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Patient's Perceptions and Experiences about the Root Canal Treatment: A Survey among Patients Visiting Nobel Medical College

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ABSTRACT

Introduction: One major drawback of root canal therapy (RCT) is that most people don't know enough about it. To effectively address the issue, it is imperative to comprehend and identify the elements that impede or discourage patients from undergoing Root Canal Treatment. A survey of the literature reveals a dearth of information regarding patients' understanding and acceptability of root canal treatment (RCT) in the Nepali community.

Objective: The objective of the study was to determine how well-informed patients were about root canal treatment at Nobel Medical College and Teaching Hospital in Biratnagar. A wide-ranging patient viewpoint on the matter was sought by means of a patient survey.

Methods: This survey was conducted with the help of prestructured questionnaire consisting of 15 questions, distributed to random 250 patients coming to the outpatient department of Conservative dentistry and Endodontics at Nobel Medical college and Teaching Hospital. The completed questionnaires were then analyzed to assess patients' experiences, concerns, and perceptions about RCT.

Results: There is a lack of awareness among patients regarding RCT.

Conclusion: The people need to be made more aware of the importance of maintaining a healthy dentition and the consequences that follow if this isn't done. If patients were fully informed about endodontic procedures, more might consider having them.

Keywords: Endodontic therapy; perception; questionnaire; root canal therapy; survey.

INTRODUCTION

In endodontic treatment, also referred to as endodontic therapy or root canal treatment (RCT), diseased pulpal tissue is removed in order to prevent and intercept pulpal/periradicular pathosis[1] and to shield the tooth that has been disinfected from further microbial encrustation. Antibiotics or a straightforward filling won't cure the tooth infection if RCT is recommended.[2] Furthermore, if treatment is delayed, the tooth may become severely compromised which become difficult to be

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saved. In such a case, extraction will probably be the only course of action, which could set off a series of events that could damage the patient's appearance and cause their teeth to shift or collapse.[3]

To effectively address the issue, it is imperative to identify the elements that cause discomfort among patients and impede their participation in root canal therapy. Completing these population-based surveys is an essential first step. The surveys' major goal is to evaluate and identify ways to raise awareness of dental health issues so that patients understand the value of treatment and are more likely to seek out basic oral health care.

Therefore, the purpose of the study was to evaluate the factors influencing patients' expected acceptance of endodontic therapy as well as their awareness of RCT.

METHODS

An observational, descriptive cross-sectional study was conducted after the approval of the study from Institutional Review Committee (IRC) of Nobel Medical College and Teaching Hospital, on January 10,2022 (Ref: IRC-NMCTH 594/2022). Patients visiting the outpatient endodontics and conservative dentistry departments at Nobel Medical College and Teaching Hospital were the subjects of the survey. A written informed consent was taken from each participant before participating in this study. After gaining informed consent, the valid and reliable set of questionnaires was used as a study tool in this study. A prestructured questionnaire with 15 questions was distributed randomly to 250 patients. A Prestructured questionnaire; items of which were adapted from study by Bansal et al.[3]

Patients over the age of 18 years and Persons who are willing to participate in the study were included in the study. The completed questionnaires were then analysed statistically to obtain the results in terms of percentages.

A Statistical Package of Social Sciences (SPSS – IBM version 20, USA) was used for all computational purposes. One-way frequency tables were generated to summarize the responses. Two-way cross tabulation tables were computed to show the relationship between the variables.

RESULTS

This is a simple observational study. The findings from the individual questionnaire were drawn together and the results were analysed to find out patients' awareness about RCT. Results obtained are summarized in Tables 1–4.

Table 1: Awareness about root canal treatment (RCT) in patients.

Questions	Response	No. of patients questioned	No. of responses	% of Responses
Do you know about RCT?	Yes, I have previous RCT experience	250	64	25.60%
	Not really, have heard about it from sources such as internet, TV, radio, relatives/friends but I don't know details (proceed to Q. 6)		120	48%
	No, I do not know anything (proceed to Q. 6)		66	26.40%

Table 2: Experience of previously root canal-treated patients about RCT.

Questions	Response	No. of patients questioned	No. of responses	% of Responses
Have you experienced pain during the RCT or inter-appointment phase?	Yes	64	51	79.68%
	No		13	20.31%
Do you experience persistent pain in root canal-treated tooth after ≥6 months after the RCT got completed?	Yes	64	6	9.37%
	No		58	90.62%
What was the number of visits required for RCT done?	1 Visit	64	9	14.06%
	2-3 Visit		43	67.18%
	≥4 visits		12	18.75%
Have you got a post-endodontic (RCT) restoration and crown placement done?	Yes	64	44	68.75%
	No		20	31.25%

Table 3: Patient's perceptions regarding root canal treatment (RCT).

