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Choice of Analgesic for Post Endodontic Pain

(Choice of analgesic for pain following endodontic therapy.)

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KEYWORDS endodontic, post endodontic, pain, pulpectomy, pulpotomy,	ABSTRACT: Aim: The objective of this study was to determine which analgesic to use for post-endodontic pain. Materials and methods: The data of 7-12 year old patients getting endodontic treatment who reported to the dental clinics of Saveetha Dental College, SIMATS, Chennai, India, was obtained through the dental information					
innovative.	archiving software 2021, patient reco then evaluated, re SPSS statistics and Results:	in this comparative, descriptive study rds were collected. The information corded in Microsoft Excel, and stati alyzer v.23.0.	y (DIAS). Between March 2020 and March was gathered and tabulated. The data was istical analysis was performed using IBM			
	The present study's There was a male was single visit pu acid derivatives. A Conclusion:	s total sample size was 779 patients w predilection (60.85%) and the most lpectomy (62%). The most common c .ll the patients in this study were betw	ho have undergone endodontic procedures. common endodontic procedure performed class of analgesics provided were propionic yeen 7 and 12 years of age.			
	Within the confines of the current study's constraints, it was discovered that propionic acid derivatives were the choice of analgesic for post endodontic pain. It was also found that males underwent more endodontic procedures and that the most common endodontic procedure performed was single visit pulpectomy.					

INTRODUCTION:

Pain is defined as "an unpleasant sensory and emotional experience associated with existing or potential tissue damage or explained in terms of such damage," according to the IASP (International Association for the Study of Pain) [1,2]. Little is known about pain in adolescents and children and how they feel it [3]. Pain management in children is vital. Pain management is not understood properly due to misconceptions about how

children perceive pain [4]. This pain can be entailed to various psychological, behavioural and developmental factors [4,5].

The pain management is vital because it has been found that children who experience pain early in life often present with behavioral problems and apprehension towards dental treatment throughout his or her life [5– 9]. Pain management doesn't always have to be using

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pharmacological means, non-pharmacological means of pain management such as cognitive and behavioral interventions can also lead in pain management post operatively [4,10–14]. However, it has been found that pharmacological agents such as NSAIDs are more effective in terms of time and energy [15,16].

On analysis of previous literature, it was found that endodontic procedures, stainless steel crowns and extractions were the most common dental procedures that presented with post-operative pain in children [17– 19]. Management of acute postoperative pain is ever present in dental practice and numerous analgesic agents are available, with many new agents being introduced every day [20].

Previous studies of similar nature show that the combination of ibuprofen and acetaminophen were most effective in the management of postoperative pain [21,22]. The overall incidence of postoperative pain was likewise found to be 38% following Endodontic procedures and anesthetics were provided to only 60.9% of the population [23]. In a cohort study among pediatric patients, it was found that ibuprofens reduced postoperative pain significantly compared to placebo [24].

This research is needed to see the prevalence and need for post-treatment analgesics in children undergoing endodontic procedures using local anesthesia. It is also needed to see the kind of analgesia being provided predominantly. According to a study of the literature, there seems to be a little research on the type and necessity for post-operative analgesia in children. The objective of the study is to assess the choice of analgesic for post endodontic pain.

MATERIALS AND METHODS:

The choice of analgesics was one of the study's dependent factors. The age of the subject and the gender of the subject are independent factors. After receiving approval from Saveetha University's ethics council, basic random sampling was used to choose the study population (applied).

A total of 779 cases were examined. An additional reviewer was responsible for reducing sample bias by collecting all data from within the university and using simple random sampling as a secondary measure. There was a presence of high internal and low external validity.

The data was then organized in a systematic manner using Microsoft Excel software and tabulated based on three parameters: subject gender, type of endodontic treatment, and analgesic category provided. Any data in the gathered data that was incomplete or censored were eliminated from the study.

The compiled data was statistically analyzed with IBM SPSS statistical analyzer V.23.0. For statistical analysis, the Chi square test was used.

RESULTS AND DISCUSSION:

The data was gathered and sorted using the three parameters indicated before. Table 1 and Graph 1 show the gender distribution of the study population, with a male inclination of 60.85% and a female predilection of 39.15 percent, respectively, out of 779 patients. Early eruption and prolonged retention of these teeth in boys could be one of the causes behind this. Following a review of the literature, it was discovered that caries was significantly more prevalent in boys than in girls in studies conducted by S. Saravanan et al, 2005, Peter F Infante et al, Koch ML et al, implying a link between gender and dental caries and proving that the current study's findings are consistent with the literature [25–27].

