



KNOWLEDGE AND ATTITUDE AMONG DENTAL STUDENTS TOWARDS THE USE OF PARACETAMOL AND IBUPROFEN IN PEDIATRIC DENTISTRY.

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Abstract:

Background:

Pediatric dentistry frequently involves the use of paracetamol and ibuprofen for pain management and inflammation reduction. However, the appropriate use of these medications requires dental professionals to possess adequate knowledge and maintain positive attitudes towards their administration. This study aimed to assess the knowledge and attitudes of dental students regarding the use of paracetamol and ibuprofen in pediatric dentistry.

Methods:

A cross-sectional study was conducted among dental students at Private dental college. A questionnaire consisting of multiple-choice questions was used to collect data. The questionnaire assessed the students' knowledge regarding dosage regimens, administration routes, potential side effects, and contraindications of paracetamol and ibuprofen. Attitudes towards the use of these medications, including perceptions of efficacy and safety, were also evaluated. Descriptive statistics were used to analyse the data.

Results:

Most dental students demonstrated adequate knowledge regarding the appropriate use of paracetamol and ibuprofen in pediatric dentistry.

Conclusion:

Overall, dental students exhibited satisfactory knowledge and positive attitudes towards the use of paracetamol and ibuprofen in pediatric dentistry. However, some discrepancies in knowledge were identified, particularly in relation to administration routes and age-specific dosage adjustments.

Keywords: Dental students; Pediatric dentistry; Paracetamol; Ibuprofen; Knowledge and attitude.

¹Introduction:

Pediatric dentistry plays a vital role in providing comprehensive oral healthcare to children, who often experience dental pain and discomfort. To alleviate these symptoms, non-steroidal anti-inflammatory drugs (NSAIDs) such as paracetamol (acetaminophen) and ibuprofen are commonly prescribed by dental practitioners.¹ These medications possess analgesic and antipyretic properties, making them valuable tools in managing pain and reducing inflammation in pediatric patients. However, ensuring the safe and effective use of paracetamol and ibuprofen in pediatric dentistry necessitates dental professionals to possess appropriate knowledge and maintain positive attitudes towards these medications. Dental students, as future practitioners, need to be equipped with the necessary understanding of dosage regimens, administration routes, potential side effects, and contraindications associated with these drugs.² This study aims to explore the knowledge and attitudes of dental students regarding the use of paracetamol and ibuprofen in pediatric dentistry. By assessing their familiarity with these medications and evaluating their attitudes towards their use, this research seeks to identify any discrepancies in knowledge and potential areas for improvement within dental education. The assessment of dental students' knowledge and attitudes towards paracetamol and ibuprofen in pediatric dentistry is of utmost importance for several reasons. Firstly, it can help evaluate the effectiveness of the current dental curriculum in addressing the use of these medications and highlight any areas that may require further emphasis. Secondly, it can identify the need for targeted educational interventions to bridge knowledge gaps and enhance patient care outcomes.³ By investigating dental students' awareness of appropriate dosages, administration routes, potential side effects, and their attitudes towards the use of paracetamol and ibuprofen, this study aims to provide valuable insights that can guide educational strategies and promote evidence-based practice. Ultimately, improving dental students' knowledge and attitudes in this area can lead to enhanced pain management, increased patient satisfaction, and improved oral health outcomes for pediatric patients. The findings from this study may not only contribute to the refinement of dental education curricula but also inform the development of clinical guidelines and protocols regarding the use of paracetamol and ibuprofen in pediatric dentistry. By enhancing dental students' knowledge and attitudes towards these medications, this research endeavours to improve the quality of oral healthcare provided to pediatric patients and ensure their overall well-being.

Materials and Methods

The questionnaire survey was conducted among dental students in a private dental college in Chennai. The study included 136 participants, consent was obtained. Their demographic details were recorded. A structured questionnaire [TABLE 1] consisting of 15 questions pertaining to knowledge & awareness of among dental students towards the use of paracetamol and ibuprofen in pediatric dentistry was circulated among social media platforms. The data obtained through Google forms were transferred into excel format and its analysis was done using IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp. Descriptive statistics including frequency and percentages were calculated for all the responses given by the participants.

