

# Evaluation of Pain Perception of Intraoral Dental Anesthesia Using 25 Gauge Needle Among Patients Visiting A Private Dental Hospital.

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## Abstract :

The aim of the study was to estimate the pain perception of intraoral dental anesthesia using 25 gauge needles among adult patients. There is less evidence on the influence of needle gauge in perception of pain during delivery of local anesthetics for dental procedures. Therefore, the purpose of this study was to evaluate the adult's pain perception, while providing dental LA with 25 gauge needles using VAS. A total sample of 120 adult patients undergoing routine dental procedures were studied, there were 48 (40%) males and 72(60%) were females. There was no incidence of aspiration in any of the study subjects. The pain score ranged between 10-80. It was found that 73.3% had mild pain, whereas only 3% experienced severe pain.

**Keywords:** Pain, Needle, Gauge, Local Anaesthesia

## INTRODUCTION:

Trypanophobia (an irrational fear of procedures involving injections) is most among dental patients. Local anesthesia (LA) forms the backbone of pain control techniques in dentistry. Despite, advances in anesthetic devices, agents, and techniques, complete control of pain and anxiety associated with injections is not possible. Studies reported that 20-23% of the population is highly anxious about dental treatment.<sup>(1)</sup> Nevertheless, the traditional syringe still is the primary means of administering local anesthesia and, therefore, is the focus of attention. Therefore, the purpose of this study was to evaluate the pain perception using VAS, while providing local anesthesia with 25 gauge needles.

## MATERIALS AND METHODS :

The present study was done among the outpatients of saveetha dental college to estimate the pain perception of patients to LA using 25 gauge needles. One twenty patients were selected for participation in this study.

## Inclusion criteria :

Patient's with treatment needs in two different quadrants either in maxillary or mandibular arch, patient with multiple retained deciduous teeth, nonsymptomatic teeth requiring extraction or pulp therapy and asymptomatic teeth/root stumps requiring extraction were included. Healthy patient with no prior dental treatment, requiring a minimum of two clinical appointments of similar operative procedures on both sides of the same jaw preceded by local anesthetic injection, none of which was due to emergency were included.

## Exclusion criteria :

Patient with any emergency treatment needs such as abscess, cellulitis and space infections, with past painful

experience, children/parents not willing to participate and who were categorized definitely negative in pre procedure behavior assessment were excluded. All patients were informed about the treatment procedures, and informed consents were received before the procedures. The field of insertion was dried with cotton rolls. Each patient was assigned to receive the injection with a 25 gauge needle.

## Subjective evaluation:

Immediately after injection, the patients were asked to fill the visual analog scale VAS for subjective evaluation of pain perception after the injection. Using a ruler, the score is determined by measuring the distance (mm) on the 10-cm line between the "no pain" anchor and the patient's mark, providing a range of scores from 0-100mm. A higher score indicates greater pain intensity. Based on the distribution of pain VAS scores are from none, mild, moderate, or severe. The following cut points on the pain VAS have been recommended: no pain (0-4 mm), mild pain (5-44 mm), moderate pain (45-74 mm), and severe pain (75-100 mm). Normative values are not available. The scale has to be shown to the patient otherwise it is an auditory scale not a visual one.

## RESULTS:

**Table 1: Distribution of Study Population According To Age and Gender.**

Age Gender	Female		Male		Total	
	n	%	n	%	n	%
15-25	12	50	12	80	24	20
26-35	24	47	28	54	52	43
36-45	12	86	4	14	28	23
46-55	24	75	4	25	16	13

**Table 2 : Pain perception score using Visual analog scale :**

VAS score	Interpretation	n(%)
0-4mm	No pain	0
5-44mm	Mild Pain	88(73.3)
45-74mm	Moderate pain	28(23.3)
75-100mm	Severe pain	4(3.3)

**DISCUSSION :**

Local anesthesia is a process aiding dental treatment which should be calm and safe as the dental surgeon's major preoccupation has to be focused on the specific dental treatment. Of the 120 cases reported for the study to assess pain perception using 25 gauge needle, the mean age was 33.7 years. There were 48 (40%) males and 72(60%) were females. There was no incidence of aspiration in any of the

study subjects. The pain score ranged between 10-80. It was found that 73.3% had mild pain, whereas only 3% experienced severe pain. (Table 2), whereas in a study done by John W. Brownbill et al, pain score ranged from 0-95 with a median of 13. In the present study there was no positive aspiration experienced whereas in a study done by John W. Brownbill et al 1987 reported 16% of them experienced positive aspiration. It is evident from this study that 25 gauge needle appears to be less discomfort to the patients.<sup>(2)</sup>

**REFERENCE:**

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