



Extraction vs RCT- patient's treatment plan in accordance with dental pain

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Abstract

Introduction: Dental pain, a widespread and unsettling issue impacting millions globally. Its spectrum ranges from mild sensitivity to intense throbbing pain, profoundly influencing individuals' quality of life.

Dental pain can stem from various causes, including tooth decay, dental infections, trauma, etc. Seeking professional dental advice is crucial for accurate diagnosis and effective management.

This survey aims to explore patients' preferred treatment plans for dental pain, specifically when the choices are between extraction and root canal treatment.

Methods: In this retrospective study, a diverse sample from the general population was chosen. Demographic information, familiarity with relevant terms, prior experiences with extraction and root canal treatment, and factors influencing decision-making were gathered through a Google-formatted questionnaire. Statistical analysis deemed significance at a threshold of 0.05.

Results: 68.3% of patients had encountered dental pain, and 75.3% were familiar with terms like root canal treatment and extraction. The primary concern for patients (61.6%) was the cost of treatment, with factors such as recovery time, overall health, and the dentist's qualification following in consideration order.

Conclusion: This survey illuminates insights into awareness and knowledge concerning dental pain treatment options. The predominant consideration in treatment choices is the cost, making this survey a vital step toward enhancing our understanding of treatment options and the pivotal factors influencing decisions.

Keywords: Dental pain, extraction, root canal treatment, cost, time, pain management

Introduction

Dental pain is a common and distressing condition that affects millions of people worldwide. It refers to any discomfort or unpleasant sensation experienced in or around the teeth, gums, or jaw. Dental pain can range from mild sensitivity to severe throbbing pain, and it can significantly impact an individual's quality of life. Many individuals suffer from the development of caries disease, traumatic injuries or other disorders that affect the teeth and usually require endodontic or surgical treatment^[1].

The patient's attitude towards dental pain may also vary depending on their personal experiences and beliefs. Some individuals may have a high tolerance for pain and may be more willing to endure dental discomfort without seeking immediate treatment. Others may have a low pain threshold and may be more anxious or fearful about dental procedures.

The patient's knowledge about dental pain may vary depending on their personal experiences and education. Some individuals may have a good understanding of dental pain, its causes, and treatment options if they have previously experienced dental issues or have received information from healthcare professionals. Others may have limited knowledge and may only be aware of dental pain as a general discomfort in the mouth. Root canal therapy (RCT) and tooth extraction are amongst the most commonly administered treatments for pain relief^[2].

This survey aims to explore and analyze the various factors that influence a patient's decision and attitude towards tooth extraction as a solution to alleviate dental pain. These

factors may include: Severity of the tooth damage or infection, Success rate of the procedure, Cost, Time commitment, Patient preference, Long-term dental health, etc. It is important for patients to discuss these factors with their dentist to make an informed decision that aligns with their dental needs and personal preferences. The patient's level of awareness and priorities on treatment should be taken into consideration while framing the treatment plan^[3]. The primary goal of these surveys is to evaluate the community's dental health awareness, aiming to enhance their understanding of treatment importance. This, in turn, increases the likelihood of patients seeking primary oral health care^[4].

Methodology

A survey on extraction vs RCT: patients preferred treatment plan in accordance with dental pain was conducted in Pune city, Maharashtra among the mass population. An online questionnaire format was designed to access patient's knowledge, awareness and practice regarding dental pain. The study duration was 1 month.

The survey consisted of 27 multiple-choice questions and a few open-ended questions and was distributed to a randomly selected population who have undergone dental treatments i.e Extraction or/and RCT in accordance with dental pain

The questionnaire validity was found to be 0.6 which was found to be satisfactory. Reliability of questionnaire was done using Cronbach's alpha value which was found to be 0.628 (i.e satisfactory to good). The calculated sample size was 190.

The survey was designed to be easily accessible and user-friendly, with clear instructions and concise questions in English language. It was estimated to take approximately 4-5 minutes to complete. A total of 190 individuals who were selected at random from different regions of Pune city.

The questionnaire Included questions related to demographic details such as age, gender, residential area, immigration and educational status also including employment, family and marital status, general knowledge about dental pain and patient’s preferred dental treatment plans. It also explored the factors considered by the patients before making a choice between Extraction and Root canal treatment.

Data collected from the survey will be analyzed using statistical software to identify trends, patterns, and gaps in knowledge and awareness among different demographic groups. The findings will be presented in aggregated form, ensuring the anonymity of all participants.

It Is important to note that participation in this survey was voluntary, and participants have the right to withdraw at any time without providing a reason. All responses will be kept confidential and used solely for research purpose.

