



# Research Journal of Pharmaceutical, Biological and Chemical Sciences

## Prescribing Trend of Analgesics in a Tertiary Health Care Setup of Rural Vidarbha: A Critical Appraisal

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### ABSTRACT

Pain is an unpleasant sensation occurring in varying degrees of severity as a consequence of injury, disease, or emotional upset. It is the most common symptom and is reported by more than 80% of patients. Pain assessment is the corner stone to optimal pain management. For categorization of pain, pain scales are used. Irrational prescribing of drugs is a common incidence in medical practice. The study of prescribing pattern is a significant constituent of medical audit which helps in monitoring, evaluating and building required modifications in the prescribing practices to attain a rational and cost effective medical care. The ultimate goal of this drug utilization research is to evaluate the prescribing pattern of analgesics in Acharya Vinoba Bhave Rural Hospital - a tertiary care set up of Vidarbha region. An observational study was carried over six months. 300 prescriptions were analysed. The study reflected that, anti ulcer drugs were prescribed along with analgesics to reduce the Gastric disturbances. The result revealed that Paracetamol and Diclofenac were the most commonly prescribed analgesics. The use of analgesics depends upon the severity of pain. In mild pain, analgesic mono therapy is commonly used where as analgesic poly therapy is used in moderate and severe pain. The study concludes that, the cost of therapy can be reduced by paradigm shift of prescribing brand from Brand name to Generic name. This may also, facilitate Rational use of Drugs. Pain should be assessed by using Pain Scale, so that right choice of analgesics can be prescribed according to the intensity of pain.

**Keywords:** Prescribing Trend, Analgesics, Pain, Observational Study.

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## INTRODUCTION

Pain is an unpleasant sensation occurring in varying degrees of severity as a consequence of injury, disease, or emotional disorder. It is the most common symptom and is reported by more than 80% of individuals [1]. According to International Association for the Study of Pain, it is “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”. Furthermore “Pain is always subjective. Each individual learns the application of the word through experiences related to injury in early life” [2]

Analgesics are defined as the drugs that relieve pain without blocking nerve impulse conduction or markedly altering sensory function [3]. Based on the type of relieving action, they are classified into two. Opioids inhibit pain impulses by acting on brain receptors. They can be used for short or long-term of pain, mainly by prescription, but bears a risk of drug addiction.

Non opioids, used for short term relief and modest pain, are accessible without prescription. They act by inhibiting synthesis of prostaglandins which are the molecules involved in the peripheral perception of pain [3].

For diagnosing pain, pain scales are used. These scales are developed in order to allow the patient to accurately describe their pain. According to Rhonda Graham, accepted scales of pain are: Numeric Rating Scale (NRS), the Verbal Descriptor Scale (VDS) and the Faces Pain Scale-Revised (FPSR) or Wong-Baker Faces Pain Rating [4].

Drug utilization evaluation is a onetime study to evaluate appropriateness of drug therapy. The intention is to recognize whether current patterns of prescribing, dispensing and use of drug therapy are reliable with criteria and standards These criteria and standards demonstrate the drug therapy is effective, safe, appropriate, and cost effective and support optimal patient outcome[5].

The ultimate goal of this drug utilization research is to evaluate the prescribing pattern of analgesics in a tertiary care hospital. In spite of considerable improvements in the availability and control of drugs in hospitals, rational drug use is still a worldwide problem [6].

## MATERIALS AND METHODS

The study was a retrospective observational study and conducted at A.V.B.R.H Sawangi (Meghe), Wardha, Maharashtra. On the basis of inclusion and exclusion criteria, 300 patients were selected from the IPD over a period of 6 months .Among the 300 patients,152 were male and 148 were female.

Designing a proforma for data collection. Collecting the case histories of the patient treated with analgesics in inpatient departments. Analyzing the prescriptions and categories it

into varieties based on analgesics prescribed, type of pain disorders and other patient’s related factors and concluding it.

