

ORIGINAL RESEARCH

Assessment of Self- medication patterns of non-steroidal anti-inflammatory drugs

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ABSTRACT

Background: Self-medication is defined as a drug taken by the patient to treat a common illness or symptom without the advice of the physician. The present study was conducted to assess self- medication patterns of non-steroidal anti-inflammatory drugs.

Materials & Methods:58 pharmacies of given area were included. Information such as type of NSAIDS used by community in 58 pharmacies was recorded. Complaint for purchasing NSAIDS and cost of NSAIDS was recorded.

Results: Commonly used NSAIDs was ibuprofen in 45%, paracetamol in 35%, aspirin in 10%, naproxen in 5% and other in 5%. The mean cost of purchased NSAIDs was less than 5 rupees seen in 45%, 5-10 rupees in 20% and more than 20 rupees was in 35%. Complaint for purchasing NSAIDs was headache in 52%, fever in 34%, trauma in 2% and backache in 12%. The difference was significant (P< 0.05).

Conclusion: Commonly used NSAIDs was ibuprofen paracetamol, aspirin and naproxen.

Key words: Non- steroidal anti-inflammatory drugs, aspirin, paracetamol

Introduction

Self-medication is defined as a drug taken by the patient to treat a common illness or symptom without the advice of the physician.¹ These may include drugs and herbal remedies. Self-medication contributes to primary healthcare if practiced properly. Self-medication may lead to a positive outlook by being self-sufficient and to be in charge of ones' life, and decrease the expenses.² However, at the same time, insufficient knowledge regarding self-medication drugs may lead to life-threatening consequences. To avoid the same, there should be adequate information with the consumer.³

NSAID use patterns have been documented for various populations. In Italy, NSAID usage is common and more prevalent in the elderly and in females. NSAID adverse effects have been extensively surveyed, particularly in the last decade, and in high risk patients, including the elderly.⁴ The numerous factors inherent to the elderly, such as comorbidities and polypharmacy, as well as physiological changes that modify pharmacokinetics and pharmacodynamics, make the aged highly susceptible to develop drug related problems. Literature supports the higher incidence of NSAID adverse effects in the elderly.⁵ A Spanish study conducted in the elderly determined that NSAIDs are among the

three groups with the highest percentage of potentially inappropriate medication, especially in patients with moderate and high blood pressure, heart failure and chronic kidney disease. The most prevalent NSAID adverse effects are gastrointestinal or cardiovascular in nature.⁶ The present study was conducted to assess self-medication patterns of non-steroidal anti-inflammatory drugs.

Materials & Methods

This study comprised of 58 pharmacies of given area. Ethical clearance was obtained before starting the study.

Information such as type of NSAIDS used by community in 58 pharmacies was recorded. Complaint for purchasing NSAIDS and cost of NSAIDS was recorded. Results of the study was assessed statistically. P value less than 0.05 was considered significant.

Results

Table I Type of NSAIDS purchased

NSAIDS	Percentage	P value
Ibuprofen	45%	0.01
Paracetamol	35%	
Aspirin	10%	
Naproxen	5%	
Other	5%	

Type I, graph I show that commonly used NSAIDs was ibuprofen in 45%, paracetamol in 35%, aspirin in 10%, naproxen in 5% and other in 5%. The difference was significant ($P < 0.05$).

