

Knowledge, awareness, and perception on root canal treatment among South Indian population - A survey

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ABSTRACT

The pulp is removed, and the interior of the tooth is cleaned and sealed during root canal treatment. Root canals are dreaded by many people because they are considered to be painful. The following are indicators of pulpal damage, color changes, swelling, thermal sensitivity, and pain in the gums. The pulp gets inflamed or diseased when it becomes infected, then RCT or extraction is needed to eliminate the inflamed or infected tissue and heal that particular region. The questionnaire was circulated to the sample population through a Google Docs link. Pie charts with a frequency table were created when the survey data were acquired. The Chi-square test was used to evaluate the connection using the SPSS software. Eighty-four percent of people are aware of RCT and what it is intended for and 80% of the participants themselves have undergone endodontic treatment. Most of the South Indian population were aware of root canal treatment and have undergone an RCT procedure.

Key words: Eco friendly, endodontic treatment, innovative technique, participants, statistically significant

INTRODUCTION

Regardless of the clinical conditions, dental progress is the anticipated outcome following root canal treatment (RCT). When the tooth is completely repaired and functional, the surgery should be regarded as complete. The root canal treatment protocol is a method of analyzing therapeutic success from many perspectives, with particular principles including the dentist and the patient himself.^[1] The importance of signs, the importance of health conditions, and the value of images are also references for

dentists (there is no periapical irritation and the root canal gap is entirely filled).^[2,3] The combined impact of the root canal system's mechanical instrumentation, filling with an inert substance, and chemical debridement known as the periapical tissues are maintained and restored during root canal treatment (RCT).^[4,5] After the exhaustive reports by Lekholm *et al.* (1979), a variety of studies directly assessing the therapeutic effect of root canal retreatment have been published in the literature.^[6] Bacteria levels were significantly lower in the intracanal and coronal laparoscopic artificial insemination LAI groups than in the positive control and calcinuerin inhibitor CNI groups.^[7] For practitioners, several engine-driven nickel titanium alloy NiTi endodontic files have shown to be important and effective instruments for cleaning and shaping root canals.^[8]

In the previous study, done by Willershausen, *et al* on, 2015^[9] Hydrogen peroxide was utilised far more frequently

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by dentists with 20–30 years of clinical experience than by dentists with less expertise ($P < 0.001$). Among the elder peers ($P < 0.001$), 14.6 percent never used NaOCl. Younger coworkers almost always did and older coworkers almost never did ($P < 0.001$). Older peers (>30 years of dental experience), NaOCl was never used by 14.6 percent of the community. In another previous study conducted by Ramta Bansal, *et al.*, (2020) an examination of patients' attitudes about root canal treatment: there is a paucity of information regarding RCT among patients, according to the findings of a questionnaire-based study.

A patient's degree of education, socioeconomic position, view on the quality of life and health, expectations, and objective or subjective past dental experiences have all been investigated in previous studies.^[10,11] The treated tooth, on the other hand, gets brittle over time and eventually dies. Improving dental treatments requires an understanding of the procedure's outcomes.^[12] RCT is a technique to be used when the pulp becomes permanently irritated or diseased. Color changes, swelling, inflammation, temperature sensitivity, or soreness in the gums are all indicators of pulpal injury. RCT or extraction is required once the pulp becomes inflamed or infected so that the damaged tissue may be removed and the region can be restored to health.^[13,14] Our research and knowledge have resulted in high-quality publications from our team^[5,15-18]

The aim of the study is to know the knowledge, awareness, and perception of root canal treatment among the South Indian population.

MATERIALS AND METHODS

Study design

A study of the South Indian population was done to assess their knowledge, awareness, and perceptions about root canal treatment. The nonprobability handy sampling approach was used. The current study was a pilot study with 100 South Indians to assess their understanding of root canal treatment. The survey participants gave their time freely and were not rewarded in any manner. Informed permission and legal assent were obtained from the subjects. In January 2021, a poll was done.