Results

Out of 190 patients included in the study, the female distribution (57.9%) was slight dominant over the male patients (42.1%). The age group of the maximum participants are of 20-40 years of age (62.6%). Mostly, 64.7% of the population resided in urban areas and were non-immigrants (74.7%), while 54.7% held graduate degrees. Additionally, 61.1% were either students or employed, and 68.9% had bachelor’s degrees, predominantly living in nuclear families (59.5%). [Table 1]

Table 1: Demographic details of the study population

		Variables	N	%
Factors	Gender	Male	80	42.1
		Female	110	57.9
	Age	Below 20	42	22.1
		20-40	119	62.2
		40-60	25	13.2
		Above 60	4	2.1
	Residential Area	Urban	123	64.7
		Suburban	47	24.7
		Non urban	20	10.5
	Immigration status	Non immigrant	142	74.7
		Immigrant	48	25.3
	Employment status	Unemployed	21	11.1
		Student	116	61.1
		Part time employed	15	7.9
		Full time employed	34	17.9
		Retired	4	2
	Educational status	Below matric	3	2.5
		Matric	53	27.9
		Graduate	104	54.7
		Post graduate	19	10
Others		11	4.9	
Family status	Joint family	77	40.5	
	Nuclear family	113	59.5	
Marital status	Married	59	31.1	
	Bachelor	131	68.9	

Dental pain was reported by 66.3% of participants and 75.3% of the study population were acquainted with the terms Extraction and Root Canal Treatment while 8.4% were unfamiliar. Majority of the patients were aware about single and multiple sitting RCT and surgical and non-surgical extraction. 13.7% of participants opted for extraction, 17.4% chose root canal treatment (RCT), and a notable 22.6% underwent both procedures. [Fig 1]

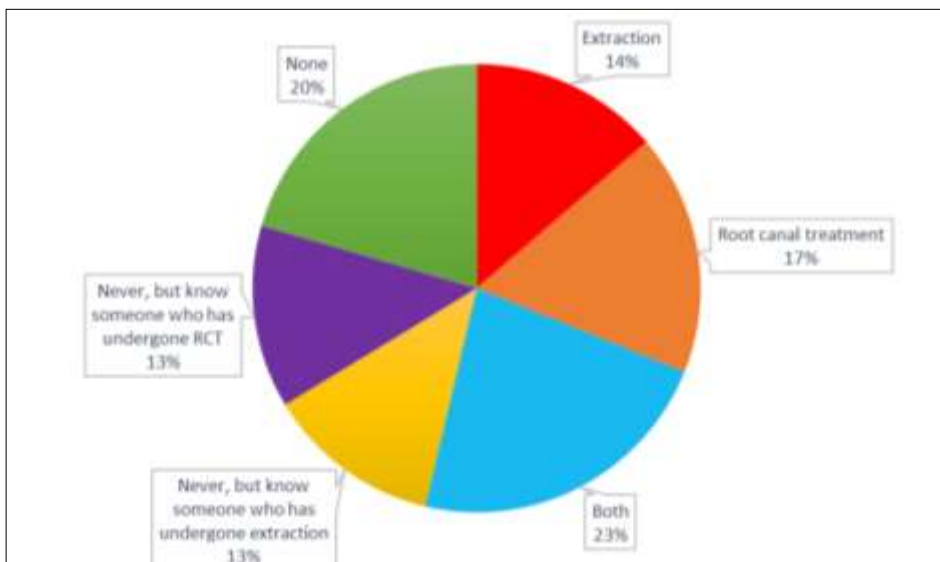


Fig 1: Number of participants undergone Extraction or RCT

The foremost consideration in choosing a treatment option was the cost, with 61.6% prioritizing it. Following closely were factors such as recovery time (51.1%), long-term health implications (51.6%), the dentist’s qualifications

(51.1%), post-operative pain (48.9%), patient reviews (47.4%), and miscellaneous factors accounting for 6.8% [Fig 2].

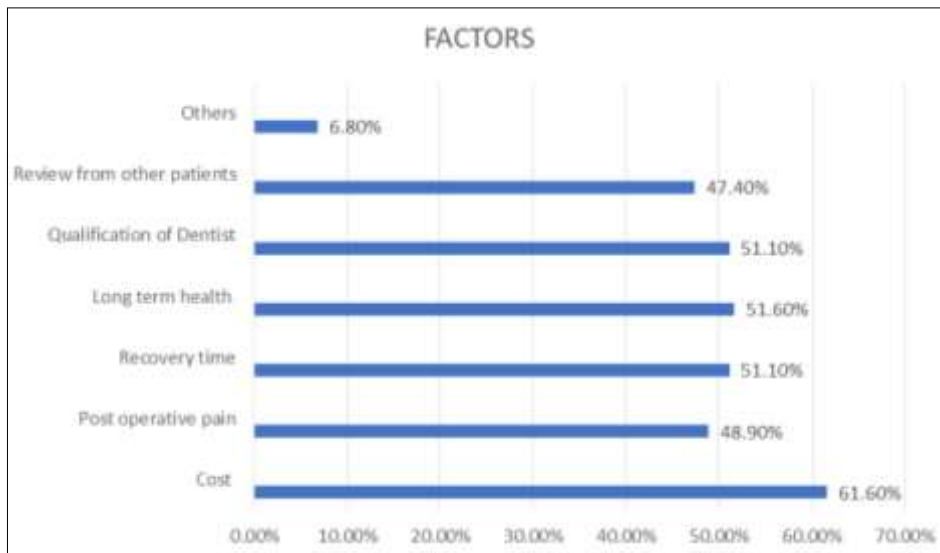


Fig 2: Factors taken in consideration before making treatment plan

Discussion

Dental pain is a sensory discomfort concentrated in or around the teeth. It's a widespread and distressing condition experienced by millions of people worldwide. Dental discomfort often arises from diverse issues like caries, injuries, or other dental conditions.

