

## Knowledge and Awareness Regarding Root Canal Treatment Among the General Population

Research Article

Ditty J Mary<sup>1</sup>, Anjaneyulu K<sup>2</sup>, M.P. Santhosh Kumar<sup>3\*</sup><sup>1</sup> Department of Conservative Dentistry and Endodontics, Saveetha Dental College and Hospital, Saveetha University, India.<sup>2</sup> Reader, Department of Conservative Dentistry and Endodontics, Saveetha Dental College and Hospital, Saveetha University, India.<sup>3</sup> Reader, Department of Oral and Maxillofacial Surgery, Saveetha Dental College and Hospital, Saveetha Institute of Medical and Technical Sciences (SIMATS), Saveetha University 162, Poonamallee High Road, Velappanchavadi, Chennai 600077 Tamil Nadu, India.

### Abstract

**Objectives:** Endodontics is the branch of dentistry that deals with diseases of the tooth root, dental pulp, and surrounding tissue in human. Most of the general population are unaware of the root canal treatment and people think of approaching a dentist when there is tooth ache or any Oral swelling. Other factors 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. The aim of this study was to assess the knowledge and awareness regarding root canal treatment among the general population in Chennai.

**Methods:** The questionnaire comprised 15 multiple-choice questions ranged from personal and social details to specific 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 and barriers to undergo the endodontic therapy.

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

**Conclusion:** According to our study it was clear that most of the people had a good knowledge and awareness regarding root canal treatment but they felt it was costly to accept the treatment. A general dentist was the first choice for majority of patients. Cost associated with endodontic treatment was a serious barrier for obtaining treatment.

**Keywords:** Root Canal Treatment; Endodontics; Knowledge; Awareness; Cost; Dentist; Toothache.

### Introduction

Endodontics is the branch of dentistry that deals with diseases of the tooth root, dental pulp, and surrounding tissue in human [1]. It is a profession based on the work with other people, hence several factors should be considered during clinical decision-making process. Endodontic therapy, also known as endodontic treatment or root canal therapy, is a treatment sequence for the infected pulp of a tooth which results in the elimination of infection and the protection of the decontaminated tooth from future microbial invasion [2]. *Enterococcus faecalis* is a recalcitrant candidate among the many causative agents of failed endodontic treatment [3]. Chronic failure is due to the ability of *E. faecalis* to bind to

the collagen of the dentinal tubule and remain viable within the tubules [4]. These microorganisms have the ability to grow even in a low-nutrient environment and can survive in the root canals as a mono-infection [5].

A root canal is a treatment used to repair and save a tooth that is badly decayed or becomes infected [6]. During a root canal procedure, the nerve and pulp are removed and the inside of the tooth is cleaned and sealed [7]. Without treatment the tissue surrounding the tooth will become infected and abscesses may form [8]. The contemporary endodontics involves the introduction of many new instruments, materials, and techniques. Controlled studies have shown that root canal treatment brought high suc-

#### \*Corresponding Author:

M.P. Santhosh Kumar,  
Reader, Department of Oral and Maxillofacial Surgery, Saveetha Dental College and Hospital, Saveetha Institute of Medical and Technical Sciences (SIMATS), Saveetha University  
162, Poonamallee High Road, Velappanchavadi, Chennai 600077 Tamil Nadu, India.  
Tel: 9994892022  
Email ID: santhoshsurgeon@gmail.com

**Received:** April 08, 2021

**Accepted:** May 04, 2021

**Published:** May 10, 2021

**Citation:** Ditty J Mary, Anjaneyulu K, M.P. Santhosh Kumar. Knowledge and Awareness Regarding Root Canal Treatment Among the General Population. *Int J Dentistry Oral Sci.* 2021;08(5):2410-2412. doi: <http://dx.doi.org/10.19070/2377-8075-21000473>

**Copyright:** M.P. Santhosh Kumar ©2021. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

cess rates of more than 90% [9]. The aim of this study was to evaluate the knowledge and awareness of patients in our population regarding root canal treatment, and assess their concerns, expectations and choices.

### Material and Methods

A standardised questionnaire was distributed to 100 patients visiting the Saveetha Dental college, Chennai during their regular dental visits. The questionnaire comprised 15 multiple-choice questions ranged from personal and social details to specific questions relating to knowledge and awareness of patients about endodontic treatment, their impression and experience regarding root canal treatment. It also included questions regarding the cost, the criteria for selection of dental persons and office, and patients' concerns and barriers to undergo the endodontic therapy. Data collected was statistically analysed and results obtained.