Questions	Response	No. of patients questioned	No. of responses	% of responses
When do you think RCT is indicated for a tooth?	Only when pain associated with the tooth is present	250	198	79.20%
	The tooth might need RCT, even if it doesn't hurt		52	20.80%
After what duration of pain have you reported for treatment?	Within 1-3 days	250	33	13.20%
	Within 1-3 weeks		196	78.40%
	More than 1 month		21	8.40%
Do you self-medicate to resolve any tooth infections?	Yes	250	232	92.80%
	Pain killers alone		184	79.31%
	Antibiotics alone		12	5.17%
	Painkillers and antibiotics		36	15.51%
	No		18	7.20%
What you think is the role of antibiotics in RCT	Resolve endodontic infection so mandatory during or after RCT	250	171	68.40%
	Not mandatory		79	31.60%

Table 4: Patient's attitude towards root canal treatment (RCT).

Questions	Response	No. of patients questioned	No. of responses	% of Responses
Are you concerned about the treatment time?	Single-visit treatment preferred regardless of the quality of treatment	250	170	68%
	Quality of treatment matter and not no. of visits		80	32%
Do you think teeth become weaker after RCT?	Yes	250	191	76.40%
	No		59	23.60%
What are your most unpleasant or anxiety-arousing aspects associated with the RCT?	a. Pain during or after root canal therapy	250	141	56.40%
	b. Local anesthetic injection		58	23.20%
	c. Sensation of files worked in root canals		15	6%
	d. The need to remove the tooth despite undertaken treatment		36	14.40%
Do you prefer a specialist or a general practitioner for RCT?	Root canal specialist	250	197	78.00%
	General dentist		53	21.20%
Do you think getting RCT is too expensive?	Yes	250	186	74.40%
	No		64	25.60%
Will you undergo RCT, if indicated or will you prefer extraction?	RCT	250	202	80.80%
	Extraction		48	19.20%

DISCUSSION

In the current study, 48% of patients said they didn't know enough about RCT but were familiar with its terminology from passive information they got from friends, family, while 26.40% of patients said that they heard about root canal treatment for the first time (Table 1). Similarly, 25.60% of the patients said that they heard about RCT because of their previous RCT experiences. The result of Bansal et al.[3], who found that 24.44% patients heard about RCT for the first time whereas 52.22% patients revealed they lacked adequate knowledge about RCT, are consistent with our study.

Pain was observed by 79.68% of patients who had previously undergone Root canal therapy at some point during or after the procedure (Table 2). This finding was similar with the study conducted by Chandraweera et al.[14] in which 72% of patient reported pain during the course of treatment. The causes of pain are complex and multifaceted. It may be brought on by or made worse by microbiological, chemical, or mechanical damage to dental tissues during RCT.[4] Numerous other variables, including the patients' age and gender, the morphology and position of the tooth, preoperative symptoms, the tooth's vitality, the use of intracanal medicines, the biomechanical preparation

approach, and the overextension or extrusion of sealer or infected debris, have also been linked to it.[5] Furthermore, psychological variables that are known to affect how pain is perceived include anxiety and dread of receiving dental care.[6] Only 9.37% of patients who had prior RCT experience reported having persistent discomfort in a tooth that had received RCT treatment (Table 2). Pain that lasts longer than six months following endodontic therapy is classified as persistent tooth pain, and its prevalence ranges from 5.4% to 10.0%.[7] Persistent pain may have an odontogenic or non-odontogenic origin.

According to our study, the majority of patients (67.18%) who had prior experience with RCTs had their treatment finished in two to three sessions. In contrast, 14.06% of patients had endodontics done in a single visit, and 18.75% of patients paid for treatment that required more than four visits (Table 2). According to published research, the majority of practitioners (52.4%) finish RCTs in three visits, while 26.80% do so in a single sitting. Very few dentists, however, finish RCTs in more than three visits.[8]

Majority 68.75% of patients who had prior experience with RCTs had crown placement and a post-endodontic restoration (Table 2). Teeth that require endodontic treatment are typically weaker due to dental cavities, trauma, or previous restorations.[9] Research indicates endodontically treated tooth with immediate permanent restorations have a better success rate than those with long-term temporary restorations.[10] In a research comparing the survival rates of endodontically treated tooth with and without crowns, those without crowns lost their crowns six times more frequently than those with crowns.[11] It is therefore best to place the final restoration as soon as the RCT is finished.

