



Research Article

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A questionnaire study to bridge the gap in teaching and prescribing of analgesics by dentists

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Abstract

This study focus on the current trend of prescribing of non-steroidal anti-inflammatory drug at a tertiary care teaching dental hospital in Jaipur. After taking permission from the Institutional Ethical Committee, this questionnaire study was carried out with the final year and intern students at tertiary care centre. Our study revealed paracetamol (41.4%) as the commonly prescribed analgesics followed by ibuprofen (24.5%). More than 60% of the respondents had good knowledge of contraindications to the use of these analgesics. Respondent's knowledge regarding drug-drug interactions was fair. More than 70% were aware of interactions of diuretics and non-steroidal anti-inflammatory drugs, while about 95% correctly recognized the interaction of these analgesics with corticosteroids. Our study highlights the importance of knowledge of concurrent drug administration by the dentists to prevent adverse drug events.

Keywords: Dental respondents, Non-steroidal anti-inflammatory drugs, Drug-drug interactions.

INTRODUCTION

Our revolt against pain has been slow with many perils lying in its way. As necessity continued so are the advances in pain control. In current scenario, it is possible to undergo long operations with the assurance of little or no pain. Oral medications reduce the pain and can be administered pre or postoperatively, thereby improving the clinical outcomes, making them an integral part of dental practice^[1]. The major cause of pain is thought to be the release of inflammatory mediators that activate sensory nociceptors surrounding the tooth^[2].

NSAIDs that have been approved by the US Food and Drug Administration (FDA) for OTC analgesic use can be divided into three groups: salicylates (i.e. aspirin, salicylic acid, diflunisal), propionic acid derivatives (i.e. ibuprofen, naproxen, and ketoprofen) and the para-aminophenol derivative acetaminophen.

Although, in our country India, the National Drug Policy insists on the rational prescribing, there is no specific study to test the knowledge of the dentists regarding analgesics prescriptions in dentistry.

MATERIALS AND METHODS

Approval was taken from the Institutional Ethics Committee prior to the commencement of the study. Final year and intern dental students of a tertiary care teaching centre, who had received training about pharmacology of analgesics as part of their second year undergraduate curriculum were presented with a structured questionnaire in English. validated by the subject experts for its content and relevance. The respondents were allowed to answer the questionnaire independently in fifteen minutes without using reference materials, notes or assistance. Sixty five respondents participated in this study. The data was subjected to descriptive analysis using Microsoft Excel and the results were expressed as percentages.

RESULTS AND DISCUSSIONS

The most frequently prescribed analgesics by the dentists was paracetamol (41.1%) as depicted in figure 1 followed by ibuprofen.

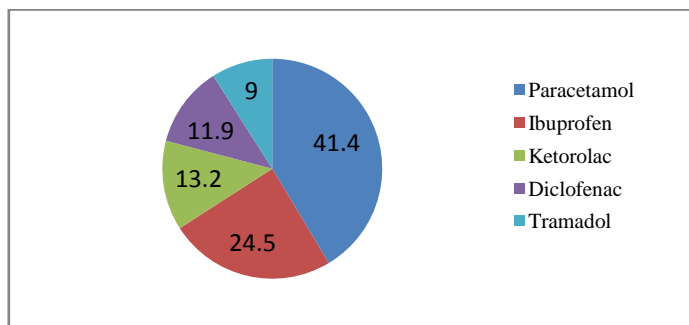


Figure 1: The most frequently prescribed analgesics by the dentists

Table 1 depicts the knowledge of the respondents regarding contraindications to Non-Steroidal anti-inflammatory drugs. Majority of the respondents were aware that peptic ulcer is a contraindication to NSAIDs use but unfortunately only 28% of the respondents had the knowledge of not using these analgesics in children suffering from chickenpox and influenza.