#### Questionnaire:

#### Knowledge and awareness regarding root canal treatment among the general population:

- 1) Do you know what is a root canal treatment?  
A) Yes B) No
- 2) When Do you think root canal treatment is required?  
A) pain in the tooth B) decayed tooth C) Fracture of tooth
- 3) Whom do you visit for a root canal treatment?  
A) general dentist B) root canal specialist
- 4) Do you know that there is a specialist for Root canal treatment?  
A) Yes B) No
- 5) what do you prefer when there is tooth pain?  
A) Root canal treatment B) extraction C) Herbal treatment D) self-treatment
- 6) Whom do you visit when you get a tooth pain?  
A) general dentist B) specialist C) dental college
- 7) Have you undergone root canal treatment?  
A) Yes B) No
- 8) Who did the root canal treatment for you?  
A) General Dentist B) Dental student C) specialist

- 9) If yes, what was your experience during Root canal treatment?  
A) Painful B) not painful
- 10) Is the root canal treatment costly?  
A) Yes B) No
- 11) Do you suggest Root canal treatment to your colleagues?  
A) Yes B) No
- 12) If no why?  
A) too costly B) Not worth it C) fear about the treatment D) Do not believe in root canal treatment
- 13) Do you fear from undergoing root canal treatment?  
A) Yes B) No
- 14) Have any of your family members undergone root canal treatment?  
A) Yes B) No
- 15) Does the price influence your decision about not taking a root canal treatment?  
A) Yes B) No

### Result

Responses of the general population about their knowledge and awareness regarding root canal treatment is described in the Table 1 and Table 2.

### Discussion

The process of clinical decision-making is the essence of everyday clinical practice [10]. This process involves an interaction of applications of clinical and biomedical knowledge, problem-solving, weighing of probabilities and various outcomes, and balancing risk-benefit [11]. Although most clinical decisions are based on 'traditional' clinical criteria, they are also influenced by a wide range of non-clinical factors. Non-clinical influences on clinical decision-making profoundly affect medical decisions [12]. 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 characteristic and interaction with their professional community, and features of clinical practice such as private versus public practice as well as local management policies [13]. It has been understood that dental anxiety and

**Table 1. Responses regarding patient awareness on root canal treatment.**

Do you know what is root canal treatment?	92% yes	8% no		
When do you think root canal treatment is required?	30% pain in the tooth	66% decayed tooth	4% fractured teeth	
Whom do you visit when there is pain in the tooth?	56% general dentist	44% specialist		
Do you know that there is a specialist for Root canal treatment?	70% aware	30% unaware		
What do you prefer when there is tooth pain?	48% root canal treatment	24% self-treatment	9% extraction	19% herbal treatment
Whom do you visit when you get a tooth pain?	80% general dentist	18% specialist	2% Dental College	

Table 2. Responses regarding previous experience on root canal treatment.

Have you undergone root canal treatment?	41%have undergone	59% no
What was your experience during root canal treatment?	31% painful	69% not painful
Is the root canal treatment costly?	66% costly	34% not costly
Will you suggest root canal treatment to your colleagues?	87% yes	13% no because it's too costly
Do you fear from undergoing root canal treatment?	55% fear	45% do not
Does the price influence in undergoing root canal treatment?	70% yes	30%no

expectation of pain had a profound effect on a patient's ability to understand information provided [14]. A person's ability to process information is significantly affected by stress and their socioeconomic status [15]. The cost of care and the patient's ability to pay may influence the physician's therapeutic plan. Patients with a high socioeconomic status who are able to pay for healthcare are more likely to have medical tests than patients with a low socioeconomic status [16].

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. Several studies confirm that dental anxiety is more common in women [17]. The impact of root canal treatment on the oral health-related quality of life of patients has been evaluated using the short form (OHIP-14) or modified version of the Oral Health Impact Profile [18]. The distinctly positive impact of root canal treatment was apparent regardless of cultural background of the patient group or the measure used [19]. As expected, physical pain, psychological discomfort (feeling tense), and disability (difficulty in relaxing) were the most improved domains following treatment [20]. In all professions based on the work with other people, understanding of motivational processes and skills of using knowledge is very important [21, 22]. These factors are particularly important in everyday practice of a dentist.

Knowledge and awareness of patients regarding root canal treatment are different among races and populations. There has been increased knowledge and concern of patients about endodontic treatment. Toothache is the greatest motivation of patient to refer the dentist, and pain is the more important patients' concerns associated with root canal treatment [23, 24].

## Conclusion

According to our study it was clear that most of the people had a good knowledge and awareness regarding root canal treatment but they felt it was costly to accept the treatment. A general dentist was the first choice for majority of patients. Cost associated with endodontic treatment was a serious barrier for obtaining treatment.

