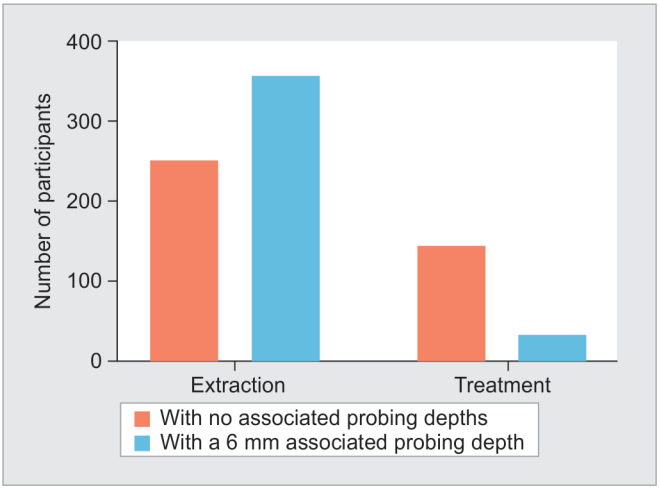
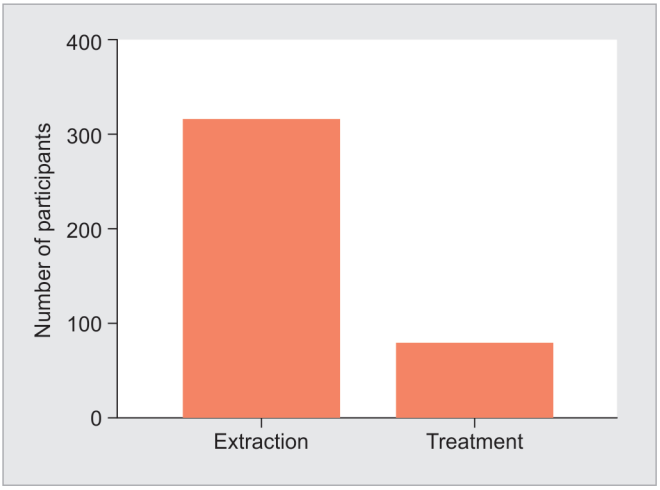


Graph 4: Opinion distribution regarding treatment of a crack line across the mesial marginal ridge extending down the mesiolingual canal with no associated probing depth (n =144) and with a 6-mm probing depth on the mesial aspect of the root associated with the crack line (n = 35)



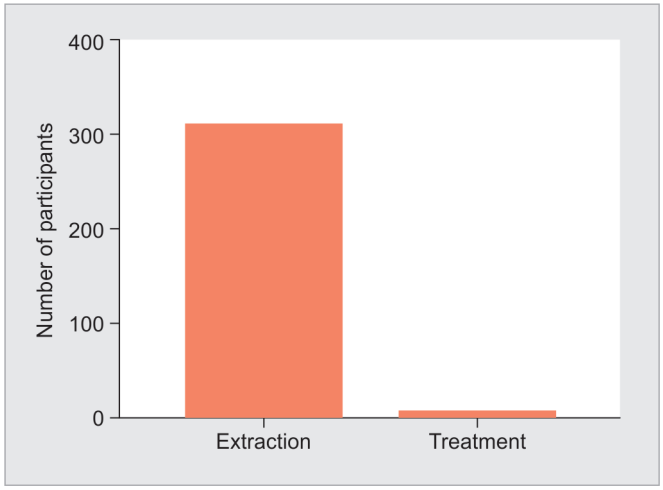
Graph 5: Opinion distribution regarding treatment of a crack line across the mesial marginal ridge extending across the pulp chamber involving the distal marginal ridge with no associated probing depth (n = 80)

In scenario 4, where the crack was associated with a 6-mm probing depth, 83.79% of respondents chose tooth extraction (Graph 3 and Table 2). In scenario 5, where the crack extended across the mesial marginal ridge and down into the mesiolingual canal without associated probing depth, 63.54% of respondents chose tooth extraction (Graph 4 and Table 2). When the same scenario was described but with an associated probing depth, 91.13% of participants chose tooth extraction (Graph 4 and Table 2).

When the crack line involved both mesial and distal marginal ridges and extended across the pulp chamber, 79.74% of participants chose tooth extraction (Graph 5 and Table 2). When a scenario of a split tooth was presented, 98.48% of respondents chose tooth extraction (Graph 6).

Discussion

When presented with a cracked tooth, clinicians face a dilemma of whether to treat it endodontically or to extract it. The results of the present study support the findings of Krell and Caplan[14] indicating



Graph 6: Opinion distribution regarding treatment of a crack extending in the mesiodistal aspect of the tooth splitting it into two segments (n = 6)

that the presence of a probing depth of 5 mm or more is a significant factor impacting the prognosis and long-term survival of the tooth. Our results also agree with those of Kang et al.,[10] who reported that 2-year survival rate of root-filled cracked teeth with a probing depth of more than 6 mm was significantly lower than that of teeth with probing depths of less than 6 mm.

In the scenario where the crack was crossing the pulpal floor, most participants preferred extraction of the tooth. This further supports the results of Sim et al.,[12] who reported that extension of cracks onto the pulpal floor independently increased the odds of tooth loss by 11-fold. However, the 5-year survival rate when the crack did not extend into the pulpal floor was 99%. On the contrary, the extension of the crack into the pulpal floor lowered the 5-year survival rate to 88%. Early diagnosis of the crack and a timely reinforcement of the tooth will yield a better long-term prognosis.[3,15,16]

In our study, a clear trend was found when endodontists were asked about treating cracked teeth with associated periodontal probing depths. The majority of respondents thought that extraction was the treatment of choice. Also, in the case of a split tooth, the vast majority of respondents thought that extraction was the treatment of choice. Nevertheless, 6% of endodontists preferred to try and save the tooth by performing endodontic treatment and coronal restoration. It can be presumed that these respondents wished to remove the separated segment for the evaluation of restorability of the tooth prior to making their final decision. However, this information was not obtained from the survey.

Based on the results of this study, it appears that the presence of a 6-mm periodontal pocket is considered an important factor by most American endodontists when deciding whether to treat the cracked tooth or extract it.

Limitation of the Study

Our study had a relatively low response rate (11.28%) and interpretation of the results should be done with caution. A study conducted by McLeod[17] used 60% as a benchmark for responses to surveys. They found a decrease in response to surveys from 61% in the year 2000 to 36% in 2008. Funkhouser et al.,[18] found that the greatest response to surveys is in-person surveys followed by

paper-based surveys. The lowest response was obtained by online surveys. The reason attributed for a low response rate to online surveys is that people are receiving spam e-mails on regular bases. In addition, older dentists may have a preference for competing paper surveys rather than online surveys.

Another limitation of our study was that we obtained our information anonymously. As a result, even though we obtained data regarding the number of years of experience of the endodontist, we could not corelate that to the answers provided as the survey was anonymous. Hence, no conclusions could be drawn to see if the experience of the clinician changed the treatment approach for the cracked tooth.

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