In India, oral health often takes a back seat as many people underestimate its importance. Consequently, individuals tend to neglect their oral well-being. Over the past three decades, India has witnessed a concerning increase in the burden of oral health diseases. Dental caries, in particular, has emerged as a prevalent and widespread issue, with its incidence being notably high, especially in rural areas.

In our study, participants were chosen using random sampling techniques. The majority of the population, accounting for 64.7%, lived in urban areas and were non-immigrants (74.7%). Over half of the participants held graduate degrees (54.7%), with 61.1% being students or employed. Furthermore 68.9% were bachelor's and lived in nuclear family (59.5%) [Table 1].

In the study, 66.3% of the participants reported experiencing dental pain, while 16.3% had passive information. Regarding terminology, nearly three-quarters of the population were acquainted with the terms "Extraction" and "Root Canal Treatment" (75.3%) this was in contrast with the study conducted by Ramta Bansal *et al* in Rajasthan where 24.44% patients were hearing about the terms for the first time [4]. Awareness percentages of 61.6% for multiple sitting RCT and 59.5% for surgical extraction. Extraction was chosen by 13.7% of participants, while 17.4% opted for root canal treatment (RCT), and a noteworthy 22.6% underwent both procedures. [Table 2]

When inquired about the factors influencing treatment decisions, considerations such as treatment cost, post-operative pain, recovery time, long-term health implications, dentist qualifications, and patient reviews were explored. Notably, treatment cost emerged as the predominant factor in the current study, 64.8% of participants cited cost as a primary reason for rejecting Root Canal Treatment (RCT) and opting for tooth extraction. Given that a significant portion of the participants falls within the lower middle class to upper lower class in socio-economic status, the financial aspect of the treatment emerged as a crucial factor in their decision-making. Disparities in the costs between

tooth extraction and preservation treatments like RCT may sway patients toward more economically favorable options and similar result was seen in the survey done by Dr. Ashish Bali *et al* [3]. While nearly 50% also took into account factors like post-operative pain, recovery time, long-term health impact, and dentist qualifications whereas 38.9% experienced psychological and emotional factors like anxiety or fear. [Table 3]

Among the participants, 22.6% had undergone both "Extraction" and "Root Canal Treatment," while 13.7% and 17.4% had experienced only extraction or RCT, respectively. The remaining portion of the population had passive experience in this regard.

A notable 44.2% of the population expressed satisfaction with their experience and indicated a willingness to choose Root Canal Treatment (RCT) in the future. Furthermore, 37.9% of the population expressed satisfactory experience with their extraction and thought of considering the same option in future scenarios.

When questioned about first management option for tooth pain, 47.9% revealed that they always turned to home remedies for their dental problems whereas 30% opted for over the counter medication while 48% consulted a dentist. A substantial 64.7% of individuals received ample information from their respective dentists regarding the pros and cons about extraction and RCT, enabling them to make informed decisions. Approximately 51.6% of participants received satisfactory information from their dentists regarding replacement options after Root Canal Treatment (RCT) and extraction, such as dental implants or bridges.

While asked about their overall experience about RCT or Extraction 53.7% did not experienced any major complications or major discomfort during or after the procedure whereas study conducted by Azarpazhooch *et al* showed the similar results where 91.5% people did not experience any discomfort[5]. 45.3% were able to resume the normal eating habits after the treatment while others experienced a little difficulty. 24.2% and 22.6% had a satisfactory pain management experience during and after the RCT and Extraction procedure respectively.

Inquiring about opinions, 35.3% of the population expressed a preference for preserving a natural tooth through Root Canal Treatment (RCT) rather than opting for extraction. A majority, comprising 44.7% of individuals, highly valued

maintaining the integrity of their facial aesthetics, particularly the smile, and considered it an important factor when deciding between RCT and Extraction.

47.9% acknowledged that the opinion of their dentist significantly influences their decision-making process when choosing between treatment options. Financially, 33.7% participants believed that RCT is a better long term investment in comparison to Extraction followed by tooth replacement. Additionally, 44.7% of individuals in the study emphasize the importance of obtaining a second opinion from another dentist when deciding between Extraction and RCT. 42.1% acknowledged that the decisions they make directly impact their overall long-term oral health benefits.

The findings suggest a nuanced perspective, with some favouring the simplicity of extraction while others appreciate the preservation offered by RCT. Dental professionals can use this valuable insight to tailor treatment plans, considering not only clinical efficacy but also patient preferences.

Conclusion

This survey sheds light on the preferences and experiences of individuals regarding treatment plans for dental pain, specifically comparing extraction and root canal therapy (RCT). As the field continues to evolve, understanding these preferences will contribute to more personalized and patient-centered approaches to dental care.

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