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ORIGINAL ARTICLE

Prescription pattern of anti-inflammatory drugs

Misbahuddin

Assistant Professor, Department of Pharmacology, Gold Field Institute of Medical Sciences and Research, Faridabad, Haryana, India

ABSTRACT:

Background: The most frequent cause for seeing a doctor is pain, which has an impact on a person's overall functioning and quality of life. Non- steroidal anti-inflammatory drugs are the main treatment for both pain and inflammation. The present study was conducted to assess prescription pattern of anti-inflammatory drugs. **Materials & Methods:** In this study, each patient's route of administration, the kind of NSAIDs, the number of NSAIDs requested per prescription, and all given doses were among the parameters that were documented. **Results:** Commonly prescribed NSAIDS were Mefenamic acid in 9%, diclofenac in 42%, Piroxicam in 11%, Acetyl salicylic acid in 14%, Ibubrofen in 19%, Indomethacin in 3% and Tolmetin in 2%. The difference was significant (P< 0.05).NSAIDS were prescribed by General surgery in 28%, General Medicine in 22%, Orthopaedics in 15% cases, Gynaecology in 14%, Paediatrics in 12%, Dentists in 9% cases. The difference was significant (P< 0.05). **Conclusion:** The most often given nonsteroidal anti-inflammatory medication from the national list of essential medicines was diclofenac. The departments that were prescribing the most were general medicine and orthopaedics.

Key words: diclofenac, NSAIDS, Mefenamic acid

Corresponding author: Misbahuddin, Assistant Professor, Department of Pharmacology, Gold Field Institute of Medical Sciences and Research, Faridabad, Haryana, India

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INTRODUCTION

The most frequent cause for seeing a doctor is pain, which has an impact on a person's overall functioning and quality of life. Non-steroidal anti-inflammatory drugs are the main treatment for both pain and inflammation.[1] NSAIDs, or non-steroidal anti-inflammatory drugs, are among the most regularly used and abused medications. Both the cyclooxygenase-1 (COX-1) and cyclooxygenase-2 (COX-2) isoenzymes are non-selectively inhibited by the majority of NSAIDs.[2] In both more acute inflammatory illnesses including sports injuries, fractures, sprains, acute arthritic symptoms, and other soft tissue injuries, as well as chronic joint diseases like rheumatoid arthritis, NSAIDs offer symptomatic relief from pain and swelling. They also relieve headache and migraine pain, as well as post-operative, dental, and menstrual discomfort.[3,4]

NSAID side effects have been made worse by irrational prescribing.[5] Therefore, NSAIDs should be used sensibly and prescribed safely in conjunction with other medications to prevent or lessen side effects. To encourage the sensible use of NSAIDs, it is critical to recognize and measure the issue. This can be achieved by concentrating drug use research on the use of specific medications. One of the most extensively utilized methods for determining the general prescribing behaviors in healthcare facilities is the WHO prescribing indicators.[6]The present study was conducted to assess prescription pattern of anti-inflammatory drugs.

MATERIALS & METHODS

The present study was conducted in out- patient department of tertiary hospital.

Each patient's route of administration, the kind of NSAIDs, the number of NSAIDs requested per prescription, and all given doses were among the parameters that were documented. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Prescription of NSAIDS

NSAIDS	Percentage	P value
Mefenamic acid	9%	0.05
Diclofenac	42%	
Piroxicam	11%	
Acetyl salicylic acid	14%	
Ibubrofen	19%	
Indomethacin	3%	
Tolmetin	2%	

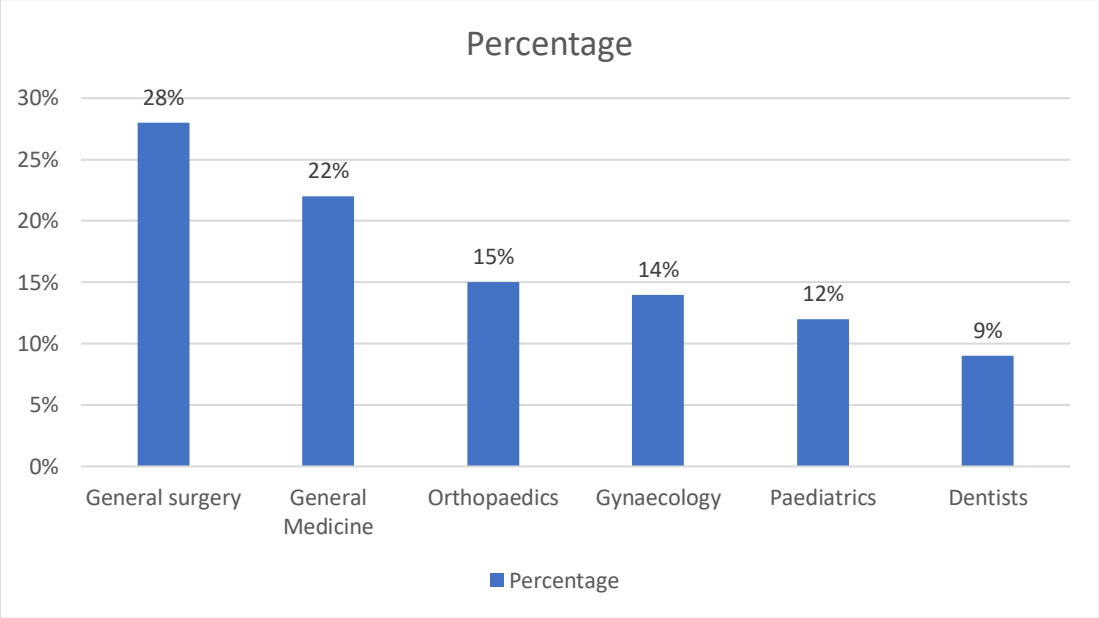
Table I shows that commonly prescribed NSAIDS were Mefenamic acid in 9%, diclofenac in 42%, Piroxicam in 11%, Acetyl salicylic acid in 14%, Ibubrofen in 19%, Indomethacinin 3% and Tolmetin in 2%. The difference was significant (P< 0.05).