Survey instrument

After a thorough analysis of the current literature, a questionnaire was created as the survey tool. The questionnaire was reevaluated, and changes were made to make the questions more clear and eliminate ambiguous responses. An online survey platform was used to distribute the questionnaire to the participants.

Data analysis

Unfinished questionnaires were eliminated, and only completed surveys were utilized for evaluation. Both

responses were tallied, and the data's accuracy was verified. A bar graph was constructed and analyzed for each question. The correlation was examined using the Chi-square test and the data were computed using the SPSS Statistical package for social science software.

RESULTS

The current study was a survey which evaluated the knowledge and awareness of 100 South Indian communities about root canal treatment. The results were statistically analyzed and studied when participants were asked about their knowledge, awareness, and perception of root canal treatment. The survey's participants were 48% male and 52% female, with 80% of the study population having received endodontic therapy and 20% not having received endodontic treatment [Figure 1]. Sixty-seven percent of the people thought that RCT is too expensive, whereas 33% of the people did not think so [Figure 2]. Sixty percent of participants replied yes and 40% said no when asked if they would be prepared to pay a high fee to ensure adequate care [Figure 3]. For 30% of the people an intern has performed, 53% of the people an experienced dentist has done an RCT procedure, and for 7% of the participants, students have performed an RCT [Figure 4]. When participants were questioned about their knowledge of endodontic therapy, 36% said they were not interested in the course, 33% said they wanted more information, 14% said they did not know anything, 10% said they knew a lot, and 7% said they learned through the media [Figure 5]. When people were asked whether they are aware that RCT aims at saving a tooth

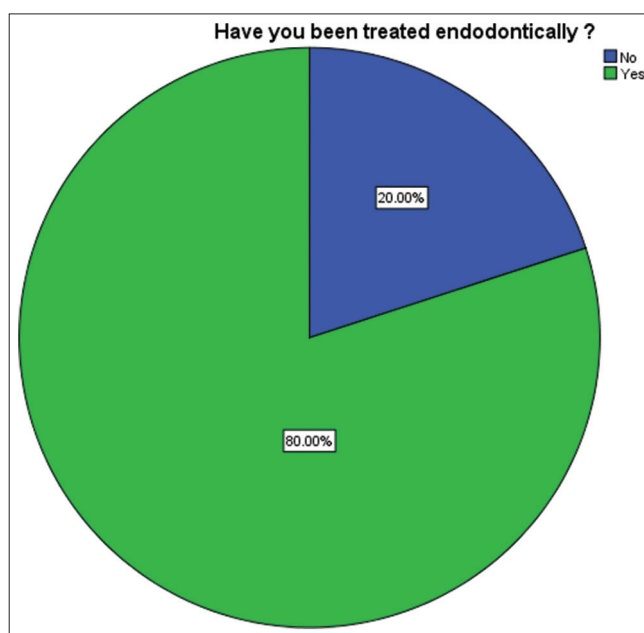


Figure 1: Eighty percent of the study population has had endodontic treatment, which is displayed in green, and 20% of the study population has not had an endodontic treatment and was given in blue

