

DETERMINATION OF INTER-APPOINTMENT PAIN IN PATIENTS UNDERGOING ROOT CANAL TREATMENT

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ABSTRACT

Objective: To determine the frequency of inter-appointment pain during root canal treatment in patients with apical periodontitis

Materials and Methods: A randomized controlled trial was done at Islamic international dental hospital, Islamabad for 6 months from March 2016 to Sep 2016. A total of n=60 patients were selected through non-probability, consecutive sampling technique undergoing Root canal treatment for acute apical periodontitis. All the patients were personally interviewed regarding their pain history. They were asked to rate the pain they experienced during the inter-appointment period, on a scale from 1-10. The observations were recorded and statistical analysis was done in order to reach a conclusion. Pain was addressed using specific intra-canal medicaments. Follow-up was ensured by keeping contact details of all the randomly selected cases, under observation.

Results: Out of all n=60 patients, included in the present study, it was found that the age range was from 17 to 50 years with mean age to be 31.38 ± 9.93 years. The minimum pain score was 1 and maximum was 4 having a mean pain score of 2.95 ± 1.01 . Males were, n= 32 (53.3%) while n=28 female patients were included in this study (46.7%).

Conclusion: It was found that the perception of pain is different for all the cases and it depends upon the aetiology as well as the gender and age of the patients.

Keywords: Apical periodontitis, Root canal Treatment, age, gender.

INTRODUCTION

Dental pain is one of the reasons that brings a patient to a dentist. It is a main symptom in many medical and dental conditions and can significantly impede a person's quality of life and general functioning.¹ The toothache is the most common form of oral pain. Endodontic pre-operative, per-operative and post-operative pain continues to be a significant problem not only for the patient but also for the dental professional. It has been reported that up to 80% of this population will continue to report pain

after endodontic treatment, with pain levels ranging from mild to severe.²

Endodontic pain that may last from several hours to several days is linked to inflammatory reactions. This pain is dependent on the damage sustained by tissues and the nature of the damaging agent. These agents may be bacterial, chemical, or mechanical in nature. Endodontic pain may occur before, during, or after endodontic treatment. Patients with moderate to severe pain before treatment were five times more likely to experience moderate to severe pain post treatment.³

Apical periodontitis: Patients will be labelled as having apical periodontitis if presented with pain on biting or chewing. Sensitivity to percussion is

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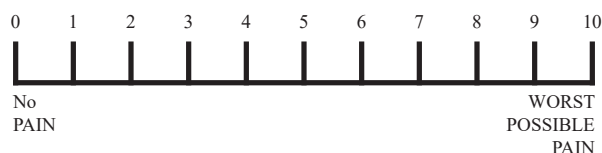
hallmark diagnostic test for diagnosing apical periodontitis.

MATERIAL AND METHODS

A total number of n=60 patients were selected through non-probability consecutive sampling technique undergoing Root canal treatment for acute apical periodontitis. The study has been conducted at Islamic International Dental Hospital, Islamabad. The duration for the study was 6 months. All the patients were personally interviewed regarding their pain history after 48 hours of initial canal preparation. They were asked to scale their sensation of pain experienced during the inter-appointment period between canal preparation and canal obturation from 0-10 and the mean score was recorded. Visual analogue scale was used for recoding the pain. The observations were recorded and statistical analysis was done in order to reach a conclusion. Pain was addressed using specific intra-canal medicaments. Follow-up was ensured by keeping contact details of all the cases, under observation.

Visual analogue scale: The visual analogue scale (VAS) is a simple and frequently used

method for the assessment of variations of pain scored from 0-10.



RESULTS

Out of all n=60 patients, included in the present study, it was found that the age range was from 17 to 50 years with mean age to be 31.38 ± 9.93 years. There were n=32 (53%) male patients while n=28 (47%) female patients were included in the study.

Clinically the cases were diagnosed as: n=46 (76%) irreversible pulpitis, n=8 (13%) apical periodontitis, n=4 (6.6%) chronic apical periodontitis and n=3 (5%) had a concomitant perio-endo lesions.

The minimum pain score was 1 and maximum was 4 having a mean pain score of 2.95 ± 1.01 . Males were, n= 32 (53.3%) while n=28 female patients were included in this study (46.7%).

As far as the distribution on the basis of pain

score is concerned n=2 (3.3%) of all the included cases reported a mild bearable inter-appointment pain, while n=2 (43.3%) and n=5 (8.3%) labelled their pain as score 2 and 3 respectively categorized as mild perception of pain. On the other hand n=27 (45%) reported to experience a moderate intensity of score 4 inter-appointment pain.

