Clinical Decision Making for a Tooth with Apical Periodontitis: The Patients' Preferred Level of Participation

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Abstract

Introduction: To effectively engage patients in clinical decisions regarding the management of teeth with apical periodontitis (AP), there is a need to explore patients' perspectives on the decision-making process. This study surveyed patients for their preferred level of participation in making treatment decisions for a tooth with AP. **Methods:** Data were collected through a mail-out survey of 800 University of Toronto Faculty of Dentistry patients, complemented by a convenience sample of 200 patients from 10 community practices. The Control Preferences Scale was used to evaluate the patients' preferences for active, collaborative, or passive participation in treatment decisions for a tooth with AP. Using bivariate and logistic regression analyses, the Gelberg-Andersen Behavioral Model for Vulnerable Populations was applied to the Control Preferences Scale questions to understand the influential factors ($P \leq .05$). **Results:** Among 434 of 1,000 respondents, 44%, 40%, and 16% preferred an active, collaborative, and passive participation, respectively. Logistic regression showed a significant association ($P \leq .025$) between participants' higher education and preference for active participation compared with a collaborative role. Also, immigrant status was significantly associated with preference for passive participation ($P = .025$). **Conclusions:** The majority of patients valued an active or collaborative participation in deciding treatment for a tooth with AP. This pattern implied a preference for a patient-centered practice mode that emphasizes patient autonomy in decision making. *(J Endod 2014;40:784–789)*

Key Words

Apical periodontitis, dentist-patient relations, patient preference, personal autonomy, principle-based ethics, shared decision making

In the past few decades, health care systems have digressed from a traditional paternalistic approach to patient care to one that emphasizes patient autonomy and a change in the relative role of patients and health care providers in clinical decision making. To comply with the Declaration of Alma-Ata that states "The people have the right and duty to participate individually and collectively in the planning and implementation of their healthcare," (1) authorities have stressed the right of patients (2), and countries have introduced legislation requiring that patients be fully informed so that they can be intimately involved in clinical decision making regarding proposed treatment (3–5). In 1 example, a recent United Kingdom health care policy set out to curb increasing consumerism and professional dominance in health care encounters by promoting patients' participation in their care as active partners with professionals and as citizens in health and health service decision-making processes (6–8). Despite these cultural and legislative shifts, the participation of the patient in the process of clinical decision making has remained rather vague and inconsistent across different areas of health care. For dental care, studies on the preferred role of patients in clinical decision making are scarce (9); specifically, no studies could be identified regarding the patients' participation in decisions regarding the management of apical periodontitis (AP), which is a highly prevalent disease (10).

The current debate on the management of a tooth with AP appears to be focused on the options of root canal treatment (RCT) to retain the tooth or replacement of the tooth with an implant-supported crown (ISC). We recently reported on the preferences of patients and of dentists regarding these 2 contrasting options (11, 12). A survey of dental patients in the Greater Toronto Area (12) indicates that patients who value their dental health innately consider retention of a tooth with AP via RCT. A survey of Ontario dentists (11) indicates that their preference for RCT over ISC is greater for teeth with primary AP than for root-filled teeth with post-treatment AP and that it varies among dentists engaged in general practice or different areas of specialty practice. Thus, if patients are not fully engaged in making the clinical decision, the treatments they receive are likely to be those preferred by their dentists and possibly different from what they might prefer if given the choice.

To effectively involve patients in clinical decisions regarding the management of AP, in compliance with the ethical requirement of patient autonomy (13), it is important to first explore the patients' perspectives regarding their level of participation in the decision-making process. Thus, the objective of this study was to investigate patients' preferences for participation in clinical decision making when defined treatment options are considered for a tooth with AP.

