

PATIENTS' ATTITUDES, EXPERIENCES AND AWARENESS REGARDING ENDODONTIC THERAPY

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ABSTRACT

Objectives: The aim of this study is to evaluate patients' awareness and the key factors affecting decisions on tooth preservation.

Material and methods: This study was conducted through an anonymous survey of 237 patients who visited the Department and Clinic for Dental Pathology and Endodontics at the Faculty of Dentistry, University of Sarajevo. Participant were informed about the purpose of the research and informed consent was obtained from each participant. General demographic data on gender, age and education were collected, followed by their attitudes, experiences and knowledge regarding endodontic treatment.

Results: A total of 236 valid responses were analyzed. The majority of respondents (53.2%) assessed their knowledge as „moderate/average“ and also cited 'the dentist' as their primary source of information (81.8%). Our survey revealed that respondents distinguish a broader spectrum of symptoms that indicate the need for root canal treatment (RCT) rather than just spontaneous toothache. In terms of treatment outcomes, majority (86%) recognized RCT as an effective tooth-saving method. Local anesthesia was highly demanded, with 56.2% of patients exclusively insisting on a pain-free procedure. In selecting a dental clinic, respondents primarily value clinical expertise and experience (68.6%), followed by staff friendliness and service quality (44.9%) while financial costs did not affect the priority of tooth preservation for the majority of patients (50.9%).

Conclusion: Our research demonstrates significant progress in patient awareness and perception of endodontic therapy. Furthermore, as dental knowledge is more accessible than ever, patients must be educated to view the dentist as their primary and most reliable resource. Ultimately, establishing mutual trust between the patient and the dentist remains the foundation of successful therapy.

Keywords: root canal treatment, patient awareness, public perception, dental anxiety, questionnaire.

Introduction

Endodontics is a branch of dentistry primarily aimed to preserve the natural dentition, which patients nowadays consider as a priority. Root canal treatment is no longer regarded as a temporary solution preceding tooth extraction, but rather as a long-term investment in oral health. Despite the fact that patients today are well-informed regarding the endodontic process through available information sources, dental anxiety still persists. Furthermore, since root canal treatment often requires multiple appointments depending on the diagnosis and treatment progression, it remains a key reason why patients postpone treatment. From a clinical perspective, a patient's decision to undergo endodontic treatment is further influenced by socioeconomic status, educational background, oral health awareness and financial means. Since successful treatment not only depends on clinician's expertise but also on the quality of patient-dentist communication, understanding and trust, evaluating public perception toward endodontic therapy is essential. The aim of this study is to evaluate patients' awareness and the key factors affecting decisions on tooth preservation. The ultimate goal is to provide clinical guidelines for improved, personalized patient-dentist communication.

Patients and Methods

This study was conducted through an anonymous survey of 237 patients who visited the Department and Clinic for Dental Pathology and Endodontics at the Faculty of Dentistry, University of Sarajevo. Participant were informed about the purpose of the research and informed consent was obtained from each participant. General demographic data on gender, age and education were collected, followed by their attitudes, experiences and knowledge regarding endodontic treatment.

Data analysis was performed using descriptive statistics such as frequencies and percentages.

Results

This study was conducted through an anonymous survey. Although 237 patients initially participated, one did not provide consent, resulting in 236 valid responses. The final sample included 64.4% females and 35.6% males. In terms of education levels, 65.7% of respondents held a higher education degree, while 34.3% had completed secondary education.

The majority of respondents (53.2%) rated their knowledge as „moderate/average“, while 17.4% reported high and 29.4% minimal knowledge (Figure 1). The primary source of information for the 81.8% of respondents was the dentist, friends and family experiences or recommendations for 28% of the participants, and internet for 20.3%. Social media at 3% and traditional media at 0.4% had a minimal impact (Table 1). More than half of the participants (53.6%) selected a combination of all listed symptoms as indicators for RCT. However, pain or sensitivity upon biting and chewing was reported by 34.9% of the participants, spontaneous pain by 24.3% and tooth crown color change by 12.3%. Minimal values of 0.4% were recorded for both the options that the profession decides and the need for a 3D OPG scan (Table 2). The majority of respondents (86%) believe that 'a treated tooth can last for many years', 7.7% remained undecided, 6% considered RCT as a temporary solution before extraction, and 1.3% preferred immediate extraction followed by implant or bridge placement (Table 3). Regarding financial factors, 50.9% of respondents stated they are 'willing to pay whatever is necessary to preserve a natural tooth', 33.8% would prioritize saving the tooth but would consider alternative payment options, 10.7% could be driven to choose extraction by high costs, and 6.8% would only undergo the treatment if it were free through health insurance (Table 4). Pain during or after the procedure was the leading cause of concern for 51.3% of respondents, followed by fear of therapy failure leading to tooth loss (44.3%) and the duration of the therapy process (27.4%). Radiation exposure from multiple RVG images was