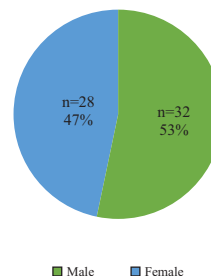


Fig 1: Show the Gender Distribution

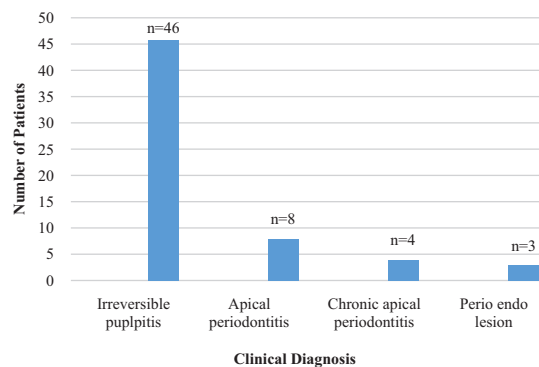


Fig 2: Shows the frequency of all the clinically diagnosed cases

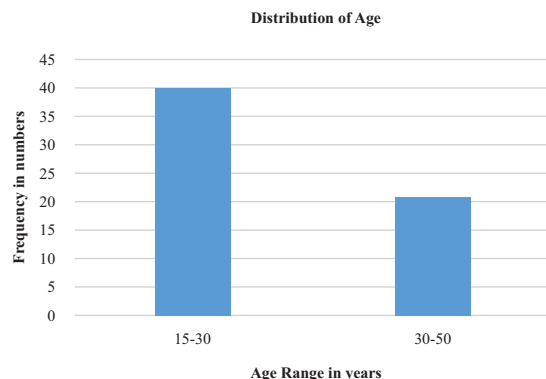


Fig 3: Shows the Frequency of Ages in years of all the patients

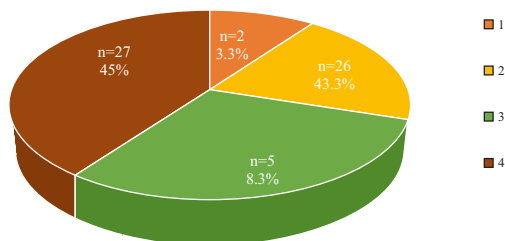


Fig 4: Shows the frequency of Pain Sore

DISCUSSION

The objective of the present research was to determine the frequency of inter-appointment pain during root canal treatment in patients with acute apical periodontitis. In this regard, the present survey was conducted from the patients of Islamic international dental hospital, Islamabad. Therefore, sixty patients, fulfilling the inclusion criteria, were included by using non-probability consecutive sampling who were undergoing dental treatment. The minimum age was found 17 years and maximum age was 50 years with mean and standard deviation of the age was 31.38 ± 9.93 years. The minimum pain score was 1 and maximum was 4 with mean and standard deviation 2.95 ± 1.01 . Males were 53.3% while females were 46.7%. These results are consistent with the results found by Tourabinejad et al.⁴ who also showed the relationship of inter-appointment endodontic pain with age, gender, location and pathology involving the tooth.

According to our findings inter-appointment endodontic pain is experienced more by females as compared to men, which supports the findings of Fox et al.⁵ and Mulhern et al.⁶, who studied the incidence of pain after undergoing single visit root canal treatment. Morse et al. who studied the rate of “flare-ups” in non-vital teeth associated with periapical pathology found more incidence of pain in females than in males. In our findings, women were reported more prone to inter-appointment pain than their male counterparts suggestive of the female susceptibility due to hormonal changes and less pain tolerance as compared to men⁷.

In our study most patients were suffering from irreversible pulpitis experience most inter appointment endodontic pain followed by apical periodontitis

and later concomitant periodontal and endodontic lesions inflicted cases. This finding is also consistent with the study done by Gotler et al. who showed the pulp status and tooth vitality are important factors determining the likelihood of inter-appointment and post- endodontic pain.⁸

Studies have reported frequencies of inter-appointment emergencies ranging from 1.4% to 16%.^{7,9} Certain factors have been suggested to significantly influence the development of inter-appointment pain, including age, gender, tooth type, pulpal status, presence of preoperative pain, allergies, and presence of sinus tract.^{4,10} In addition, fear of dental treatment, anxiety, apprehension, and possibly other psychological factors are known to influence the patient’s pain perception and reaction thresholds.¹¹ It has been found that most of the inter-appointment pain experienced during endodontic procedure is mild in intensity 43%-45% of the cases while only 8.3 % reported a moderate intensity pain followed by only 3% reporting severe intensity pain. This is consistent with the results shown by a study done by Siqueira et al, and Ng et al. in 2002 and 2004 respectively for finding the incidence and prevalence of inter-appointment endodontic pain.^{9,12}

CONCLUSION

It was found that the perception of pain is different for all the cases and it depends upon the aetiology, size of the lesion as well as the clinical diagnosis, age and gender of the patients.

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