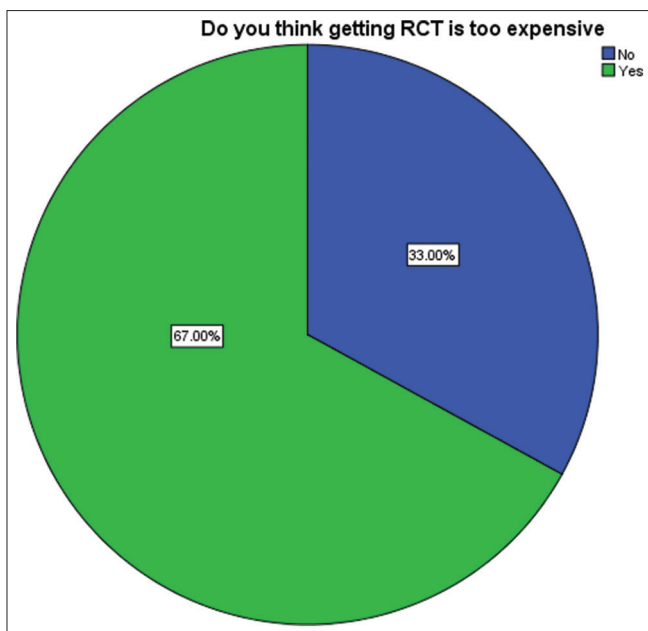


Figure 2: The range of views on the cost of an RCT, with 67% of participants believing that RCT is too costly (shown in green), and 33% believing that RCT is not too expensive (represented in blue)

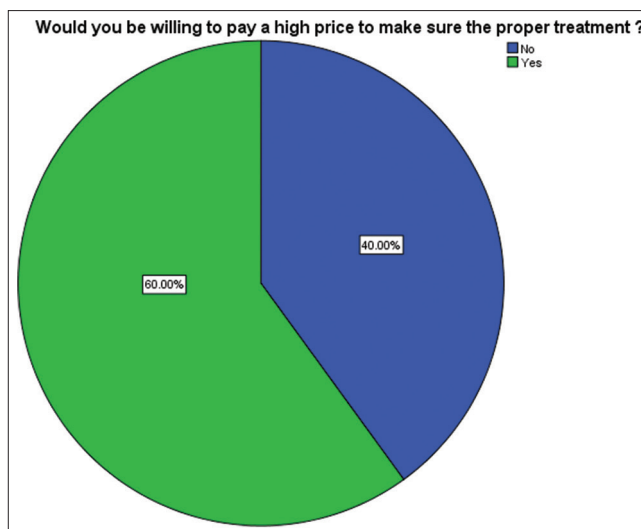


Figure 3: The participants' willingness to pay a high price in exchange for adequate treatment, with 60% agreeing (green) and 40% disagreeing (blue)

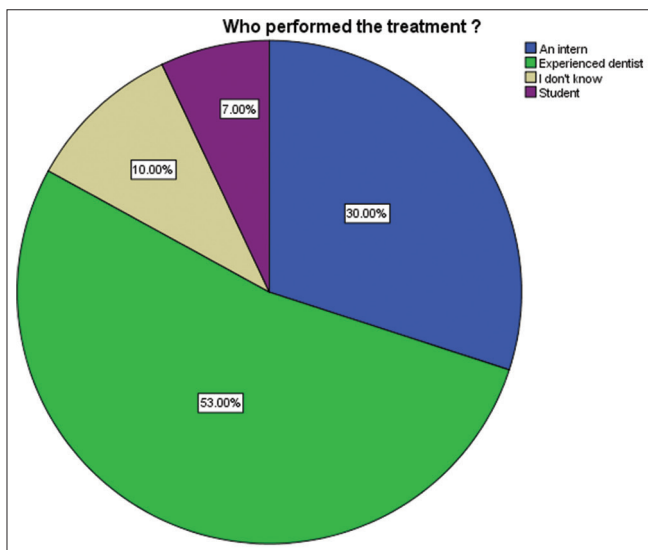


Figure 4: This graph is on who has given them treatment where, for 30% of the participants an intern has performed and it is represented in blue, 53% of the participants took treatment with an experienced dentist and is represented in green, for 7% of the participants, dental students have performed an RCT and are represented in brown

84% said yes and 16% said no [Figure 6]. When questioned about the criteria for choosing a dental clinic, 10% said they wanted free treatment, 12% said they wanted painless treatment, 27% said they wanted competent personnel, 4% said they wanted quick and simple access, and 47% said they wanted a fair price [Figure 7]. Association between gender and the endodontic treatment was analyzed; 21 male participants and 21 female participants

