

# Patient's Awareness and Knowledge of the Root Canal Treatment in Kashmiri Population: A Survey-based Original Research

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## ABSTRACT

**Introduction:** Root canal treatment (RCT) is one of the most common endodontic procedures for which patient visits the dentist. Patients' awareness and knowledge of the endodontic treatment is a very important issue in everyday dental practice. It influences significantly the course and effects of treatment. The aim of the study was to evaluate the knowledge and awareness of patients in a sample of Kashmiri population regarding the endodontic treatment.

**Material and Methods:** Multiple-choice questionnaire regarding knowledge and awareness of root canal treatment was distributed to 100 respondents. The questionnaire comprised questions ranged from personal and social details to specific questions about endodontic treatment. The analysis of data was performed using methods of descriptive statistics.

**Results:** The results shown that (55%) of respondents indicated that the pain was the most important concern associated with the root canal treatment.

**Conclusion:** Knowledge and awareness of patients regarding root canal treatment are different among races and populations of the world.

**Keywords:** Cost; Endodontics; Knowledge; Pain; Root Canal Treatment

## INTRODUCTION

Endodontics is a profession based on the work with other people, so several factors should be considered during clinical decision-making process. The process of clinical decision-making is the essence of everyday clinical practice. This process involves an interaction of application of clinical and biomedical knowledge, problem-solving, weighing of probabilities and various outcomes, and balancing risk-benefit.<sup>1</sup> Although most clinical decisions are based on 'traditional' clinical criteria, and they are also influenced by a wide range of non-clinical factors. Non-clinical influences on clinical decision-making profoundly affect medical decisions. These influences include patient-related factors such as socioeconomic status, quality of life and patient's expectations and wishes, physician-related factors such as personal characteristics and interaction with their professional community, and features of clinical practice such as private versus public practice as well as local management policies.<sup>1</sup> Janczarek et al in their survey-based research on patients' knowledge about endodontic treatment concluded that there is an improvement of knowledge and awareness of patients about the endodontic treatment, and the majority of patients surveyed are aware of the opportunities which they may use during the course of endodontic treatment: different forms of anesthesia, root canal treatment, modern techniques and

treatment outcome prediction.<sup>2</sup>

Another survey conducted by Sisodia et al showed a moderate level of awareness about endodontic treatment among the selected sample of dental patients. It also highlighted the need for providing more information to the patients about the advantages of retaining teeth via endodontic therapy.<sup>3</sup> It has been demonstrated that dental anxiety and expectation of pain had a profound effect on a patient's ability to understand information provided. A person's cognitive ability to process information is significantly affected by stress.<sup>3</sup> Indeed, some research has suggested that dental fear is a stronger predictor of poor oral health than structural factors such as income, dental costs, and insurance status.<sup>4</sup> Several studies confirm that dental anxiety is more common in women.<sup>5,6,7</sup> The aim of this study was to evaluate the knowledge and awareness of patients in a sample of Kashmiri population regarding endodontic treatment, and assess their concerns, expectations and choices.

## MATERIAL AND METHODS

Questionnaire surveys were conducted in a group of 100 patients in the Department of Conservative Dentistry and Endodontics, Govt. Dental College, Srinagar, J&K. The inclusion criterion for the study was, patients over the age of eighteen years, who agreed to participate in the survey. The questionnaire comprised 20 multiple-choice questions ranged from questions relating to knowledge and awareness of patients about endodontic treatment, their impression and experience regarding root canal treatment and its cost, the criteria for selection of dental persons and office, and patients concerns to the endodontic therapy.