the least prevalent concern (3.5%) (Table 5). In terms of the use of local anesthesia during RCT 56.2% of respondents exclusively demand local anesthesia, 26% would request anesthesia only in cases of unbearable pain, and 11.1% have no specific position and defer the decision to their dentist, whereas only 8.5% actively avoid local anesthesia unless it becomes absolutely necessary (Table 6). The majority of respondents (67.7%) considered it a normal reaction to feel mild sensitivity or pain on pressure a few days after a

successfully completed RCT, 26% remained undecided and 6.3% interpreted post-operative pain as a sign of therapeutic failure (Figure 2). In terms of dental practice selection criteria, 72.3% of the respondents prioritized the clinician's expertise and experience, 48.9% the friendliness of the staff combined with service quality, and 29.8% patient recommendations, while the practice's location (23.4%) and economic affordability (17.0%) had the lowest impact on their decision (Table 7).

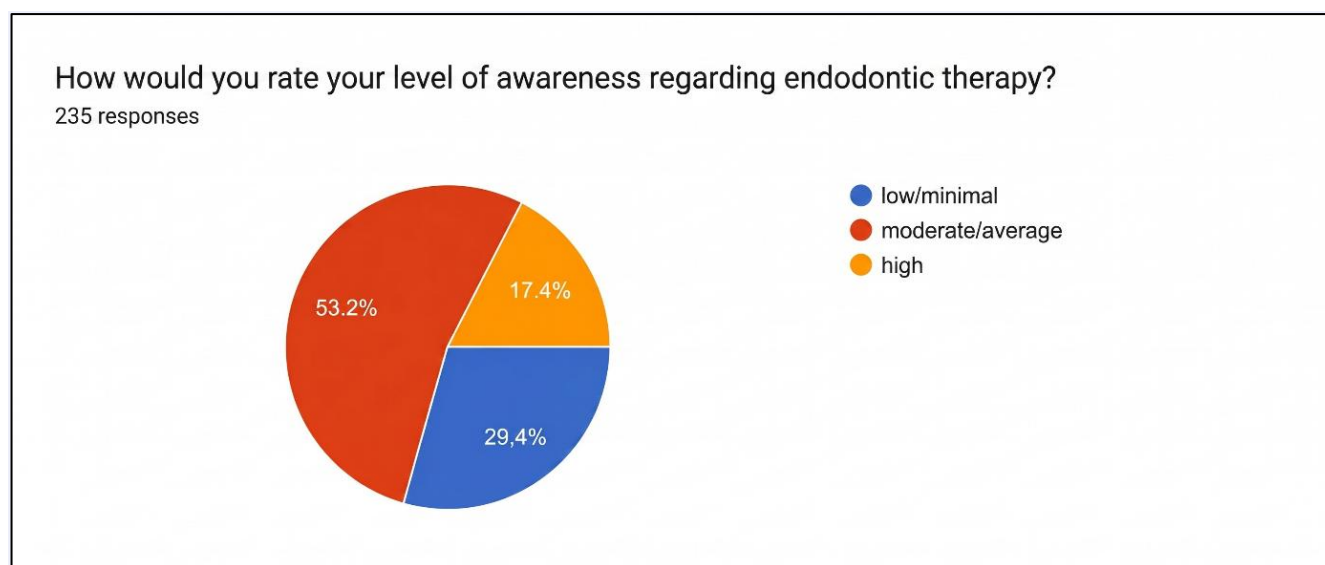


Figure 1. Responses for patient awareness regarding endodontic therapy – predominantly rated as moderate/average

Table 1. Patients' main sources of dental informations: reliance on professional advice outranks online research