## References

- Hajjaj FM, Salek MS, Basra MK, Finlay AY. Non-clinical influences on clinical decision-making: a major challenge to evidence-based practice. *J R Soc Med.* 2010 May;103(5):178-87. Pubmed PMID: 20436026.
- Janczarek M, Cieszko-Buka M, Bachanek T, Chalas R. Survey-Based Research on Patients' Knowledge About Endodontic Treatment. *Polish Journal of Public Health.* 2014 Aug 1;124(3).
- Sisodia N, Yadav S, Nangia T, Singh P, Yadav M, Singh HP. Dental Patients' knowledge and attitude towards Endodontics-A survey. *Journey of Pharmaceutical and Biomedical Science.* 2015;5(01):80-3.
- Eli I, Schwartz-Arad D, Bartal Y. Anxiety and ability to recognize clinical information in dentistry. *J Dent Res.* 2008 Jan;87(1):65-8. Pubmed PMID: 18096896.
- Jamieson LM, Mejia GC, Slade GD, Roberts-Thomson KF. Predictors of untreated dental decay among 15-34-year-old Australians. *Community Dent Oral Epidemiol.* 2009 Feb;37(1):27-34. Pubmed PMID: 19191818.
- Humphris GM, Dyer TA, Robinson PG. The modified dental anxiety scale: UK general public population norms in 2008 with further psychometrics and effects of age. *BMC Oral Health.* 2009 Aug 26;9:20. Pubmed PMID: 19709436.
- Erten H, Akarslan ZZ, Bodrumlu E. Dental fear and anxiety levels of patients attending a dental clinic. *Quintessence Int.* 2006 Apr;37(4):304-10. Pubmed PMID: 16594362.
- Doumani M, Habib A, Qaid N, Abdulrab S. Patients' awareness and knowledge of the root canal treatment in Saudi population: survey-based research. *Pain.* 2017;44(52):47.
- Gutmann JL, Harrison JW. *Surgical endodontics.* Boston: Blackwell scientific publications; 1991 Dec.
- Gorman MC, Steiman HR, Gartner AH. Scanning electron microscopic evaluation of root-end preparations. *J Endod.* 1995 Mar;21(3):113-7. Pubmed PMID: 7561651.
- Hardy D, Smith B. Decision making in clinical practice. *British Journal of Anaesthetic & Recovery Nursing.* 2008 Feb;9(1):19-21.
- McKinlay JB, Potter DA, Feldman HA. Non-medical influences on medical decision-making. *Social science & medicine.* 1996 Mar 1;42(5):769-76.
- Dubertret L. Patient-based medicine. *Journal of the european academy of dermatology and venereology.* 2006 Nov;20:73-6.
- Murray CA, Saunders WP. Root canal treatment and general health: a review of the literature. *Int Endod J.* 2000 Jan;33(1):1-18. Pubmed PMID: 11307468.
- Armfield JM, Heaton LJ. Management of fear and anxiety in the dental clinic: a review. *Aust Dent J.* 2013 Dec;58(4):390-407; quiz 531. Pubmed PMID: 24320894.
- Parirokh M, V Abbott P. Various strategies for pain-free root canal treatment. *Iran Endod J.* 2014 Winter;9(1):1-14. Epub 2013 Dec 24. Pubmed PMID: 24396370.
- Janczarek M, Cieszko-Buka M, Bachanek T, Chalas R. Survey-Based Research on Patients' Knowledge About Endodontic Treatment. *Polish Journal of Public Health.* 2014 Aug 1;124(3).
- Kumar MS. Knowledge, attitude and practices towards oral health among law students in Chennai. *Journal of Pharmaceutical Sciences and Research.* 2016 Jul 1;8(7):650.
- Kumar MP. Dental management of patients on antiplatelet therapy: Literature update. *Asian J Pharm Clin Res.* 2016;9(3):26-31.
- Mehta N, Raisingani D, Gupta S, Sharma M. Endodontic Trends: Where We Are And Where We Should Be-A Survey Report.
- Kumar S. Newer delivery systems for local anesthesia in dentistry. *J Pharm Sci Res.* 2015;7(5):252-5.
- Ahamed A, Kumar MS. Knowledge, attitude and perceived confidence in handling medical emergencies among dental students. *Journal of Pharmaceutical Sciences and Research.* 2016 Jul 1;8(7):645.
- Kumar S. Knowledge, attitude and practices of dental students toward dental management of patients on antiplatelet therapy. *Asian J Pharm Clin Res.* 2016;9(30):270-6.
- Gayathri MM. Knowledge, Awareness and Attitude among dental students about hepatitis B infection. *Journal of Pharmaceutical Sciences and Research.* 2016 Mar 1;8(3):168.