

## ORIGINAL ARTICLE

# Relationship of Dental Anxiety and Pain during inferior Alveolar Nerve Block

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## ABSTRACT

**Aim:** To understand impact of pre-operative anxiety during inferior alveolar nerve block based on pain perception.

**Methods:** Data of 299 dental patients who collected. These patient were treated for restorative need in the Dental Section of Islam Dental College, Sialkot. Modified Dental Anxiety Scale (MDAS) was used to assess the patient's anxiety levels. Visual analog scale was used to document the pain perceived of inferior alveolar nerve block.

**Results:** Anxiety and pain showed a statistically significant correlation-ship. Our findings were suggestive of increased pain associated with anxiety.

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

**Keywords:** Local anaesthesia (LA), Inferior alveolar nerve block IANB, dental anxiety

## INTRODUCTION

Local anesthetic agents help prevent painful stimuli during, therefore most dental procedures are performed under local anaesthesia<sup>1</sup>. Most patients perceive local anaesthesia injection 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 treatment<sup>2</sup>. Studies have identified factors that suggest alternatives to such problems; among them are proprioception<sup>1</sup>, pressure<sup>3</sup> and perception<sup>4</sup>. Temperature of the anaesthetic agent also effects efficacy<sup>3</sup>. Other factors may include psychological aspects that influence dental treatment, therefore emotional and physiological attributes must be considered<sup>5</sup>. Klingberg and interpreted that fear and apprehension worsen the clinical situation<sup>6</sup>. Pain can therefore be influenced by multiple factors<sup>7,8,9</sup>.

Strong relationship exists between anxiety and pain when it comes to local anaesthesia<sup>9-15</sup>. Our intent was to understand the correlation between anxiety and pain.

## PATIENTS AND METHODS

Approval was obtained from ethical committee, non-probability purposive sampling method was employed, age range was 15-75 years. ASA I and II (American Society of Anaesthesiologists), with an autonomous capacity to fill out the surveys and requiring a dental treatment with provision of IANB as local anaesthesia were included in the study. Exclusion criteria was patients on anti-inflammatory agents, alcohol, personality disorders; and those who will require sedative measures to deliver treatment.

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

Visual analogue scale (VAS) was used to document the perceived pain during injection, where, 0=no pain and 10=highest pain score<sup>17</sup>. Data collection and analysis was done using SPSS version 16.

The objective of the study was to understand impact of pre-operative anxiety during inferior alveolar nerve block based on pain perception.

## RESULTS

A total of 299 patients (171 female and 128 male) between the age of 15-75 years participated and were administered IANB. The results are formulated in the form of tables and figures. Gender, anxiety and pain values are given in the Tables 1-3. Figure 1 gives frequency distribution of age. Pain and anxiety correlation is given in Table 4. Correlation between pain and anxiety (0.86) are given in table 5. A strong correlation exists between anxiety and pain.

Table 1: Gender Frequency

	Frequency	Percentage
Female	171	57.2
Male	128	42.8

Table 2: Anxiety frequency

	Frequency	Percentage
Mild anxiety (1-19)	150	50.2
Severe anxiety (20-40)	149	49.8

Table 3: pain frequency

	Frequency	Percentage
Mild pain (1-5 vas)	61	20.4
Severe pain (6-10vas)	238	79.6

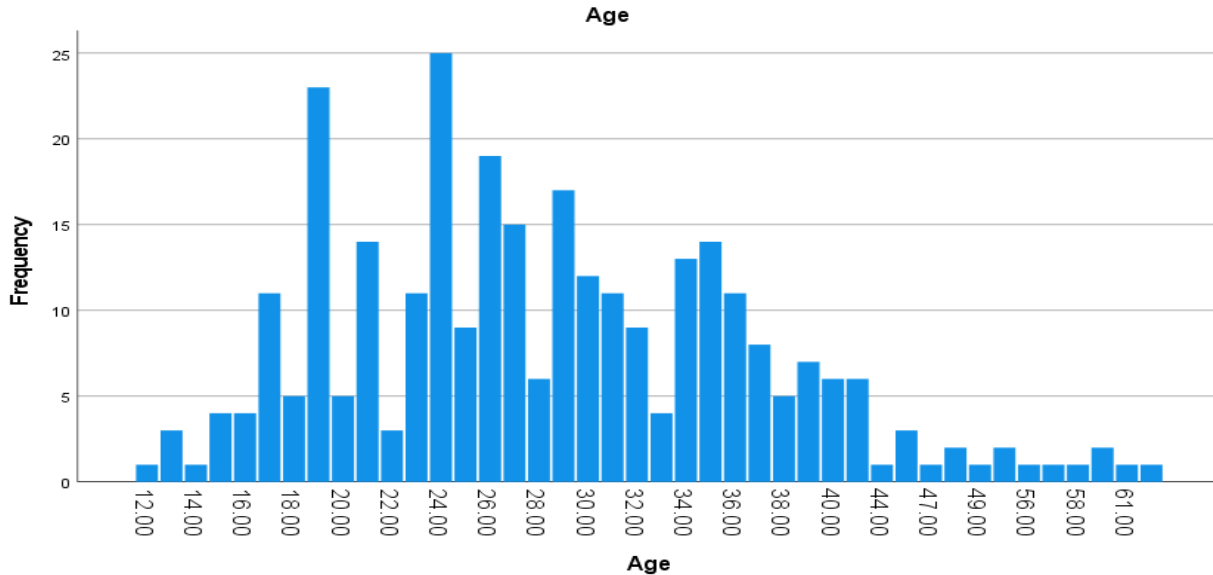
Table 4: Anxiety and pain cross tabulation

	Mild pain	Severe pain	Total
Mild anxiety	61	89	150
Severe anxiety	0	149	149
Total	61	238	299

Table 5: correlations

Pearson correlations	Anxiety	Numeric pain scale
<b>Anxiety</b>		
Sig. (2-tailed)		.000
N	299	299
<b>Numeric pain scale</b>		
Sig. (2-tailed)		.000
N	299	299

Fig 1: Frequency of age



**DISCUSSION**

Fear and anxiety of patient’s hold them back from acquiring dental care. Pain being a multi-factorial process is governed by many factors<sup>18</sup>. Anxiety impacts on the perception of pain, and pain being a multi-factorial phenomenon has many attributes to it<sup>19</sup>. 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 0.86. A positive correlation exists between pain and anxiety.

Studied have even shown that females are more anxious than male<sup>20,21</sup>, while other studies have not found any strong gender bias in their studies<sup>22</sup>. Our data suggested that there was no significant relevance of gender and pain perception. Some have found strong relationship between depression, anxiety and pain<sup>23</sup>. While others have proven strong association between anxiety and pain<sup>9,12</sup>. 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<sup>9,12</sup>. But there is evidence that there might not be a strong interrelation between the two<sup>26</sup>. The study limitations include reliance on the self-subjective evaluation of anxiety level rather than a exact quantitative data. Public dental set up, low social status and little educational, were considered as limitations in the study.

Dental professionals therefore should be aware of patient anxiety and pain. Assessing patient’s pre-operative anxiety levels can help effectively manage patients. Professionals must not limit their services to dental

procedures only, in fact they must consider the complete picture for comprehensive management of the patient .

**CONCLUSION**

Knowledge and skill is the core of providing outstanding service for the dental patients, but 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 anxiety and pain.

**Conflict of interest:** Nil

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