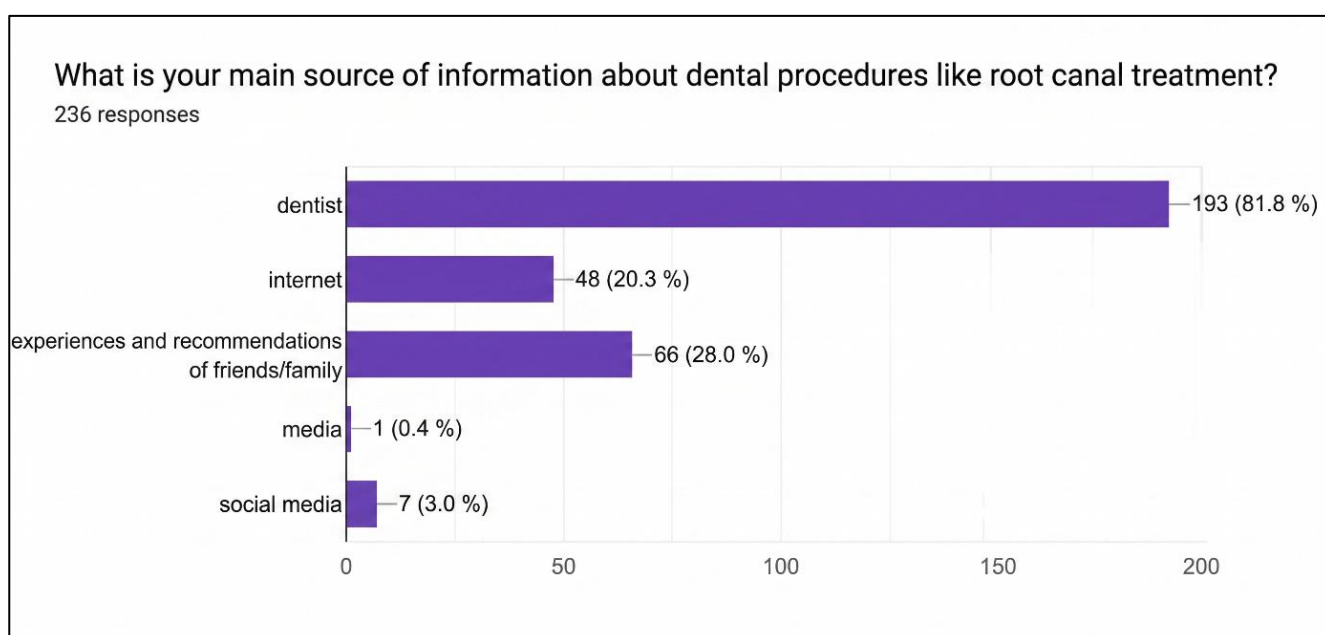


Table 2. Data regarding patients' perception of symptoms that indicate the need for RCT – over half respondents recognize all combined symptoms

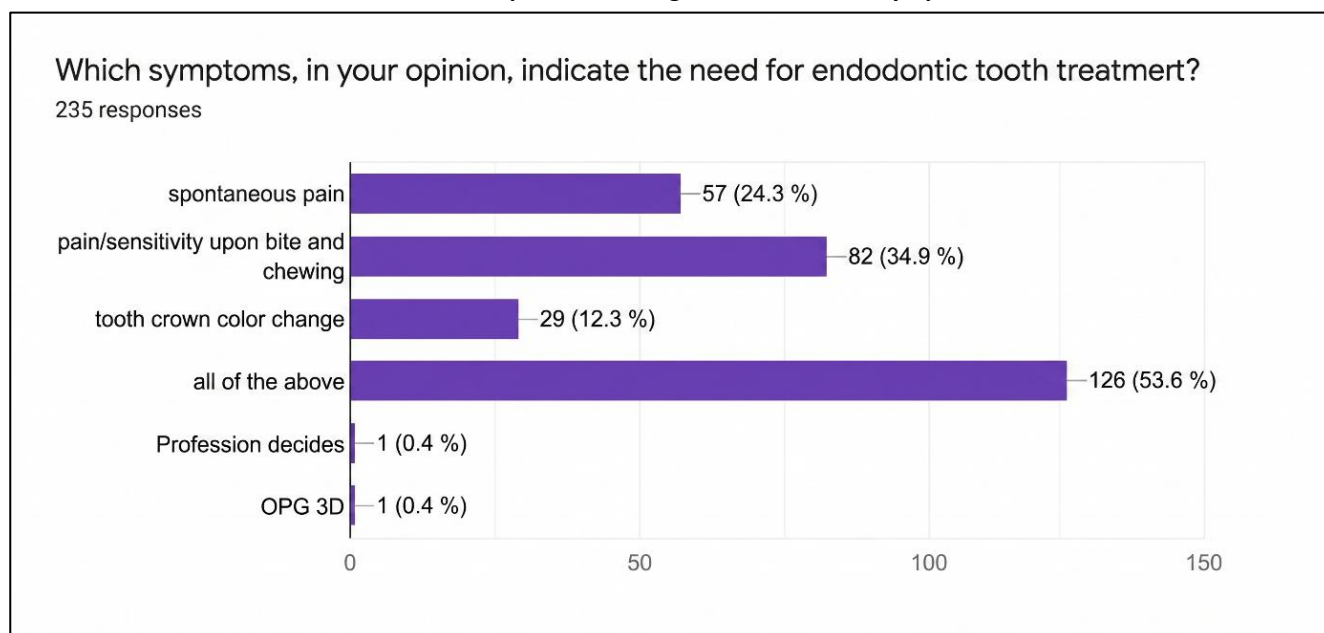


Table 3. Patients' perception of the long-term efficacy of RCT – the majority recognize it as an effective tooth-saving method