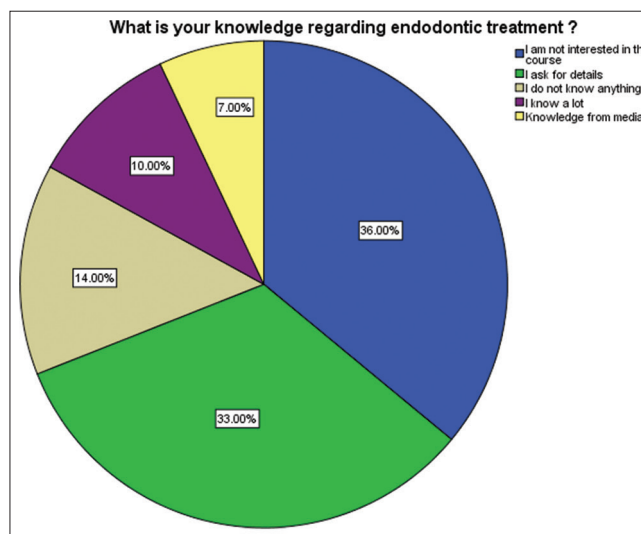


Figure 5: The participants depending on endodontic treatment expertise, where 36% of the participants were uninterested in the course and are depicted in blue, 33% requested more information and are represented in green, and 14% of the participants were unaware of anything and are represented in brown, 10% of the participants were aware of the procedure and it is represented in violet, and 7% has acquired knowledge from media and it is represented in yellow

said no, and 27 male and 31 female participants said yes, $P = 0.445 (>0.05)$ – insignificant [Figure 8]. Association between gender and are People concerned about long treatment time is 16 male and 12 female said no and 32 male and 40 female said yes, $P = 0.274 (>0.05)$ – significant [Figure 9]. Association between gender and whether any decision of extraction rather than undergoing RCT, 14 male and 15 female said no and 34 male and 37 female said yes, $P = 0.573 (>0.05)$ – significant [Figure 10].

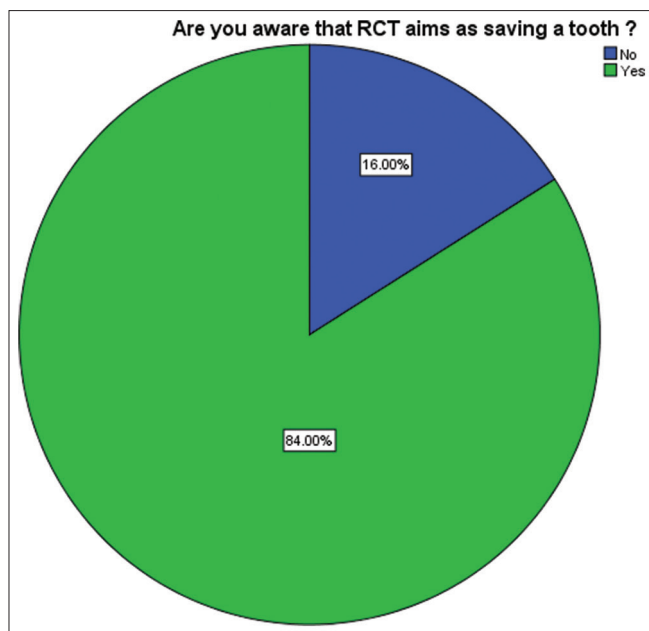


Figure 6: The participant distribution based on their knowledge of RCT therapy, where 84% were aware that RCT aims at saving a tooth and it is represented in green and 16% were not aware that it is represented in blue