Results

In total 136 dental students participated in the study with 99 participants [72.8%] being females and rest 37 [27.2%] male. Mean age of the participants was 23. 88 [61.5%] were interns, 25.9% were 4th year students and 16.2% were 3rd year students. Exactly 76.3% were aware all the factors influencing the paracetamol /ibuprofen dose. 38% were aware that 10-15mg/kg/dose is the recommended dose for paracetamol from 1 to 14 years of age, 58.2% of the dental students administer paracetamol every 6 hours. 38.2% of participants administered paracetamol 3 times a day when the body temperature exceeded 37 degrees centigrade, 52.6% of participants answered that 4-10mg/kg/dose is recommended dose for ibuprofen from 1 to 14 years of age, 41.4% administered ibuprofen every 8 hours. 39% administered ibuprofen 3 times a day when fever exceeded 37°C, 65% were aware of all the side effects of paracetamol, 41% responded that paracetamol is more effective for fever. 60% were aware that it is fine to give paracetamol and ibuprofen together, 43.4% administered anti-

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pyretic when fever exceeded 38.5°C, 60% were aware of all the routes of administration of paracetamol, 66.6% used paracetamol as the preferred NSAID in their pediatric dental practice. 79.7% used paracetamol for reasons other than fever, 79.4% have informed patients on NSAID'S use, risk, side effects and interactions with other drugs.

Discussion

The findings of the study revealed several important insights. Approximately 76.3% of the dental students were aware of all the factors influencing the paracetamol and ibuprofen dose. However, only 38% of the participants were aware that the recommended dose for paracetamol from 1 to 14 years of age is 10-15 mg/kg/dose. Furthermore, 58.2% of the dental students administered paracetamol every 6 hours, while 38.2% administered it 3 times a day when the body temperature exceeded 37 degrees Celsius. In terms of ibuprofen, 52.6% of the participants answered that the recommended dose for ibuprofen from 1 to 14 years of age is 4-10 mg/kg/dose. Additionally, 41.4% administered ibuprofen every 8 hours, and 39% administered it 3 times a day when the fever exceeded 37 degrees Celsius. The study also assessed the participant's awareness of the side effects of paracetamol, with 65% of the students being knowledgeable about all the side effects. The most common adverse effect of NSAIDs is gastric irritation, according to a study by Brune et al. Interestingly, 41% of the participants responded that paracetamol is more effective for fever. Moreover, 60% of the participants were aware that it is permissible to give paracetamol and ibuprofen together. Comparing this study with the findings in study done by Fatemah et al¹, it is notable that paracetamol was reported as the most common antipyretic used by caregivers (54%) to control fever, while ibuprofen was the least preferred drug (18.5%). In a study by Maria et al 50% practitioners preferred prescribing diclofenac sodium⁹, 31% preferred ibuprofen, in the caregiver study, most participants administered antipyretics at a body temperature of 38-38.5 degrees Celsius. However, both studies revealed a lack of accurate knowledge regarding the correct dosage of paracetamol and ibuprofen, with a significant percentage of participants being unsure. Other studies all revealed similar results where the awareness was quite lower. Overall, the study highlights both positive and concerning findings regarding the knowledge and attitudes of dental students towards the use of paracetamol and ibuprofen in pediatric dentistry. While a significant proportion of participants were aware of the factors influencing the dose and the side effects of paracetamol, there were discrepancies in knowledge regarding recommended doses, administration frequencies, and the combined use of paracetamol and ibuprofen. These findings suggest a need for targeted educational interventions to improve the understanding and practice of dental students in this area. Furthermore, the study emphasizes the importance of adequately informing patients about the use of NSAIDs, their associated risks, and potential interactions to ensure safe and effective medication use in pediatric dental care.

Conclusion

In conclusion, the study on knowledge and attitudes among dental students towards the use of paracetamol and ibuprofen in pediatric dentistry revealed both positive and concerning findings. While a majority of the participants were aware of the factors influencing the dose and the side effects of paracetamol, there were significant gaps in knowledge regarding recommended doses, administration frequencies, and the combined use of paracetamol and ibuprofen. The study highlighted the need for targeted educational interventions to enhance the understanding and practice of dental students in this area. Improving knowledge about appropriate dosing, administration frequencies, and the use of combination therapy can contribute to the safe and effective management of pain and fever in pediatric dental patients. Furthermore, the findings underscored the importance of adequately informing patients about the use of non-steroidal anti-inflammatory drugs (NSAIDs), such as paracetamol and ibuprofen. Dental professionals should educate patients about the risks, potential side effects, and interactions with other medications to ensure informed decision-making and optimal patient care. To bridge the identified knowledge gaps, dental education programs should consider incorporating comprehensive and evidence-based training on pediatric pain management, including the appropriate use of analgesics. This can help improve the competence and confidence of future dental practitioners in managing pain and fever in pediatric patients. Overall, this study emphasizes the significance of continuous education and awareness among dental students to promote safe and effective medication

practices in pediatric dentistry. By enhancing their knowledge and attitudes, dental professionals can better contribute to the overall well-being and comfort of young dental patients.

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