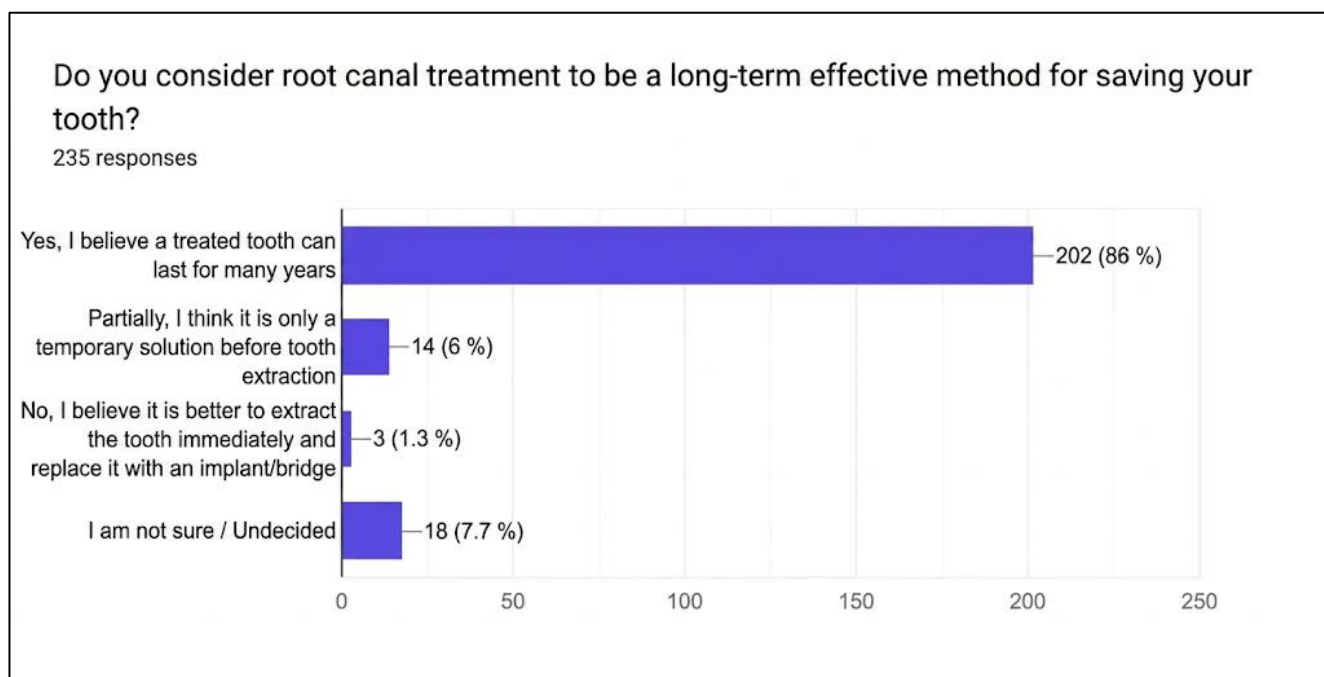


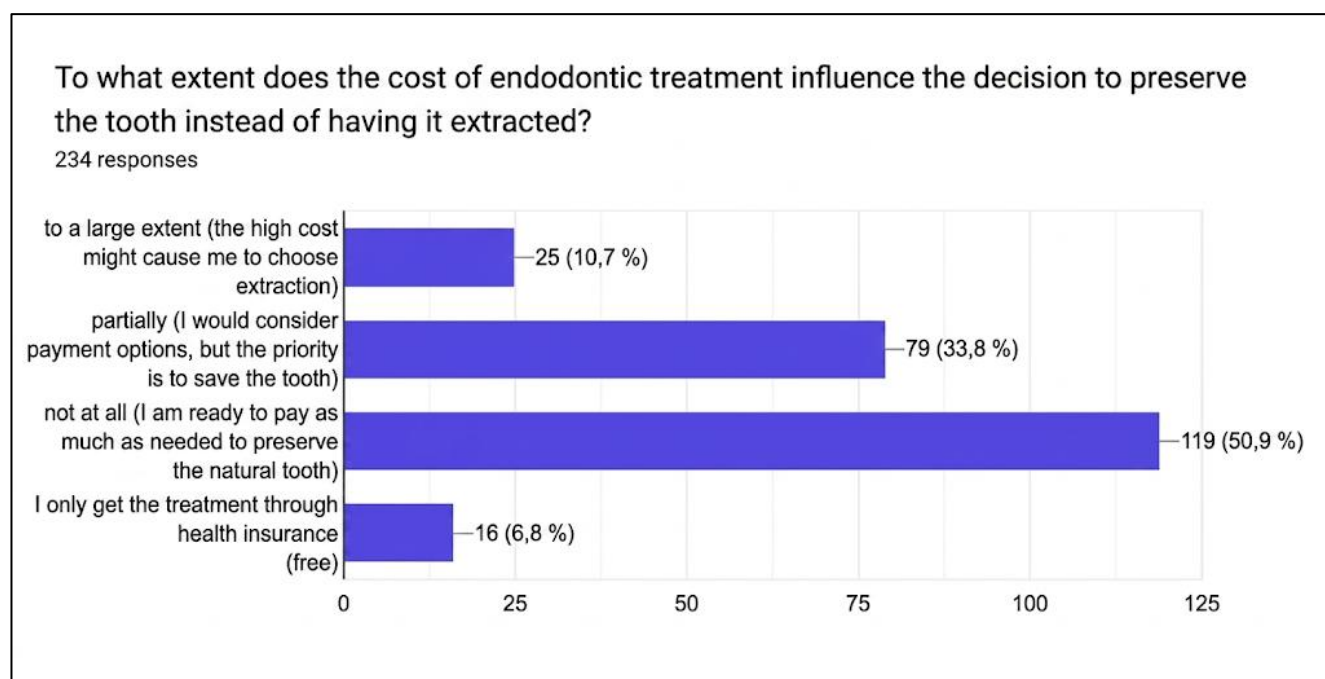
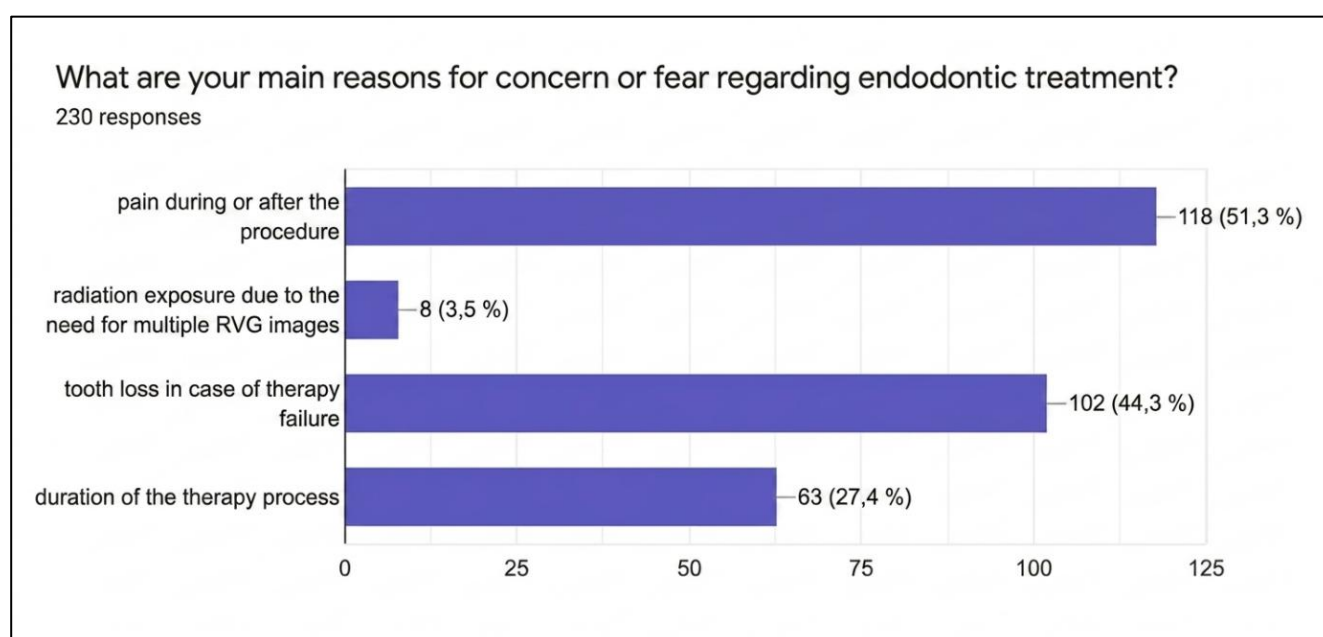
Table 4. Data regarding the financial impact on patients' endodontic decisions – tooth preservation is highly prioritized**Table 5. Procedural pain and potential treatment failure are the primary fears associated with endodontic treatment**