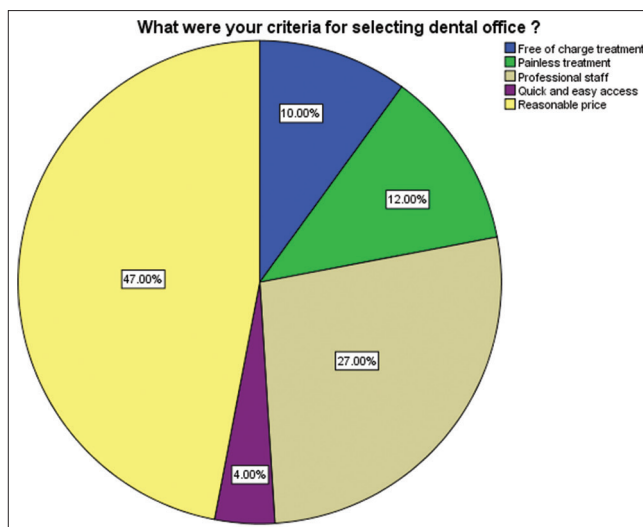


Figure 7: Ten percent of the participants were selected based on the cost of the treatment and it is represented in blue, pain connected with therapy was a worry for 12% of the participants, which is indicated in green, 27% were concerned about the availability of a professional doctor and it is represented in brown, 4% were concerned of the quick and easy access to the clinic and it is represented in violet, and 47%, a majority were more concerned of the reasonable price for their treatment and it is represented in yellow

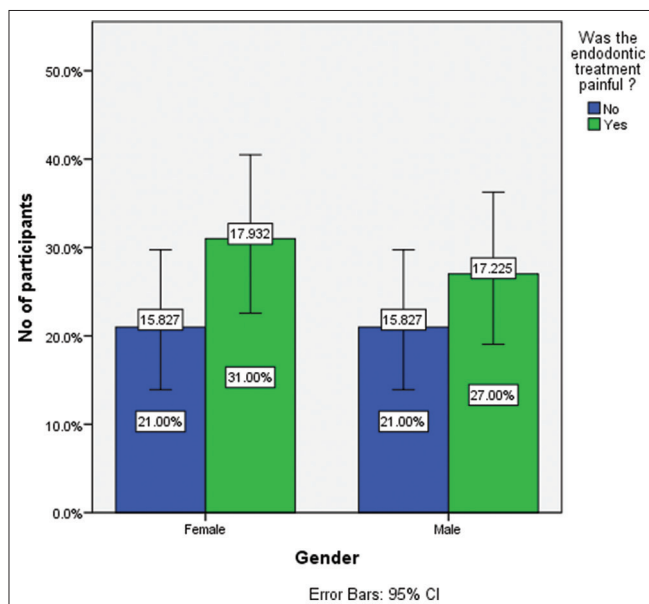


Figure 8: The number of participants is indicated on the Y-axis, whereas gender is represented on the X-axis. Participants who said no are represented by dark blue, whereas those who said yes are represented by dark green. In both genders, the majority of subjects stated that they experienced discomfort during endodontic therapy. When opposed to men, however, the majority of women suffered discomfort during root canal treatment. This distinction was not statistically significant

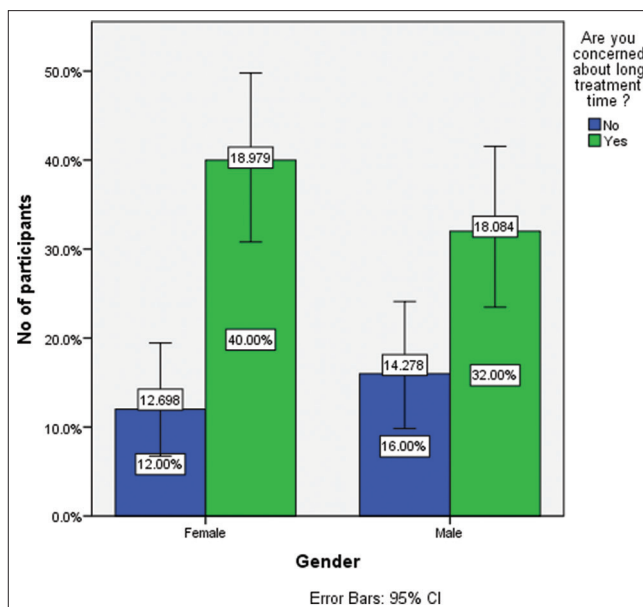


Figure 9: The gender is represented on the X-axis, whereas the number of participants is represented on the Y-axis. Participants who said no are represented by dark blue, whereas those who said yes are represented by dark green. In both genders, the most prevalent issue expressed by participants was the length of time it took to receive therapy. The majority of females, on the other hand, were apprehensive about the treatment's duration. This difference was statistically significant

