
Drug utilization evaluation of analgesics in tertiary care dental hospital in Dhule district

Nitin D. Pise and Swapnil B. Kaikade*

ACPM Medical College, Dhule, India

*Correspondence Info:

Dr. Swapnil B. Kaikade

Assistant Professor,

ACPM Medical College, Dhule, India

E-mail: skaikade@rediffmail.com

Abstract

Objectives: The objective of present study is to find out prescribing pattern of analgesics in the Department of Pedodontics in ACPM Dental College, Dhule, in Maharashtra.

Methods: A descriptive study on analysis of prescriptions was conducted at Department of Pedodontics in ACPM dental college of Dhule for a period of six months. Prescriptions were randomly collected from the department. The study design was approved by ethical committee. Relevant information from the prescriptions regarding patients and drugs were recorded on a customized data collection sheet.

Results: Total of 250 prescriptions was collected during the study period. Age of patients ranged between 2 to 16 years. Average number of drugs that were used per prescription was 2.24. In 54 prescriptions, no analgesic drug was prescribed. Out of 196 prescriptions, 12 prescriptions contained two analgesic drugs and 28 prescriptions had FDCs (Fixed dose combinations).

Conclusion: Ibuprofen is the most commonly prescribed analgesic drug followed by paracetamol, diclofenac and nimesulide. Commonly prescribed FDCs are (Aceclofenac + Paracetamol) and (Ibuprofen + Paracetamol)

Keywords: Drug utilization, analgesics, pedodontics, OPD.

1. Introduction

Drug utilization patterns are one of the most important tools to understand the role of drugs in medical practice. They create a sound and economic basis for health care. Assessing the prescribing pattern in these important medical care facilities help you identify problems regarding rational use and to propose intervention.[1]

Drug utilisation study helps in estimating number of patients exposed to the specific drugs within a given time period. It also describes the extent of use of that particular drug at a specified time and/or in certain areas. This is particularly useful to follow trends and also to know the degree of proper use, overuse or underuse of the drug. It will determine the pattern of drug use and the extent to which alternate drugs are being used to treat particular conditions.[2]

Though there is lot of awareness amongst the general population about the oral hygiene and dental problems, a large part of the population seek dental care only after they experience pain and discomfort.[3-4] For most of the time, pain and infection associated with dental caries makes the parents visit emergency care for their children.[5-7] Dental pain can be caused by tactile, chemical and thermal stimuli, or can appear spontaneously in cases of severe inflammation of the dental pulp.[8]

Response of a patient to different analgesics varies greatly from patient to patient. Not necessarily that a particular dose of analgesic that produces successful pain relief in one patient will be equally effective in another patient. It may also be able to cause bearable adverse effects and insufficient pain control in another person. Since there is no correct objective markers for pain, the patients are the only ones to describe the intensity and quality of their pain.[9] Patients self-report is the most reliable measure of pain intensity as there are no biological markers of pain.

The use of various drugs, especially NSAIDs and antibiotics, has become a routine practice in treatment of pediatric illnesses. They are one of the most commonly prescribed drugs in dentistry. As compared to adult medicine, drug use in children has not been extensively researched and the range of licensed drugs in appropriate dosage forms is limited. Drug utilization data may be used to produce crude estimates of disease prevalence also. Although, a number of studies have been undertaken to study the drug-prescribing patterns of physicians, the data on the prescribing habits of dental practitioners is scarce.[10]

The present study was conducted to find out the drug utilization patterns among children in dental OPD, in ACPM dental college of Dhule (Maharashtra), India.

2. Materials and Methods

A descriptive study on analysis of prescriptions was conducted at Department of Pedodontics and Preventive Dentistry in ACPM dental college of Dhule for a period of six months. Prescriptions were randomly collected from the department. The study design was approved by ethical committee. Relevant information from the prescriptions regarding patients and drugs were recorded on a customized data collection sheet.

3. Results

Total of 250 prescriptions were collected during the study period. Age of patients ranged between 2 to 16 years. Average number of drugs that were used per prescription was 2.24. In 54 prescriptions, no analgesic drug was prescribed. Out of 196 prescriptions, 12 prescriptions contained two analgesic drugs and 28 prescriptions had FDCs (Fixed dose combinations). In all the prescriptions, diagnoses were mentioned. The route of administration was oral route.

Ibuprofen is the most commonly prescribed analgesic drug followed by paracetamol, diclofenac and nimesulide. Commonly prescribed FDCs are (Aceclofenac + Paracetamol) and (Ibuprofen + Paracetamol),

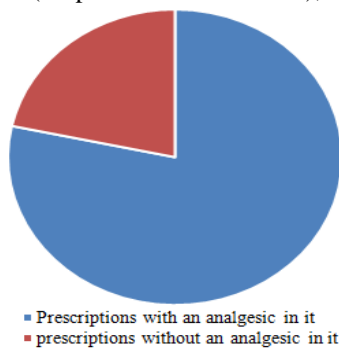


Figure 1: Chart showing prescribing frequency of analgesics

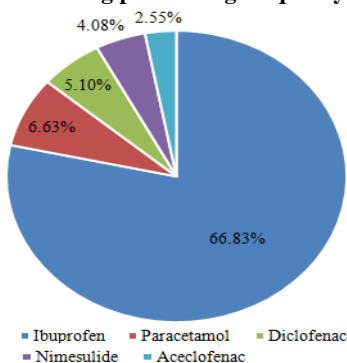


Figure 2: Chart showing frequency of prescribing different analgesic drugs

4. Discussion

Prescription writing is a science and art, as it conveys the message from the prescriber to the patient. The most vulnerable population groups which contract illnesses are infants and children. The main challenges which are faced in prescription of antibiotics are to achieve a rational choice and appropriate use of antibiotics and to recognize their potential problems.

The result shows that, Ibuprofen and paracetamol were the most commonly prescribed analgesic; it may be due

to its lesser side effects and their effectiveness when compared to others. Minimum numbers of patients were treated by newly marketed analgesics. It suggests that choice of newly emerged drugs should be considered, so that better results in pain therapy can be achieved.

For reducing the cost of therapy, the prescription of drugs in brand name could be changed to Generic name, also this plays an important role in rational use of Drug (Proper dispensing of drugs, Cost, safety and efficacy). The use of analgesics depends upon the severity of pain. In mild pain, single analgesics are commonly used where as two or more analgesics are used in moderate and severe pain.

It is also seen that nimesulide is still prescribed to a good number of patients despite its potential to cause acute hepatitis and also that it has been banned in many other countries because of its adverse effects. The drug should be best avoided in known case of liver disease also caution is required when nimesulide is prescribed with other hepatotoxic drugs.

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