



RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE SURVEY ON POST-ENDODONTIC RESTORATION AMONG DENTAL PRACTITIONERS IN CHENNAI-A SURVEY

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ABSTRACT

Purpose: The clinical decision as to whether an endodontically treated (ET) tooth requires a post and a crown possess a challenge to dental practitioners. It is agreed that the successful treatment of a badly broken down tooth with pulpal disease depends not only on good endodontic therapy, but also on good prosthetic reconstruction of the tooth after endodontic therapy is completed. Restoration of teeth after endodontic treatment is becoming an integral part of the restorative practice in dentistry.

Aim: To assess the knowledge, attitude and practice on Post-Endodontic Restoration amongst dental practitioners in Chennai.

Methods: The participants were categorised into Endodontists and Non-Endodontists. A specially designed questionnaire consisting of 20 questions was used in the survey. 345 questionnaires were handed to various dental practitioners across Chennai, out of which 315 forms were completely filled and returned.

Results: A total of 345 questionnaires were distributed amongst dental practitioners in Chennai, of which 315 filled questionnaires were returned with a response rate of 91.3%. The findings of this survey are that the endodontists are more aware about the ferrule effect that is 73.8%. Also 78.3% endodontists preferred that the remaining tooth structure is what that decides us to choose on what would be the preferred technique for restoration of endodontically treated teeth when compared to non-endodontists.

Conclusion: The findings of this survey are that the endodontists are more aware about the ferrule effect which plays a peculiar role in post endodontic restorations.

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INTRODUCTION

Recently, growing attention has been given to procedures carried out after completion of the endodontic treatment and their impact on the prognosis of devitalized teeth. These procedures may allow the passage of microorganisms and their by-products to the apical region of the root and into the alveolar bone, a potential cause of delayed failure. The consequences of these "events" may be important in determining the long-term success of the endodontic treatment (Heling *et al.*, 2002). Ray and Trope (Ray and Trope, 1995) evaluated the relationship between the quality of the coronal restoration and the quality of the root canal filling by examining the radiographs of endodontically treated teeth. They observed that a combination of good restorations and good endodontic treatments resulted in absence of periapical inflammation in 91.4% of the teeth, whereas poor restorations and poor endodontic treatments resulted in the absence of

periradicular inflammation in only 18.1% of the teeth examined. Furthermore, where poor endodontic treatments were followed by good permanent restorations, that appeared radiographically sealed, the resultant success rate was 67.6%. They concluded that apical periodontal health depended significantly more on the coronal restoration than on the technical quality of the endodontic treatment. The importance of a good restoration to the periapical health was confirmed in similar studies (Tronstad *et al.*, 2000; Kirkevang *et al.*, 2000; Kayahan *et al.*, 2008; Hommez *et al.*, 2002), even though these demonstrated that an adequate root filling had a more substantial impact on the outcome of treatment than the quality of the coronal restoration (Segura-Egea *et al.*, 2004). Therefore, the aim of this study was to survey the general practitioners and endodontists on whether the planning of post-endodontic restoration was a part of their practices.

MATERIALS AND METHODS

This cross-sectional survey was conducted in the month of September, 2015. The participants were categorised into

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Endodontists (group A) and Non-Endodontists (group B), so the institutional Review Board approval was not required for the same. In this study Endodontists were 44% and Non-Endodontists were 56%. A specially designed questionnaire consisting of 20 questions for the purpose of collecting data were used in this survey. 345 questionnaires were handed over to various dental practitioners across Chennai city, out of which 315 filled questionnaire forms were returned. All the responses were recorded on individual survey forms for each practitioner. For specialist group practitioners, a single response was duplicated for the other members of the group where the respondent indicated the same concentration of the solution and identical procedures were followed by all the members of the group. If the response was not the same, then individual details were collected from the practitioners. An initial approach to the selected practices was made by telephone or a visit to their practice. Recourse was made to the practitioner only if clarification was required. For both the endodontists and general dentists, the survey responses to each question were summarized and expressed as relevant proportions. Comparisons between the non-endodontists and endodontists were made.

RESULTS

Responses were obtained from all the 152 endodontists. Of the 193 non-endodontists surveyed, only 30 did not respond, giving a response rate of 84.45% for this group.

Preferred technique for endodontically treated teeth

The success of any endodontically treated teeth solely depends on the post-endodontic restoration that is chosen. 78.3% of the Endodontists considered that it depends on the amount of remaining tooth structure whereas 70.8% of the Non-Endodontists preferred prefabricated post and core for the same in accordance to the esthetic demands.

Importance on coronal leakage

Coronal leakage would be an alarming cause for failure of any restoration. 90% of the Endodontists and 82% of Non-Endodontists considered the importance on this aspect.

Choice of core material

The core material plays an important role in the aspect of the strength and longevity of the restoration. 96% of the Endodontists preferred Composite while 90% of Non-Endodontists preferred miracle mix.

Reinforcement of endodontically treated teeth using posts

98% of Endodontists and 96% of Non-Endodontists believed in posts being the ultimate factor in reinforcing the endodontically treated teeth.

Ferrule effect

96% of Endodontists and 86% of Non-Endodontists believed that ferrule effect is an important factor also 73.8% of Endodontists also believed that it increases the fracture resistance of the teeth, whereas only 26.2% of Non-Endodontists had an idea on the fracture resistance.

Posts and its esthetic outcome

91% of Endodontists and 88% of Non-Endodontists considered that the length of the post should be 1/4th of the tooth structure, 99% in both the groups felt metal posts affect the esthetics.

Frequent failure of endodontically treated teeth

74.2% of Endodontists believed that crown fracture causes the failure whereas 93% of Non-Endodontists felt that it's the endodontic failure which leads to the failure of the treated teeth.

DISCUSSION

The number of endodontic procedures has increased steadily in the past decade with highly predictable results. Therefore, restoration of teeth after endodontic treatment is becoming an integral part of the restorative practice in dentistry. Proper restoration of Endodontically treated teeth begins with a good understanding of their physical and biomechanical properties, anatomy, and a sound knowledge of the endodontic, periodontal, restorative and occlusal principles. Although many new restorative materials have become available over the past several years, some basic concepts in restoring Endodontically treated teeth remain the same. A thorough understanding of posts is necessary to make the right selection, as there are so many choices available. Finally, the choice of core material and the final restoration are important in achieving long-term clinical success.

Conclusion

Based on this survey both the groups give almost the same importance for post endodontic restoration. The findings of this survey are that the endodontists are more aware about the ferrule effect which plays a peculiar role in post endodontic restorations. Also 70.8% of the Non-Endodontists preferred prefabricated post and core which depicts that they are unaware of the indications of cast post and fibre post for the longevity of the tooth.

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