

ORIGINAL ARTICLE

Anxiety and Endodontics; How Anxiety Influence Endodontic Therapy

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ABSTRACT

Objective: To correlate the impact of pre-operative anxiety and its influence on endodontic treatment.

Methods: Data of 500 patients who were scheduled for endodontic treatment were enrolled in the study. These patients were treated in the Dental Section of Islam Dental College, Sialkot. Modified Dental Anxiety Scale (MDAS) was used to assess the patient's anxiety levels during endodontic treatment. Numeric pain scale was used to document the pain perceived during endodontic therapy.

Results: Anxiety and pain showed a statistically significant correlation-ship during endodontic treatment. Our findings were suggestive of increased pain perception during endodontic therapy and its association with anxiety. Minimal anxiety was found in 25 cases, mild anxiety was found in 216 cases, moderate anxiety was found in 127 cases, high anxiety was found in 129 cases and extreme anxiety was found in 3 cases. 250 patients reported with mild pain, 158 patients reported with moderate pain and 92 cases reported severe pain.

Conclusion: Assessment of anxiety levels prior to performing endodontic procedures can pro-actively benefit the patient and the operator. Yes, advanced methods of pain control are available in endodontics but they need to be implicated judiciously. Assessing patient's anxiety and then providing endodontic care will help improve treatment outcome.

Keywords: Local anaesthesia (LA), Pain, endodontic treatment, dental anxiety.

INTRODUCTION

Pain management is the cornerstone for successful therapy. In order to improve the outcome of all dental procedures effective local anaesthetics are important¹. Mostly patients undergoing local anaesthetic injections perceive it as the most painful procedure, therefore the perception and fear of LA injection has been reported as a factor that may withhold patient in seeking dental treatment². Studies have documented factors that are suggestive of providing alternatives to such problems; among them are proprioception¹, pressure³ and perception⁴. Temperature of the anaesthetic agent also effects efficacy³. Other factors may include psychological aspects that influence dental treatment, therefore emotional and physiological attributes must be considered⁵. Klingbergand interpreted that fear and apprehension worsen the clinical situation⁶. Pain can therefore be influenced by multiple factors^{7,8,9}.

Strong relationship exist between anxiety and pain when it comes to endodontic therapy⁹⁻¹⁵. Dental anxiety has been proven to be a strong predictor of pain experienced during endodontic treatment^{10,13}. Increased level of dental anxiety has shown to increase levels of pain perceived during endodontic therapy^{11,14}. Our intent was to understand the correlation between anxiety and pain during endodontic treatment.

PATIENT'S AND METHODS

Approval was obtained from the ethical committee, non-probability purposive sampling method was employed, age range of patients was 15-75 years. Patients included in the study were medically healthy with no systemic disease. Local anaesthesia was administered for effective pain

control at the start of the endodontic procedure. Round bur was used for access opening, #8, #10, #15 and #20 K-files were used for root canal orifice identification and instrumentation.

Exclusion criteria were patients on anti-inflammatory agents, alcohol, personality disorders; and those who will require sedative measures to deliver treatment.

Anxiety Scale was used for assessing the patient's anxiety levels¹⁶. Where (0=non anxious) and (4=extremely anxious), and responses were recorded from 0-40.

Numeric pain was used to document the perceived pain during injection, where, 0= no pain and 10= highest pain score¹⁷. Data collection and analysis was done using SPSS version 23.

RESULTS

Table 1: Gender Frequency

Gender	Frequency (%)
Male	206(41.2%)
Female	294(58.8%)

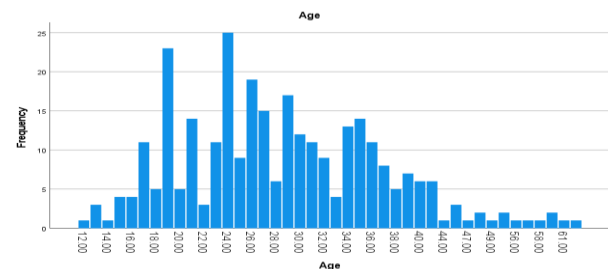


Fig 1: Frequency of Age

A total of 500 patients (294 female and 206 male) between the ages of 15-75 years participated in the study.

