health (MOH). Annual Report of the Ministry of Health, Saudi Arabia. 2017. Available from: https://www.moh.gov.sa/en/Ministry/MediaCenter/Publications/Pages/Publications-2018-09-02-001.aspx.