Table 6. Analysis of patients' preferences regarding local anesthesia during RCT – the majority demand a pain-free procedure

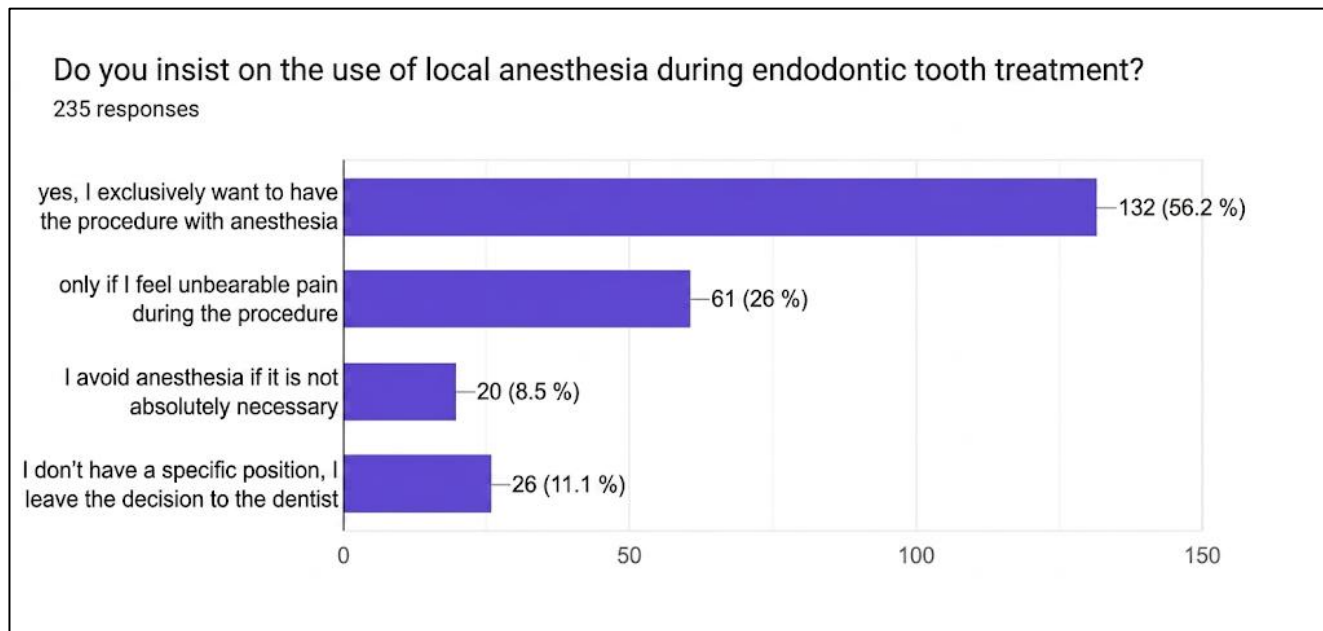


Figure 2. Patients' responses regarding post-operative sensitivity – mild post-operative sensitivity is recognized as a normal reaction