## STATISTICAL ANALYSIS

The analysis of data was performed using methods of

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S. No	Questions	Answers	Total
Q1.	Have you been treated endodontically?	a. Yes b. No	89 11
Q2.	How do you recall the endodontic treatment?	a. Well b. Badly c. Not important	59 39 2
Q3.	Was the endodontic treatment painful?	a. Yes b. No c. I don't remember	29 61 10
Q4.	Who performed the treatment?	a. Student b. An intern c. Experienced dentist d. Endodontists e. I don't know	4 19 25 33 19
Q5.	What you did to relieve pain in case of toothache?	a. I use home remedies to relieve toothache b. I used use self-prescribed antibiotics and pain killers. c. I visited the dentist	15 20 65
Q6.	What is your knowledge regarding endodontic treatment?	a. I know a lot b. I ask for details c. I am not interested in the course d. I do not know anything e. Knowledge from media	39 16 25 10 10
Q7.	What is your concern associated with the endodontic treatment.	a. Pain b. The need to remove the tooth despite undertaken treatment c. Breaking the file in the root canal d. High costs e. Others	55 20 10 10 5
Q8.	What is your concern about local anesthesia?	a. pain b. numbness c. Fear	45 40 15
Q9.	What are the criteria of symptoms confirming your need for endodontic treatment?	a. Toothache during eating b. Toothache when biting c. Strong spontaneous toothache d. Pronounced discoloration of the tooth crown e. Other	30 10 45 12 3
Q10.	Do you know the price of endodontic treatment?	a. Yes b. No	60 40
Q11.	Is the price adequate to the complexity of the dental treatment?	a. Yes b. No	80 20
Q12.	Did the price influence your decision about not taking endodontic treatment?	a. Yes b. No	55 45
Q13.	Did the previous experience about endodontic treatment influence your decision?	a. Yes b. No	20 80
Q14.	Would you be willing to pay a high price to make sure the proper treatment?	a. Yes b. No	20 80
Q15.	Would you take the decision of tooth extraction rather than take endodontic treatment?	a. Yes b. No	81 19
Q16.	What are your criteria for selecting the person for performing endodontic treatment?	a. Student of dentistry b. Recommended doctor c. Doctor without specialization d. specialist e. Not important	5 40 20 30 5
Q17.	What were your criteria for selecting dental office?	a. Free of charge treatment b. Professional staff c. Reasonable price d. Painless treatment e. aservice f. Quick and easy access	5 30 10 25 20 15
Q18.	Do you worry about x-rays taken during endodontic treatment?	a. Yes b. No	55 50
Q19.	Are you concerned about Long treatment time?	a. Yes b. No	35 65
Q20.	Why you preferred Govt. dental college Srinagar for Root canal treatment (RCT)?	a. Professional staff b. Less treatment cost c. Quick and easy access d. Others	52 38 10 0

Table-1: Responses of the questions.

descriptive statistics like mean and percentages.

## RESULTS

Within the limitations of the study, we found that 89% of people in the past had experienced the procedure of root canal treatment. Among patients who had undergone endodontic treatment, 59% reported it positively, 39% – badly while for 2% – it was not important. In the study group, 29% of people reported that the procedure was painful, 10% did not remember it, and 61% said they did not feel pain throughout the procedure. These procedures were performed by endodontist in 33%, by experienced dentists in 25%, and in 4% by dental students, and in 19 – by interns, and in 19% people don't know who performed the Root canal treatment. In case of toothache the patient's response depends on severity of pain and accessibility of dental clinic. The vast majority of patients (65%) immediately after the first symptoms report to the dentist, and 15% of respondents admit to using the "home remedies" to combat ailments. And 20% Patients mention taking anti-inflammatory drugs, analgesics and antibiotics.

Most of the people define their level of knowledge of root canal treatment as an average. They are willing to learn the details of the steps of root canal treatment (39%), they know a lot about the details of root canal treatment (16%); 25% of respondents derive information primarily from the electronic as well as print media and 10% of respondents are not interested in the course of treatment and its steps, 10% report not having any knowledge about endodontic treatment.

The patients concern associated with the endodontic treatment was mostly pain. 55% of the respondent were concerned with pain associated with endodontic treatment, 20% of the patients concerned about the need to remove the tooth despite undertaken the treatment. The high cost of treatment was also the patient's concern about endodontic treatment. 10% of patients were concerned with high treatment cost.

The patients were also concerned about local anesthesia used during endodontic treatment. Majority were concerned about the pain associated with local anesthesia injection. 40% were concerned with the numbness associated with local anesthesia lasting for hours after the injection. About 15% had the fear of the needle used for injection.