Graph I Type of NSAIDS purchased

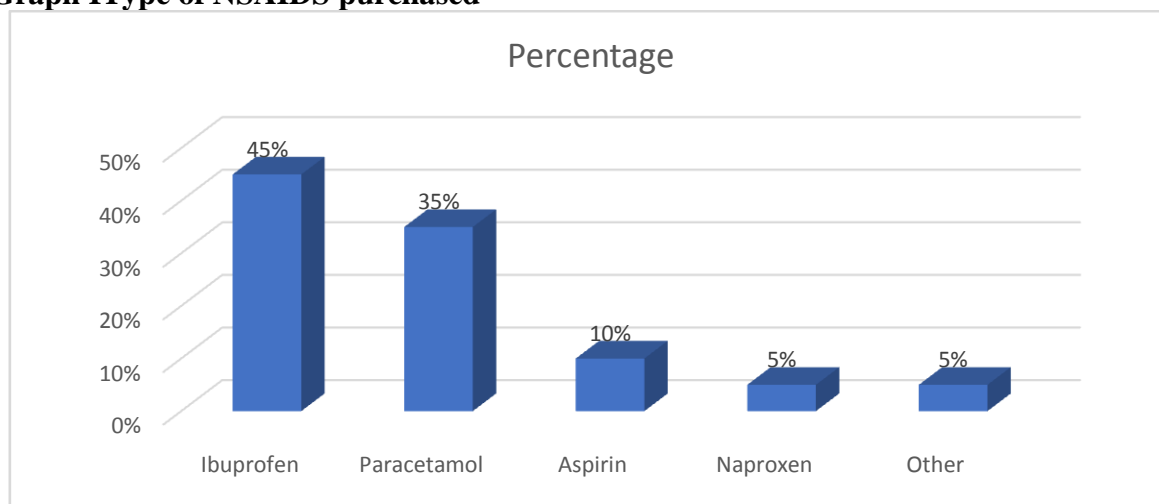


Table II Total cost of purchased NSAIDs

Rupees	Percentage	P value
Less than 5	45%	0.05
5-10	20%	
Mora than 20	35%	

Table II, graph II shows that mean cost of purchased NSAIDs was less than 5 rupees seen in 45%, 5-10 rupees in 20% and more than 20 rupees was in 35%. The difference was significant ($P < 0.05$).

Graph II Total cost of purchased NSAIDs

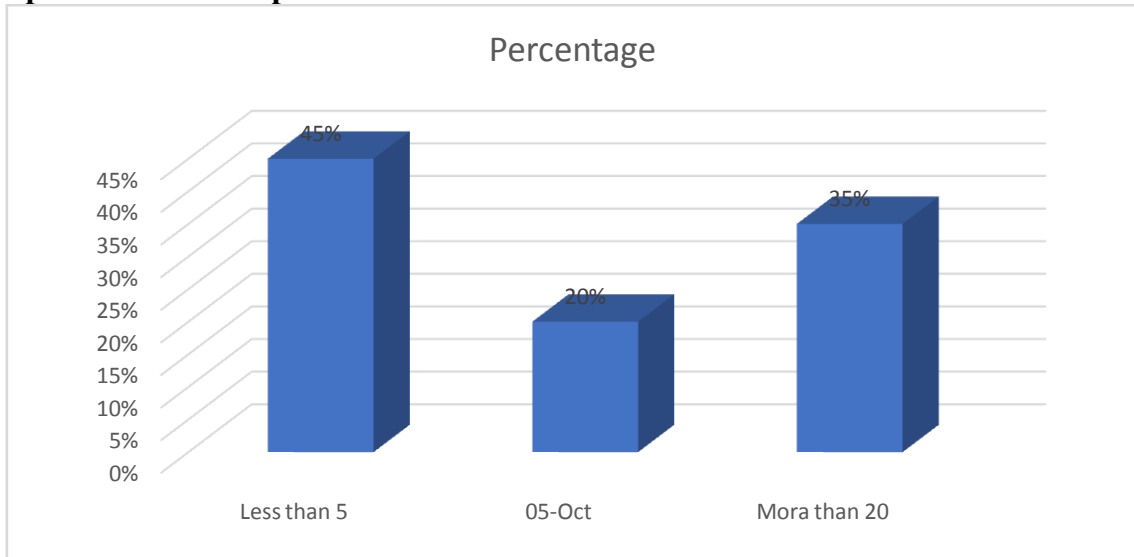
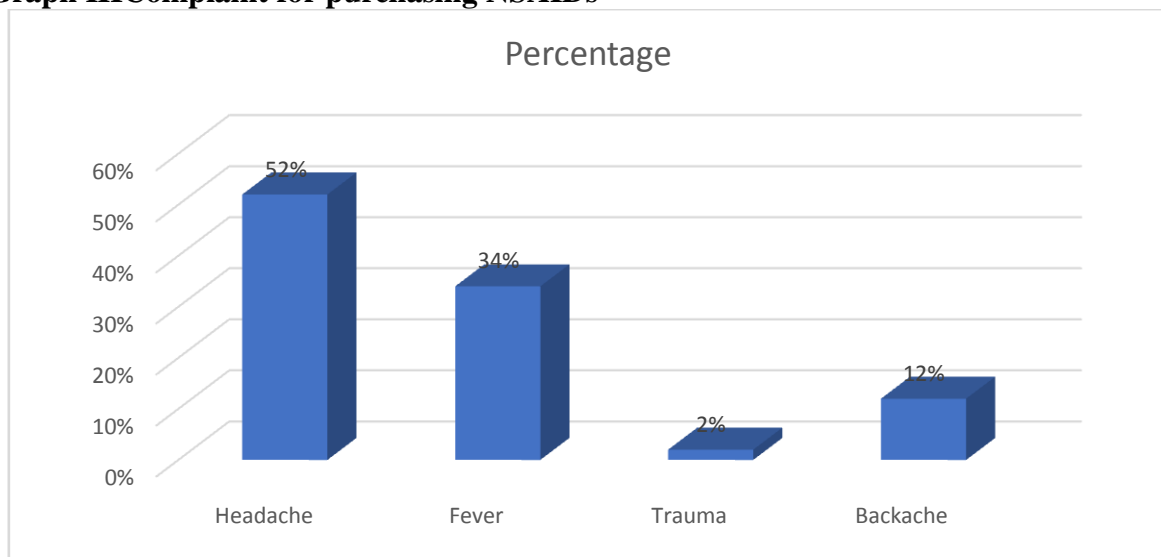


Table III Complaint for purchasing NSAIDs

Complaint	Percentage	P value
Headache	52%	0.01
Fever	34%	
Trauma	2%	
Backache	12%	

Table III, graph III shows that complaint for purchasing NSAIDs was headache in 52%, fever in 34%, trauma in 2% and backache in 12%. The difference was significant ($P < 0.05$).