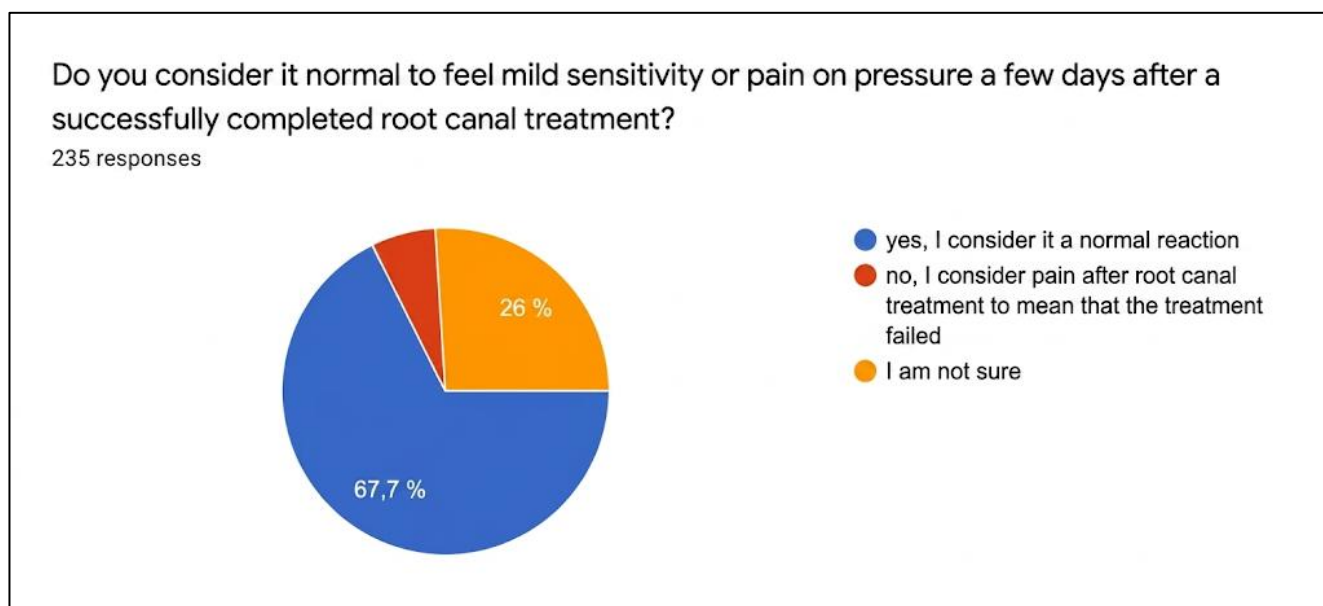
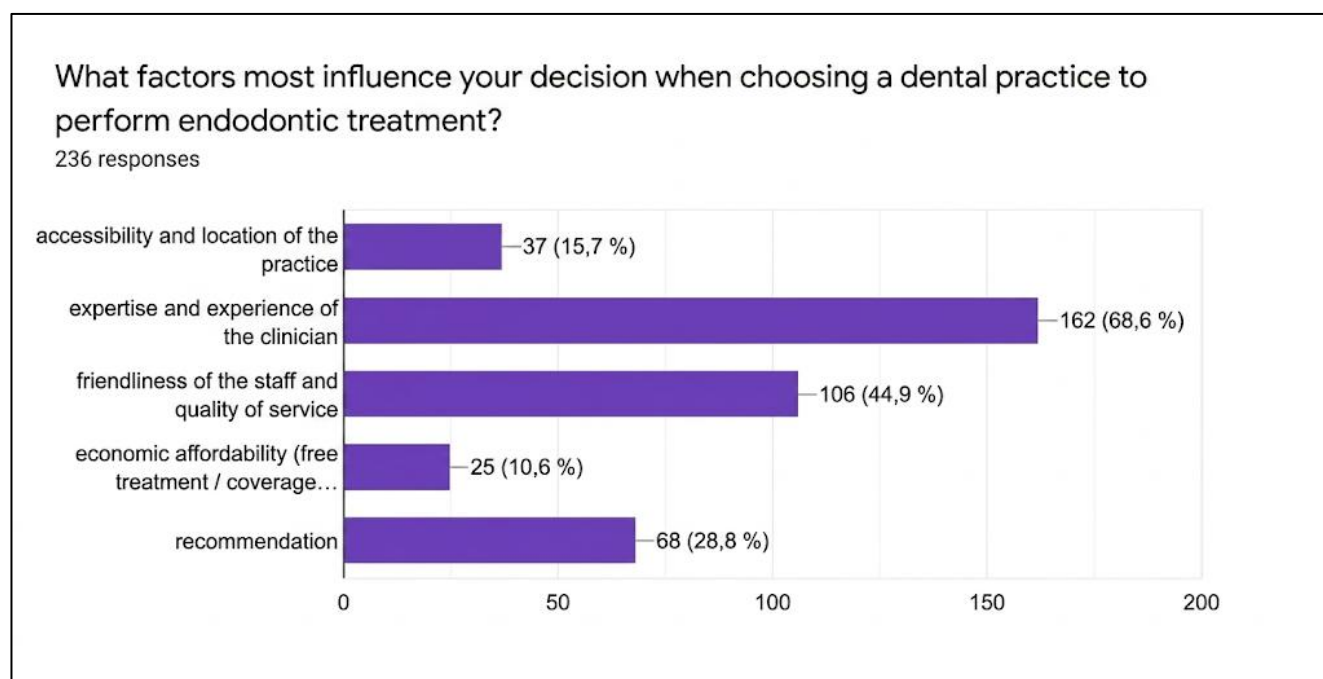


Table 7. Analysis of patients' criteria for choosing a dental practice – the clinician's expertise and experience are leading priorities.