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TABLE 1. Patient's Preferred Levels of Participation in Decision Making for Treatment of a Tooth with AP

		Total (*N* = 415)	
Active: the patient decides which treatment option would be most appropriate	44%	A. I prefer to make the final selection of which treatment I will receive	6%
		B. I prefer to make the final selection of my treatment considering my dentist's opinion	38%
Collaborative: shared decision making between the dentist and patient as to which treatment option is most appropriate	40%	C. I prefer that my dentist and I share responsibility for deciding which treatment is best for me	40%
Passive: the patient relies solely on the dentist to make the most appropriate treatment decision	16%	D. I prefer that my dentist makes the final decision about which treatment will be used, but seriously considers my opinion	13%
		E. I prefer to leave all decisions regarding my treatment to my dentists	3%

Methods

Recruitment

This study used a cross-sectional mail-out survey approved by the University of Toronto Research Ethics Board (protocol no. 23191). The detailed methodology was previously reported (12). In brief, the pilot-tested questionnaire was mailed to a random sample (N = 800) of patients registered at the Faculty of Dentistry Clinics, University of Toronto, who had been contacted 4 times over a period of 4 months. To improve the external validity of the study and to ensure adequate power for statistical analysis, the university-based sample was supplemented by an external convenience sample (n = 200) of private practice-based patients who were given the options to complete the survey in the private office or to do so at home and use the prepaid return postage envelope. No incentive was provided to the study participants.

Survey Instrument

The survey tool included 2 principal domains. In domain 1, we used the Control Preferences Scale (CPS) (14) to explore the preferred level of participation of patients in clinical decision making. The CPS is a validated self-report measure of the degree of control an individual wants to assume when decisions are being made about his/her health (14). For this purpose, the participants were asked to consider that they had an infection in 1 of their teeth that could not be left untreated. Their dentist had discussed different treatment options including RCT to retain the tooth, extraction of the tooth and its replacement with a fixed or removable partial prosthesis or a dental implant, or tooth extraction without any replacement. Participants were then asked to use a single-item 5-point Likert type scale to record their preference from among 5 levels of participation in making the decision regarding their selection of treatment including 2 active roles (A and B), 1 collaborative role (C), and 2 passive roles (D and E) (Table 1).

In domain 2, the Gelberg-Andersen Behavioral Model for Vulnerable Populations (15) was applied to the CPS preference questions of domain 1. For this model, it was hypothesized that the participants' preferred level of participation in decision making might be influenced by 4 components:

1. Sociodemographic factors that may predispose the person to use health services
2. Enabling factors, including the annual family income, its source, and the method of payment for dental care
3. Need factors that can provoke a self-care response or cause patients to seek professional care, including the perceived need for dental care, a previous history of RCT or extraction, self-rated oral health, the number of existing teeth, and the modified 15-item oral health-related quality of life instrument (OHRQoL) (16). For the latter, participants scored their experiences in the past 12 months for each of 15-items using a 4-point Likert scale of never, rarely, sometimes, and often. Subsequently, participants were asked about dental pain experiences in the past 2 weeks and their impact (eg, whether they had to stay in bed or limit activities)
4. Factors related to dental health behavior, including the history of inability to afford dental care, last visit to the dentist, the frequency of dental visits, and having to take time off from work for dental treatment

Data Analysis

IBM Statistical Package for Social Sciences software 20.0 (IBM Corp, Armonk, NY) was used for data analysis. Responses to the CPS were used to categorize patients' preferred levels of participation as active (responses A and B), collaborative (response C), and passive (responses D and E) (14). The prevalence, extent, and severity of the OHRQoL instrument was computed following Slade et al (17) as previously described (12). The number of existing teeth was dichotomized at 21 to represent a functional dentition with the typical ability to eat, speak, and socialize (18). The bivariate odds ratio of associations between different variables of the theoretic framework and the preferred level of participation in decision making was assessed using the chi-square test. The significant variables ($P \leq .05$) were then entered into stepwise multinominal logistic regression models to investigate which factors were significantly associated with patients' preferred levels of participation. Two separate models were constructed to assess the likelihood of choosing an active or passive role compared with a collaborative role. The collaborative role group was chosen as reference to reflect the shared decision-making role that is advocated in the clinical encounter. Statistical significance was accepted at the 5% level.

Results

Of 1,000 surveyed patients, 434 responded (348 from the university-based sample and 86 from the private-practice based sample for an overall response rate of 43%). A detailed description of the sample was previously reported (12) and is outlined in Figure 1.

The proportions of participants' responses to the CPS are shown in Table 1. Almost 44% of participants preferred an active role in treatment decision making (A and B), 40% preferred a collaborative role (C), and about 16% preferred a passive role (D and E). In all, 91% of participants preferred to take the dentists' treatment decision into consideration (B, C, and D).

Bivariate analyses examined associations between the patients' preferred level of participation in decision making and each of the predisposing, enabling, need, and dental visit behavior factors (Fig. 1).

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