Spontaneous toothache was the main reason for seeking endodontic treatment. About 45% patient seek treatment because of toothache. Majority of them experienced toothache for the first time and the time they were in toothache were very frustrating for them and their family. Sixty percent of patients admitted that they know the price of endodontic treatment, 80% of them said that the cost was adequate to the complexity of the procedure in the government hospitals. 80 percent of respondents said that the cost of endodontic treatment does not affect their decision to undergo endodontic treatment. As many as 20% of people admit that the high price of the treatment is an obstacle to the therapy in private clinics.

Fifty five percent of respondent admitted that the price of

treatment did not influence the decision about not taking the endodontic treatment. And forty five percent respondent admitted that the price did not influence the decision of undergoing the endodontic treatment. The previous experience about endodontic treatment influence the decision for undergoing the treatment in 20 percent of cases. Twenty percent of respondent were willing to pay a high price to make sure the proper treatment. More than 81% of the respondents strongly select the root canal treatment, and only 19% are considering extraction as the ultimate method of treatment in case of toothache.

The criteria, which patients are guided by when choosing the dentist carrying out root canal treatment – Student of dentistry, recommended doctor, Doctor without specialization. The study shows that most patients still choose specialists (28%). The opinion of a doctor is also significant – 25% of respondents indicate a dentist recommended by fellow dentist. 21% of respondents choose dentist over endodontist because of the costly treatment and the ease of accessibility. And for 26% of respondents it does not matter who performs the procedure.

In 55% of cases the respondent worried about x-rays taken during endodontic treatment and only 45% knows that dental x-rays are safe and they don't worry about taking x-rays during endodontic treatment. The long treatment time was a matter of concern only in 35 of cases and the rest of the respondents were comfortable with the long treatment time.

In the last part of the study, the respondents were asked why you preferred Govt. dental college Srinagar for Root canal treatment (RCT). More than half of the patients (52%) responded that highly qualified professional staff was the most important criteria for selecting the place for endodontic treatment. For 38% of respondents the less costly treatment was decisive, and for 10% of patients quick and easy access.

## DISCUSSION

The branch of endodontics is a fast growing specialty with the availability of recent advances including various modernistic tools significantly influence the quality and durability of treatment effects. The most common cause of seeking dental treatment is pain, for the alleviation of which a root canal treatment might be carried out. A study conducted by Klages et al. demonstrates that patients visiting the dental office expect pain usually larger than that actually experiencing during treatment.<sup>8</sup> People with high dental fear have more probability to delay or avoid dental visiting, and a number of fearful people regularly cancel or fail to show for appointment. It has been noted that trying to manage patients with dental fear is a source of considerable stress for many dentists.<sup>9,10,11</sup> In our study we found that the pain was the more important patients' concerns associated with root canal treatment.

Sisodia et al reported that 52% of the patients were familiar with the term root canal treatment, while Habib et al stated that 25.3% of the respondents had no knowledge about the treatment, whereas, 21.7% of the respondents knew a lot.<sup>12,13</sup> In the present study, 39% of respondent knew about root canal

procedure. The knowledge about endodontic treatment came from various sources including visit to the dental clinic, print and online media, friends and relatives. In addition, patients can benefit from many forms of local anesthesia, and the use of nitrous oxide, which according to recent reports, enhances the effect of their actions. Another form of premedication are preoperative intravenous sedatives and analgesics. In extreme cases, general anesthesia is the alternative.<sup>14</sup>

Long treatment time was not serious barrier in this study in contrast to the previous studies.<sup>2,12</sup> 65% of respondents admitted that the treatment time does not influence their decision about not taking endodontic treatment. In our study we found that the patients choose the dental services based on professional experience and treatment cost. Iqbal et al in their cross sectional study concluded that patients choose the dental service provider based on professional experience, staff courtesy and friendly environment.

Costs associated with endodontic treatment are still debatable. Patients often stress that they are too high but adequate to the complexity of the treatment. Nevertheless, more than half of respondents is willing to pay a higher amount to avoid tooth loss, similarly as in the previous study.<sup>16</sup>

## CONCLUSION

Knowledge and awareness of patients regarding root canal treatment are different among races and populations of the world. The pain was the most important concern associated with the root canal treatment. There has been a need to reduce the treatment duration by shifting to the rotary endodontics and single visit endodontic treatment amongst general dental practitioners.

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