Discussion

When evaluating their own endodontic knowledge within the questionnaire, the majority of respondents in our survey assessed their understanding as 'moderate/average'. Older studies recorded very low levels of awareness, where only 23% to 25.3% of respondents were well-informed about endodontics [1, 2]. However, modern global studies indicate a significant increase, revealing that 61.4% of respondents in Nepal and over 85% in India report basic knowledge [2,3]. These outcomes reflect a notable transition from historical public unawareness toward a well-established, moderate level of understanding.

As their primary source of information respondents cited 'the dentist' but often combined with internet sources and peer recommendations. This contrasts with the past when dentists were the sole source of knowledge [1]. However, recent literature indicates that patients increasingly rely on the internet and mass media [2, 3]. Consequently, patients enter dental practices with a wealth of online information, which is predominantly unverified or misleading.

Although our survey shows the dentist remains a trusted authority, clinicians must often invest additional effort to clear up misunderstandings caused by superficial online information.

Severe, spontaneous toothache was long recognized as the main symptom prompting root canal treatment in 37% to 40.1% of patients [1, 2]. Our survey revealed that respondents distinguish a broader spectrum of symptoms. In addition to spontaneous pain, they very frequently selected 'all of the above', as well as 'pain/sensitivity on biting and chewing' and 'tooth crown discoloration'. These data align with our previous conclusions regarding enhanced patient awareness. Today's patients can identify subtle, non-acute symptoms of endodontic pathology rather than just unbearable pain.

The majority of respondents believe that 'a treated tooth can last for many years', and a significant portion stated they are 'willing to pay whatever is necessary to preserve a natural tooth'. This reflects current global data showing a strong preference for tooth retention; 65% to 76% of patients choose endodontic treatment over

extraction, and 77.2% accept higher financial costs to avoid tooth loss [2, 3]. Consequently, the preservation of natural dentition has become a priority, and endodontics is no longer considered a temporary solution.

The primary concerns cited by patients regarding endodontic procedures is 'pain during and after the treatment' and 'tooth loss'. Besides pain, respondents also selected 'tooth loss in case of therapy failure' and the 'prolonged nature of the treatment process'. A Nepalese study confirms this, reporting that besides pain (28.7%), treatment length was the greatest patient concern (49.6%) [2]. Likewise, a Pakistani study identified prolonged treatment and multiple visits (22.6%) as a key disadvantage that drove some patients to choose extraction [4]. Despite this persistent fear, patients are aware that modern treatments can and should be painless with the use of anesthetics, thus requesting the procedure 'exclusively under anesthesia'. This contrasts with historical data, where fear of pain was the primary barrier to endodontic care, and 64.1% to 78% of patients perceived the treatment as painful [1, 2]. Considering demographic data, younger respondents (aged 18–29) and female participants frequently report fear, predominantly opting for procedures 'exclusively under anesthesia' and expressing concern regarding the outcome. A Croatian study highlights that fear levels decrease with age, with the highest prevalence of anxiety observed among women between 26 and 35 years of age [5]. Furthermore, a study from Madagascar confirms that younger patients (aged 18–24; 84.2%) and females (86%) show a significantly higher correlation with pain and fear than older or male patients, as younger individuals more frequently exaggerate expected pain [6].

Furthermore, the shift in patient awareness has led to progress, as respondents now consider it normal to experience mild sensitivity or pressure pain following a successfully completed RCT. A study from Madagascar confirms that postoperative inflammatory pain is a normal occurrence that can last up to 7 days [6]. Additionally, a Croatian study highlights a psychological aspect: anxious patients tend to expect significantly more severe pain than they actually experience during and after the procedure [5]. Consequently, knowing that mild post-treatment pain is a 'normal reaction' indicates high patient knowledge, which probably helps reduce patient anxiety in the clinic.

In selecting a dental clinic, respondents primarily value clinical expertise and experience, followed by staff friendliness and service quality. This matches a growing global trend of patient awareness regarding specialties, with recent data showing that 72% to 88.9% of patients prefer an endodontist over a general dentist for root canal therapy [1, 2, 3]. Ultimately, patients understand the procedural complexity and intentionally seek the most experienced clinicians.

Conclusion

In conclusion, our research demonstrates significant progress in patient awareness and perception of endodontic therapy. Furthermore, as dental knowledge is more accessible than ever, patients must be educated to view the dentist as their primary, most reliable resource. Ultimately, establishing mutual trust between the patient and the dentist remains the foundation of successful therapy.

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