

## Original Research

# A Clinical Comparative study of Camouflaged Insulin syringe with Conventional syringe for Dental Extractions in Children

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### ABSTRACT

**Aim:** The study aims to evaluate and compare pain perceived by patients during local anesthesia administration using a camouflaged Insulin syringe with Conventional syringe.

**Material and Methods:** Sixty children of age group 10-14 years requiring removal of over-retained primary teeth were selected for the study. The children were divided into two groups. One group was administered local anesthesia with camouflaged Insulin syringe and other group with a Conventional syringe. Pain perception was rated using standard pain scales.

**Results:** The results showed a lower mean range of dental anxiety during administration of local anesthesia with Camouflaged Insulin syringe as compared to a Conventional syringe.

**Conclusion:** It can be concluded that Camouflaged Insulin syringe exhibits a greater clinical advantage over Conventional syringe.

### INTRODUCTION

The most challenging part in Pediatric dentistry is the painless administration of local anesthesia. The sight of injection produces intense fear in the mind of the child which may lead to a negative behavior towards dental treatment[1]. In this study we have used Insulin syringe for administration of local anesthesia in children. Camouflaging of Insulin syringe was done to allay anxiety and fear of the patient, while administration of local anesthesia. Here, we have designed a simple toy like child friendly camouflage of a cartoon character. This camouflage was used in the study to mask the insulin syringe to make it more acceptable to patients and reduce dental anxiety.

### MATERIAL AND METHODS

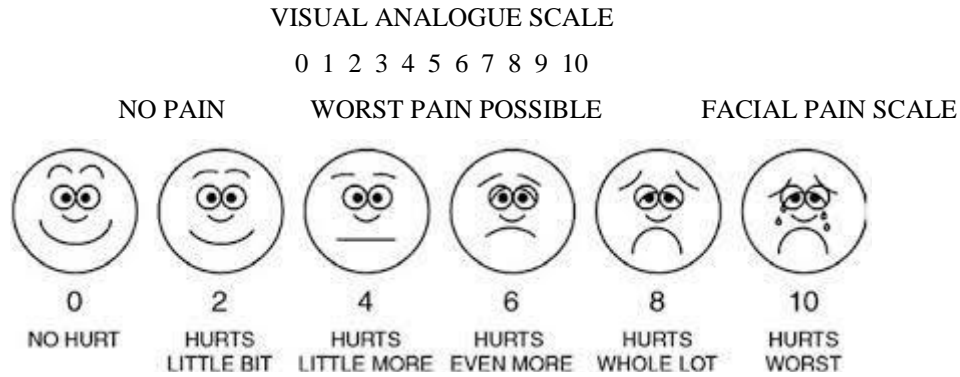
Patients visiting the Out-patient department of Pedodontics and Preventive dentistry in A.C.P.M Dental college, Dhule, with chief complaint of over-retained primary teeth requiring use of local anesthesia for treatment were selected. 60 patients included in the study were divided into two groups of 30 patients each. Group "A" patients will be administered local anesthesia by Conventional syringe and Group "B" by Camouflaged Insulin syringe using Local Infiltration anesthesia technique. Children from 10-14 age group requiring removal of over-retained primary teeth in either maxillary or mandibular arch were included in the study. The syringes used in the study are a Conventional 2ml disposable syringe with a 26 G X 1 1/2 inch needle (Unolok, Hindustan syringes and medical devices Ltd,

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India) and a disposable U-40 Insulin syringe(Dispovan, Hindustan syringes and Medical devices ltd, India). The extraction was carried out after taking the written

consent from parents. Each patient was evaluated using the scales for pain, comfort and effectiveness.

The pain scales used were:



**RESULTS**

**Comparison of conventional syringe and insulin syringe (Visual analogue scale)**

| Parameters           | Mean | Standard Deviation | p value  |
|----------------------|------|--------------------|----------|
| Conventional syringe | 5.43 | 1.00630            | 0.001 HS |
| Insulin syringe      | 0.76 | 0.81720            |          |

**Comparison of conventional syringe and insulin syringe (Facial pain scale)**

| Parameters           | Mean   | Standard Deviation | p value  |
|----------------------|--------|--------------------|----------|
| Conventional syringe | 5.3333 | 1.32179            | 0.001 HS |
| Insulin syringe      | 1.0667 | 1.01483            |          |

**DISCUSSION**

Insulin syringe was selected for the study due to smaller gauge of needle which permits the operator to apply lesser force during local anesthesia administration which

showed lesser pain perception [2]. The Insulin syringe was camouflaged to allay dental anxiety and increase patient co-operation [3]. Infiltration technique was used in the study due to various reasons such as lesser penetration depth of needle needed, ease of administration for the operator, lesser amounts of local anesthesia could be administered in direct vision[4,5,].The short 8mm needle of Insulin syringe gives more stability and less needle deflection during the mucosal infiltration. The use of thinner gauge needle demonstrated a less painful experience among the patients[6].Visual Analogue Scale and Facial Pain Scale was used in the study as it was easy to record findings for children over 6 years of age[7]. A study conducted to compare 27 and 30 gauge needles for inferior alveolar nerve block in children by Ghasemi and associates stated that 30 gauge needles were found better which was statistically significant[8]. A study conducted by Ashokan has also concluded a significant lesser pain perception with thinner gauge needles [9]. In this study camouflaged Insulin syringe due to their small size, colorful appearance and thinner gauge needle was found

to have more patient acceptability which was statistically significant.

## CONCLUSION

It can be concluded that the thinner gauge Insulin syringe was found to be better than a conventional syringe for local anesthesia administration in children.



**Fig. 1:** Two syringes used in the study

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