Graph III Complaint for purchasing NSAIDs



Discussion

Pain is the most common symptom for which a patient seeks medication. Pain can be treated by nonsteroidal anti-inflammatory drugs (NSAIDs).⁷ NSAIDs are used for the symptomatic treatment of acute painful conditions, and also used for chronic painful inflammatory joint diseases.⁸ NSAIDs can further be divided based on their selectivity for cyclooxygenase (COX) isoforms (COX-1 and COX-2) into non-selective NSAIDs and selective NSAIDs with preferential inhibition of COX-2. The commonly used analgesic anti-inflammatory drugs are paracetamol, aspirin, diclofenac, ibuprofen, and naproxen. However, there may be serious side effects such as peptic ulcer, perforation, and bleeding.⁹ Certain types of NSAIDs if used simultaneously at a particular dose within a specified period may be contraindicated in a patient, as it may lead to serious adverse drug reactions, such as gastrointestinal bleeding.¹⁰ The present study was conducted to assess self-medication patterns of non-steroidal anti-inflammatory drugs.

In present study, commonly used NSAIDs was ibuprofen in 45%, paracetamol in 35%, aspirin in 10%, naproxen in 5% and other in 5%. Prasad J et al¹¹ in their study found that a total of 504 encounters from 24 pharmacies were interviewed. The commonest purchased NSAIDs per encounter was paracetamol (38.89%). Ibuprofen (11.91%), diclofenac sodium (12.9%), aspirin (6.94%), naproxen (6.36%) and other group all NSAIDs (23%) were also purchased. The influence by friends/ relatives (30.16%), previously advised by the doctor to purchase the NSAIDs for the same complaint were (29.36%); pharmacy salesmen's advice (28.77%) and other reasons (11.71%). The total cost of purchased NSAIDs per encounter were less than Rs. 5(7.34%) Rs. 5 to less than Rs. 10 (44.64%), Rs. 10-25 (36.11%) and more than Rs. 25(11.91%). Single item of drug was purchased along with NSAIDs by 18.4% of encounters. Fever and pain are usually the early symptoms of most of diseases. To Cure and controls of these symptoms non-steroidal anti-inflammatory drugs (NSAIDs) have taken place in a large scale. To minimize the expenditure and hazards to consult with the physician and many more reasons people use to consume NSAIDs by his own will throughout the world. As Gaya is an important pilgrimage place and district headquarter of Gaya District whose population crossed 4 lacs, so it is a must to find out the patterns and magnitude of consumption of NSAIDs in this mass population. Almost all the drugs except narcotics were found to be sold in the market without prescription.

We found that mean cost of purchased NSAIDs was less than 5 rupees seen in 45%, 5-10 rupees in 20% and more than 20 rupees was in 35%. Nunes et al¹² included a sample of 130 NSAIDs users was recruited, comprising mostly women (n=87; 66.9%), actively employed (n=77; 59.2%) and presenting a mean age of 49.5 years old (SD=20.49). An equal proportion of individuals acquired NSAIDs by self-medication and with medical prescription (n=65; 50%). Over 4/5 of patients (n=57; 87.7%) acquiring NSAIDs without a prescription were self-medicated by their own initiative, and only 10.8% (n=7) had been advised by the pharmacist. The most commonly acquired active substances were ibuprofen and diclofenac. Self-medicated users more frequently resorted to topical NSAIDs following short term treatments. The major underlying condition motivating NSAIDs sought were musculoskeletal disorders (45.0%), regardless of the regimen. An important proportion of prevalent users of NSAIDs reported previous experience of adverse effects (11.3%). One week after initiating NSAID therapy, a small proportion of patients reported incidence of adverse effects.

We found that complaint for purchasing NSAIDs was headache in 52%, fever in 34%, trauma in 2% and backache in 12%. Various studies have reported that NSAIDs may increase the risk of upper gastrointestinal complications three to five times. Various studies have shown that the use of selective cyclooxygenase-2 (COX-2) inhibitors is associated with a lower risk of gastrointestinal complications. However, they have been associated with an increased risk

of serious cardiovascular events. Thus, the safety of various NSAIDs is mainly due to their gastrointestinal and cardiovascular profile.¹³

Conclusion

Authors found that commonly used NSAIDs was ibuprofen paracetamol, aspirin and naproxen.

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