Table 2 and Graph 2 demonstrates the type of endodontic treatment that was given to the patients. It was also observed that single visit pulpectomy is the most common Endodontic procedure for children with 62% of the population receiving it, followed by multiple visit pulpectomy 31.5% and pulpotomy 6.5%. In a study performed by B.O. Popoola et al, The most common endodontic procedure performed in pediatric patients was found to be pulpectomy with a prevalence of 63.9% [28]. This could be due to the fact that the patient presents themselves to the dental clinic at very late stages of the disease when the infection has progressed from the coronal to the reticular pulp [29]. It could also be due to the fact that pulpotomies are generally unpredictable, variable and often unsuccessful [30].

Table 3 and Graph 3 explains the type of analgesic prescribed where para amino phenol derivatives were

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prescribed to 19.9% of the population, propionic acid derivatives to 79.5% of the population and both to 0.6% of the population. The reason for this could be due to the fact that propionic acid derivatives were generally more effective towards treatment of pain compared to other NSAIDs out of which ibuprofen was the most popular [31-33]. Ibuprofen acts by inhibiting certain enzymes known as cyclooxygenases (COX), specifically COX-2. Ibuprofen was also assumed to work by decreasing the formation of eicosanoids, as well as inhibiting the increased regulation of pro-inflammatory cytokines including IL-1 β and TNF- α [34,35]. The reason for its widespread use could be due to the fact that ibuprofen was found to be slightly superior in efficacy compared to paracetamol (para amino phenol derivatives) as found in the study conducted by McQuay et al [36]. Overall, ibuprofen was found to have comparable or greater analgesic effects in children for the treatment of acute pain such as post endodontic pain compared with that of paracetamol [37]. Ibuprofen was also found to be a very safe drug with the only 2 major rare complications being acute drug reactions (ADR) and drug toxicity in children [38-40].

In the study, another observation that was made was that 100 percent of the patients who underwent dental treatment received analgesic medication contradictory to literature findings [41–43]. This could be mainly due to the reason for prevention of post-operative pain as pain can aggravate Dental fear and anxiety and can have

lifelong effects suggesting that prevention is always better than cure.

CONCLUSION:

Within the constraints of the current investigation, propionic acid derivatives were determined to be the most effective analgesic for post-endodontic pain. It was also found that males underwent more endodontic procedures and that the most common endodontic procedure performed was single visit pulpectomy. Hopefully this study provides insight regarding post endodontic analgesia in children and also paves way for future research.

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CONFLICT OF INTEREST

Authors declare no potential conflict of interest for this study.

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TABLES AND GRAPHS:

TABLE 1: GENDER

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
	MALE	474	60.8	60.8	60.8
	FEMALE	305	39.2	39.2	100.0
	Total	779	100.0	100.0	

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GRAPH 1: GENDER WISE DISTRIBUTION OF THE STUDY POPULATION



Graph-1: Pie chart showing distribution of different genders in the study population on a scale of 1 - 100 %. Blue color represents the males, green color represents the females. More male predilection was observed with 60.85% and females with 39.15%.

TABLE 2: TREATMENT

Treatment			Frequency	Percent	Valid Percent	Cumulative Percent
SIN PU	NGLE JLPECTOMY	VISIT	483	62.0	62.0	62.0
MU PU	ULTIPLE JLPECTOMY	VISIT	245	31.5	31.5	93.5
PU	JLPOTOMY		51	6.5	6.5	100.0
Tot	otal		779	100.0	100.0	

GRAPH 2: DISTRIBUTION OF THE TYPE OF ENDODONTIC THERAPY UNDERTAKEN



Graph-2: Pie chart showing distribution of different endodontic therapies that the study population have undergone on a scale of 1 - 100 %. Blue color represents single visit pulpectomy, green color represents multiple visit pulpectomy and brown color represents pulpotomy. It was also observed that single visit pulpectomy is the most common Endodontic procedure for children with 62% of the population receiving it, followed by multiple visit pulpectomy 31.5% and pulpotomy 6.5%.

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TABLE 3: CHOICE OF ANALGESIC

Category Of Analgesic	Frequency	Percent	Valid Percent	Cumulative Percent
PARA-AMINOPHENOL DERIVATIVES	155	19.9	19.9	19.9
PROPIONIC ACID DERIVATIVES	619	79.5	79.5	99.4
вотн	5	.6	.6	100.0
Total	779	100.0	100.0	

GRAPH 3: CHOICE OF ANALGESIC FOR POST ENDODONTIC PAIN



Graph-3: Pie chart showing frequency of the choice of analgesic for post endodontic pain that has been administered to study population on a scale of 1 - 100 %. Blue color represents para-aminophenol derivatives, green color represents propionic acid derivatives and brown color represents both. Para amino phenol derivatives were prescribed to 19.9% of the population, propionic acid derivatives to 79.5% of the population and both to 0.6% of the population.

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