Minimal anxiety was found in 25 cases, mild anxiety was found in 216 cases, moderate anxiety was found in 127 cases, high anxiety was found in 129 cases and extreme anxiety was found in 3 cases.

Table 2: Anxiety Frequency

Anxiety	Frequency (%)
Minimal Anxiety (0-8)	25(5%)
Mild Anxiety (9-16)	216(43.2%)
Moderate Anxiety (17-24)	127(25.4%)
High Anxiety (25-32)	129(25.8%)
Extreme Anxiety (33-40)	3(0.6%)

250 patients reported with mild pain, 158 patients reported with moderate pain and 92 cases reported severe pain.

Table 3: Pain Frequency

Level of Pain	Frequency (%)
Mild pain (1-3)	250(50%)
Moderate pain (4-6)	158(31.6%)
Severe pain (7-10)	92(18.4%)

Out of 25 patients with minimal anxiety 23 patients presented with mild pain, 2 patients presented with moderate pain only. Out of 216 mild anxiety patients 160 patients presented with mild pain, 43 cases with moderate pain and 13 cases with severe pain. Out of 127 patients with moderate anxiety, 48 patients presented with mild pain, 67 patients presented with moderate pain and 12 patients presented with severe pain. Out of 3 patients with extreme anxiety 2 presented with moderate pain while 1 patient presented with severe pain.

Table 4: Anxiety and Pain Cross Tabulation

	Mild pain (1-3)	Moderate pain (4-6)	Severe pain (7-10)
Minimal anxiety (0-8)	23	2	0
Mild anxiety (9-16)	160	43	13
Moderate anxiety (17-24)	48	67	12
High anxiety (25-32)	19	44	66
Extreme anxiety (33-40)	0	2	1

Correlation between pain and anxiety ($r=0.571$, $P=.005$) are given in table 5. A strong correlation exists between anxiety and pain.

Table 5: Correlations

	Numeric Pain Scale	Anxiety
Numeric Pain Scale	1	.571**
Anxiety		1

DISCUSSION

Endodontic treatment is a complex and multi-factorial process. Many factors influence the outcome of endodontic therapy. Identifying factors that reduce anxiety are likely to improve the endodontic treatment outcome^{24,25}. That is why it is important to consider factors like life style of the patient and their stress handling capacity. Fear of dental

anaesthesia and pain during treatment are thought to be important factors affecting patient's attitude. Being a professional and in an attempt to serve our patients we need to consider factors like patient's anxiety and device protocols to overcome challenges associated with stress and anxiety. Based on previous experience, fear and anxiety of patient holds them back from acquiring dental care. Pain being an integral part of endodontic treatment is governed by many factors¹⁸. Pain and anxiety are also inter-related and have multiple attribute to it¹⁹. Therefore, management of the patient's anxiety can be correlated with lowering patient's pain perception. In our study the correlation between pain and anxiety was 0.571. A positive correlation exists between pain and anxiety.

Studied have shown that females are more anxious than male^{20,21}, while other studies have not found any gender bias in their findings²². Our data suggested that there was no significant relevance of gender and pain perception. Few have found strong relationship between depression, anxiety and pain²³. While others have proven strong association between anxiety and pain^{9,12}. Emotional and mental well-being plays a significant role in management of anxiety and pain.

The literature supports evidence in favour of anxiety and pain correlation^{9,12}. But there is evidence that there might not be a strong interrelation between the two²⁶. The study limitations include reliance on the self-subjective evaluation of anxiety level rather than an exact quantitative data. Public dental set up, low social status and low educational background, were considered as limitations in the study.

Dental professionals therefore must consider efficient management of patient's anxiety and stress. Assessing patient's pre-operative anxiety levels can help effectively in pain management of endodontic casers. Professionals must not limit their services to dental procedures only; in fact they must consider the complete picture for comprehensive management of their patients.

CONCLUSION

Knowledge, skill and advancements in endodontics have served the profession very well but the core of providing outstanding services requires more than just treating the tooth for its endodontic needs. Emotional intelligence and empathetic approach towards patients with issues like stress, depression and anxiety need comprehensive management. Therefore professionals must acquaint themselves with methods and technique to effectively manage anxiety and pain.

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