Table 1: Knowledge of the respondents about contraindications to Non-Steroidal anti-inflammatory drugs

S. No	Contraindications to NSAIDs use	Percentage of correct response (%)
1	Peptic ulcer	98.2
2.	Bleeding tendencies	92.5
3.	Children suffering from chickenpox/ influenza	28

Knowledge of the respondents about the drug interactions of concurrently administered drugs was good. Majority of the respondents (more than 90%) were aware of the interaction of co-administration of NSAIDs with corticosteroids and anticoagulants as reflected from the figure 2.

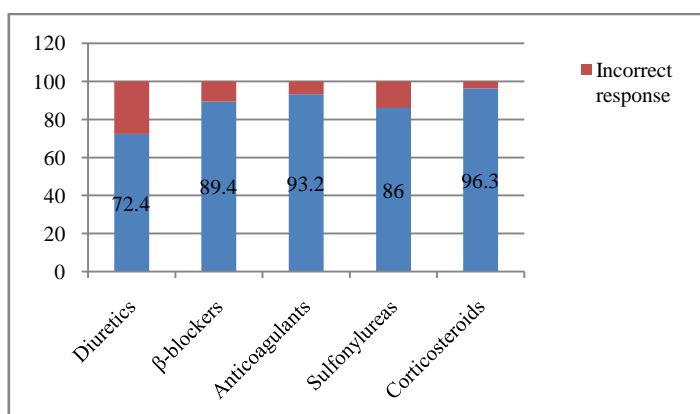


Figure 2: Knowledge of the respondents regarding drug interactions of NSAIDs with various other drugs

In medical and dental practice prescription containing analgesics contributes to wide spread overuse of these drugs [3, 4]. Appropriate dental treatment which removes the cause of the pain with rapid resolution of the symptoms may be the reason for predominant prescription of peripherally acting analgesics in dentistry. In our study paracetamol which has very effective analgesics and little anti-inflammatory action, was the most frequently prescribed analgesics. These findings were also mirrored in the previous study at undertaken at a tertiary care centre in Karachi, Pakistan [5]. Ibuprofen, a propionic acid derivative of NSAIDs, which constitutes the largest group of aspirin

alternatives, was the second most prescribed analgesics in this study. Others in descending order include ketorolac, diclofenac and tramadol. These findings are contradictory to findings in primary healthcare units in Brazil where diclofenac, both the sodium and potassium forms, were the most commonly prescribed medications [6].

NSAIDs have been implicated in upper and lower GI tract injuries. The NSAID-related GI complication rate is directly related to patient age and is influenced by co morbidity [7].

Concurrent drug administration can lead to serious adverse drug events. Non-steroidal anti-inflammatory drugs (NSAIDs) may increase blood pressure and antagonise the effects of antihypertensive agents. They can cause salt and water retention and an increase in extracellular volume. NSAIDs also cause a decrease in prostaglandin synthesis in blood vessel walls which removes a direct vasodilatory influence and also increases the vascular response to vasoconstrictor stimuli [8]. In this study more than 70% of the respondents were aware of the interactions between NSAIDs and antihypertensives. Till date no studies have actually evaluated the knowledge of the dentists about concurrent medications prescribed.

The risk of hypoglycaemia is increased when sulfonylureas are given concurrently with these analgesics [9]. Similarly risk of bleeding is increased when corticosteroids are co administered with non-steroidal anti-inflammatory analgesics [10].

Although, this study is limited by mode of recruitment and method of selection of participants, the findings could be considered valuable in reference to information on analgesics prescription relating to actively practicing dentists in Jaipur. Although in our study the respondents had good knowledge about contraindication to the use of NSAIDs but the knowledge of drug-drug interactions need further improvement.

CONCLUSION

A variety of analgesics are prescribed commonly in dental healthcare settings depending upon various factors which governs the choice of analgesics. Sound knowledge of the non-steroidal anti-inflammatory drug being prescribed is necessary for rational drug use and to prevent serious adverse drug events due to concurrent prescribing practices.

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