Table II Department wise Prescriptions

Department	Percentage	P value
General surgery	28%	0.05
General Medicine	22%	
Orthopaedics	15%	
Gynaecology	14%	
Paediatrics	12%	
Dentists	9%	

Table II, graph I shows that NSAIDS were prescribed by General surgery in 28%, General Medicine in 22%, Orthopaedics in 15% cases, Gynaecology in 14%, Paediatrics in 12%, Dentists in 9% cases. The difference was significant (P< 0.05).

Graph I Department wise Prescriptions



DISCUSSION

For pain, fever, and inflammation, nonsteroidal anti-inflammatory medicines (NSAIDs) are the most commonly given medications. Approximately 30 million individuals take NSAIDs every day, and more than 73 million prescriptions are given for them globally each year.[7] After prescribing NSAIDs, doctors should take precautions based on the patient's risk. Blood pressure elevation, cardiovascular disease risk, and upper and lower gastrointestinal problems are only a few of the many negative consequences of NSAIDs.[8,9]The present study was conducted to assess prescription pattern of anti-inflammatory drugs.

We found that commonly prescribed NSAIDS were Mefenamic acid in 9%, diclofenac in 42%, Piroxicam in 11%, Acetyl salicylic acid in 14%, Ibubrofen in 19%, Indomethacin in 3% and Tolmetin in 2%. Paul et al[10]evaluated the usage pattern of nonsteroidal anti-inflammatory drugs (NSAIDs) in diverse clinical practice settings in India.All the 1,916 doctors prescribed NSAIDs frequently with prescriptions ranging from 1 to 15 daily; they short-listed and prescribed only two to five NSAIDs from among a plethora of drugs available including fixed-dose combinations (FDCs). It is significant that FDCs were prescribed by more than 39% of doctors in all the categories, the highest prescribers being orthopaedic surgeons (76%) and lowest general practitioners (GPs; 39%). Apart from recommended usage, NSAIDs such as ibuprofen, diclofenac and aspirin were used for pelvic inflammatory disease, and indomethacin for pre-term labour and patent ductus arteriosus. Dosage variation, both in terms of dose and frequency of administration, has been observed for several NSAIDs in the GPs category as well as in the specialist categories-except that of paediatricians. In patients suffering from bronchial asthma, there has been significant use of aspirin and ibuprofen by GPs despite contra-indication for their use in such patients. Most prescribers perceived that NSAIDs are associated with mild gastrointestinal (GI) adverse events. Ibuprofen, a drug with reportedly better gastric tolerance, was perceived to cause GI adverse events, though to a lesser extent than aspirin; fewer

prescribers perceived that diclofenac and piroxicam cause GI adverse events when compared with aspirin and ibuprofen. There were significant differences among the five practice categories with regard to preferences for NSAIDs. The first choice NSAIDs were ibuprofen, aspirin, diclofenac, paracetamol, piroxicam and ibuprofen+paracetamol FDC.

We found that NSAIDS were prescribed by General surgery in 28%, General Medicine in 22%, Orthopaedics in 15% cases, Gynaecology in 14%, Paediatrics in 12%, Dentists in 9% cases. Carson & Willet[11] showed NSAIDs to be some of the widely prescribed and used drugs. As a matter of fact, NSAIDs are drugs that are generally misused and owned by most Nigerians without doctors' prescriptions.

Vlahovic-Palcevskiet al[12]analysed prescription NSAIDs dispensed during the first 6 months of 2000 in Rijeka and in Stockholm and recorded number of prescriptions, number of defined daily doses (DDDs), number of DDDs/1000 inhabitants per day and percentages and determined the DU90% segment by substance and brand name.In Stockholm the utilisation of NSAIDs was twofold greater than in Rijeka (28.6 DDDs/1000 inhabitants/day vs 14.2 DDDs/1000 inhabitants/day). Within the DU90% segment we found four NSAIDs (of nine) in Rijeka and 16 (of 37) in Stockholm. In both regions diclofenac was the most commonly prescribed substance (55% in Rijeka and 25% in Stockholm). Diclofenac was also the cheapest drug in Rijeka. In Stockholm, the most commonly prescribed single brand drug was rofecoxib, a cyclooxygenase-2 inhibitor with a price far above the old NSAIDs. A significant proportion of "high GI risk" NSAIDs was found within the DU90% segment both in Rijeka (piroxicam, 23%) and in Stockholm (ketoprofen, 14%). Although the gross national product was five times higher in Sweden than in Croatia during 2000, on average, NSAIDs were three times more expensive in Sweden than in Croatia (0.52 Euros/DDD vs 0.18 Euros/DDD). Ibuprofen (DDD 1200 mg), the safest drug regarding GI toxicity, was not the most prescribed in either region.

The limitation the study is small sample size.

CONCLUSION

Authors found that the most often given nonsteroidal anti-inflammatory medication from the national list of essential medicines was diclofenac. The departments that were prescribing the most were general medicine and orthopaedics.

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