DISCUSSION

The findings were comparable to those of previous research, Gilbert, *et al.*, in 2015,^[19] Permanent restorations were

removed 18% of the time and restorations were implanted 89% of the time in this study of 174 endodontically treated teeth with an average follow-up duration of

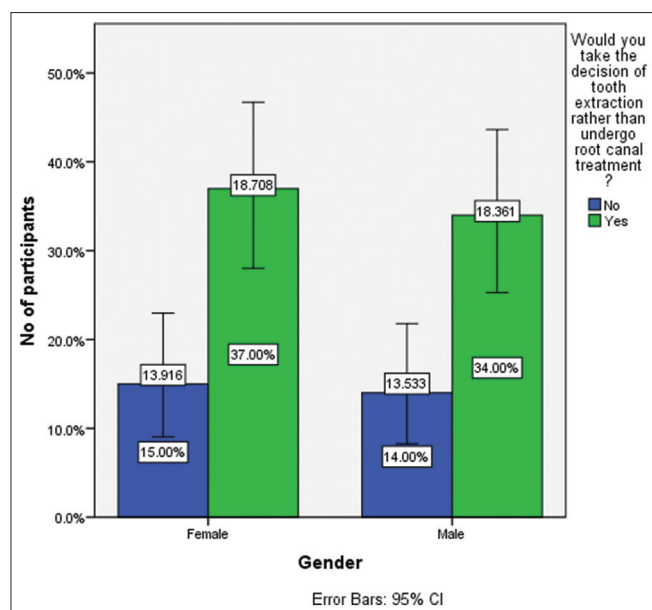


Figure 10: The X-axis represents the gender, whereas the number of participants is represented on the Y-axis. Participants who said no are represented by dark blue, whereas those who said yes are represented by dark green. In both genders, the individuals were more likely to have a tooth extracted rather than have a root canal treatment

8.6 years, however the previous research done by Khullar, *et al.*,^[20] The results of a study on the impact of root canal fillings and coronal restorations on the periapical state of endodontically treated teeth. In a chosen group of people revealed that 53.1% of the endodontically treated teeth had AP radiographically. now a days dentists do not adhere to international quality standards and do not use newly developed treatments.

Because mechanical shaping alone is insufficient, and chemically active fluids are difficult to transport to the canal terminus, the size and form of this area make achieving the goal difficult.^[21-23] When compared to tooth extraction plus bridge replacement, tooth extraction coupled with a single implant-supported crown was shown to have a higher long-term survival percentage than root canal treatment alone.^[24,25] As a failure event, survival of the RCT filling, replacement of the RCT filling, including extraction of the particular tooth, or periradicular surgery occurs during root canal treatment.^[26] In a practice-based research network (PBRN), the prevalence of root canal treatment failure has been found as a predictor of root canals (PBRN).^[27]

Modern endodontics is based on the simple idea that procedures including root canal treatment are painless and effective.^[28,29] Interviewing the patient properly aids in determining the most effective therapeutic therapy, particularly in the case of endodontics, which frequently saves tooth loss and extraction.^[30,31]

CONCLUSION

The result we obtained shows that the South Indian populace is aware of the root canal treatment technique. The pain, cost, treatment duration, and number of visits of the patient to the clinics are the major elements that impact people's decision to get a root canal. The South Indian community has become more aware of root canal treatment and is concerned about it. The cost of the RCT treatment, the clinician's expertise, and professionalism are all critical aspects that influence endodontic procedure decision-making.

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Conflicts of interest

There are no conflicts of interest.

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