According to 78.40% of patients, they waited for their dental pain to go away on its own and only visit the dentist if it doesn't go away in one to three weeks. However, 13.20% of patients said that they visited the dentist 1-3 days after experiencing dental pain. Only 8.4% of patients said that if their pain doesn't go away after a month, they visit the dentist (Table 4). When asked if they had ever used self-medication for a tooth infection, almost all 92.80% of respondents said they had done so at least once for dental issues. Analgesics were the most commonly utilized drug for self-medication (79.31%), with 15.51% of patients using analgesics in conjunction with antibiotics and 5.17% using antibiotics alone to treat dental infections (Table 3). The two main motivations for self-medication are financial savings and avoiding lengthy hospital wait times.[12] The findings of our investigation align with other research indicating a significant frequency of self-medication among dental patients, with analgesics being the most often used type of self-medication.[12]

When asked about the role of antibiotics in RCT, 68.40% of patients said that as they aid in the resolution of endodontic infections, their usage is required in RCT, while 31.60% of patients disagreed [Table 3]. According to a study by Abu-Mostafa et al. [13], the majority of patients think that taking antibiotics before seeing a dentist if they have facial swelling relieves dental pain. This clarifies why people who experience dental pain use antibiotics. The results of Mouhieddine et al. [14], who found that 71.90% of patients trusted antibiotics with the same notion, are similar to this one. These studies demonstrate that patients' understanding on the use of antibiotics in dentistry is lacking. These studies supported the findings of our investigation. Patients should be informed that proper soft and hard tissue debridement and drainage are essential for the effective treatment of endodontic infections. In these situations, antibiotics are ineffective, put patients at risk for unwanted side effects, and exacerbate the emergence of antibiotic resistance. During Root canal treatment, patients should not put pressure on the dentist to prescribe antibiotics, and normal antibiotic prescriptions should be discouraged.

Regardless of treatment quality, 68% of patients in our study preferred single-visit over multiple-visit treatment [Table 4]. Patients want dental visits to end as soon as possible because they see them as an unpleasant necessity. Moreover, because single-visit RCT takes less time, it better suits the demands of patients who are on the go and have hectic schedules.[15] Additionally, research indicates that in order to minimize lifestyle modifications and compensatory postoperative pain, dental patients would prefer to undergo RCT in the fewest number of appointments.[16] Single-visit and multiple-visit randomized controlled trials had comparable success rates [17], and the latter is not linked to higher quality RCT than the former.[18,19]

Most patients (76.40%) concurred that they think RCT teeth weaken (Table 5). It's an everyday myth. There is no proof from science that RCT teeth are weaker or more brittle than healthy teeth, or that their mechanical qualities have been damaged.[20]

The most anxiety-inducing factors for participants in our study were reported to be their fear of pain (56.40%), which was followed by their fear of receiving a local anesthetic injection (23.2%), the necessity of extracting the tooth even after receiving treatment (14.40%), and the feeling of files being worked in root canals (6%) (Table 4). The majority of patients fear root canal treatment (RCT) due to its painful nature, and the literature suggests that pain and anxiety about anesthesia are two things that make patients avoid dentists.[21] It has been discovered, nevertheless, that anxiety for subsequent RCTs dramatically decreases following treatment, and that anticipated pain is higher than actual pain.[22] It is advisable to advise the patient to choose RCT over tooth extraction.

According to Table 4 of the current study, 78% of patients prefer specialists for RCT. Our study's findings are consistent with earlier research by Bajawi AM et al.[23] and Bansal et al.[3] revealed that, 57.37% and 92% of patients respectively, favoured a root canal specialist. According to Table 5, 74.40% of the patients in our study felt that RCT was too expensive. RCT is not cheap, but the money invested is well spent, and the results are worthwhile.[24]

The majority of participants (80.80%) in the current study favoured RCT over extraction [Table 4]. This demonstrates that patients become more motivated to participate in the treatment if they are given accurate information about RCT. 19.20% of patients opted for tooth extraction. One major reason why people postpone dental treatment is their fear of the pain, which they attribute to past or predicted experiences.[25]

Patients are unable to approach RCT from a reasoned standpoint because to misconceptions and myths. Research indicates that having a solid understanding of dental health is linked to a greater chance of obtaining dental care.[26] Therefore, it is imperative to use RCT to educate patients about the benefits of preserving their natural teeth. Patients' readiness to seek out and accept RCT as well as their motivation to receive dental care may both rise as a result of greater awareness and understanding of RCT.

It is a self-report survey study. Therefore, response bias is a possibility. This study's generalizability is restricted because it solely represents the opinions of patients in Nobel Medical College and Teaching Hospital. Patients in other regions of Nepal will think otherwise. Larger-scale research should be done in the future to gain a deeper grasp of patients' perspectives.

CONCLUSION

The study helped dispel myths and anxieties related to the treatment process and offered insights into how patients saw RCT. Our research has shown that patients are not well-informed or aware of RCT. Patients must be made aware of the benefits of having their natural teeth preserved through endodontic therapy.

Conflicts of Interest: None.

NJHS

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