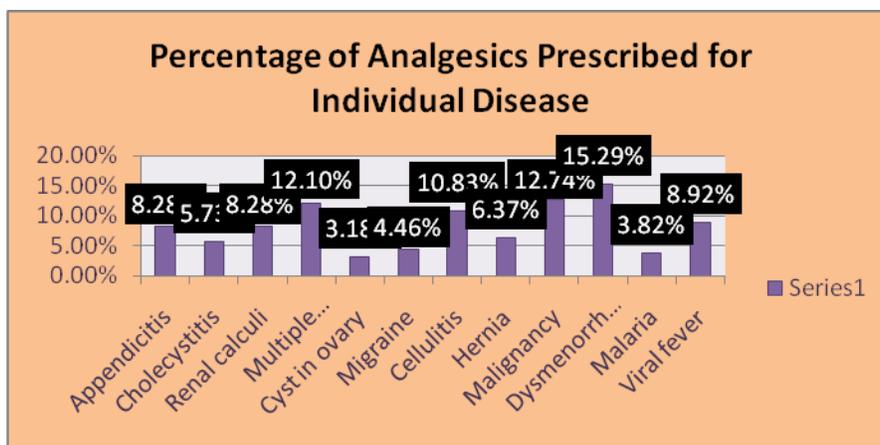
### RESULTS

During the study , it was observed that the commonest clinical indications for prescribing analgesics in the hospital were Dysmenorrhoea (15.29%), followed by Malignancy (12.74%), Multiple Injury (12.10%) and Cyst in ovary was the least diagnosed indication (3.18%).

**Table-1 Frequency of Prescriptions of Analgesics according to Diagnosis and Percentage of Analgesics Prescribed for Individual Disease**

Diagnosis	Ibuprofen + Paracetamol	Paracetamol	Mefenamic Acid	Diclofenac	Tramadol	Percentage of Analgesics for Disease
Appendicitis	11	2	-	-	-	8.28%
Cholecystitis	9	-	-	-	-	5.73%
Renal calculi	-	-	4	9	-	8.28%
Multiple injury	2	5	-	7	5	12.10%
Cyst in ovary	-	-	5	-	-	3.18%
Migraine	3	4	-	-	-	4.46%
Cellulitis	6	3	-	8	-	10.83%
Hernia	-	-	5	5	-	6.37%
Malignancy	-	1	-	7	12	12.74%
Dysmenorrhoea	7	2	15	-	-	15.29%
Malaria	-	6	-	-	-	3.82%
Viral fever	1	8	-	5	-	8.92%
<b>Total</b>	<b>39</b>	<b>31</b>	<b>29</b>	<b>41</b>	<b>17</b>	
<b>Percentage of Analgesics Prescribed</b>	<b>24.84%</b>	<b>19.75%</b>	<b>18.47%</b>	<b>26.11%</b>	<b>10.82%</b>	

**Fig-1 Percentage of Analgesics Prescribed for Individual Disease**

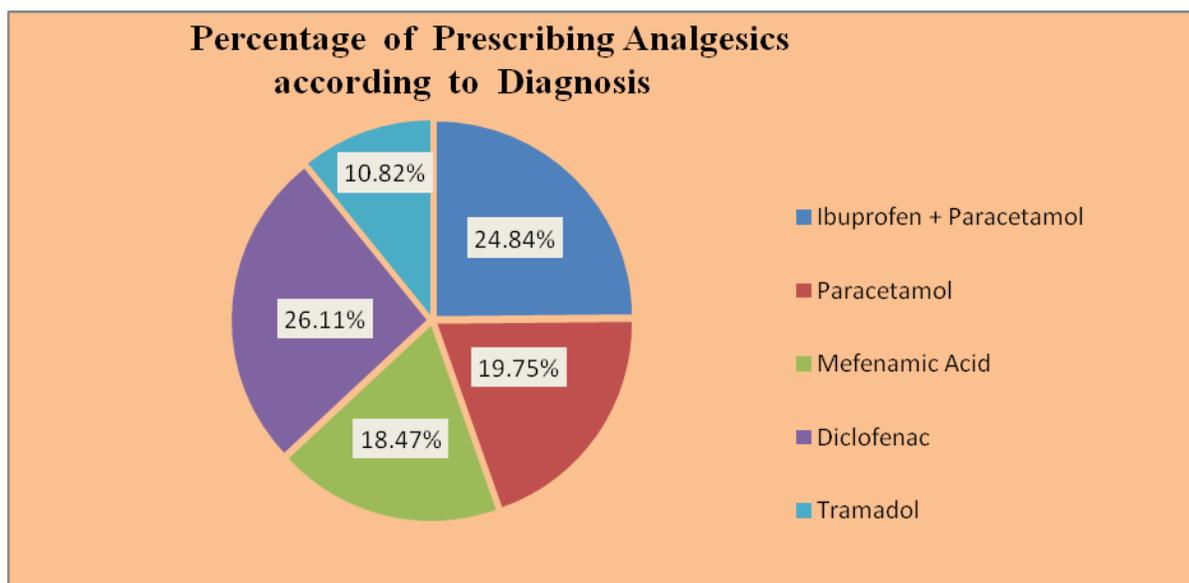


Out of 300 prescriptions reviewed a total of 157 analgesics were prescribed. Diclofenac was the most commonly prescribed among all analgesics (26.11%), prescribed mostly for Renal Calculi. Around 24.84% of Ibuprofen and Paracetamol combination were given among total analgesics, mostly given for Appendicitis followed by Cholecystitis. Paracetamol was found 19.75% among prescribed analgesics, Mostly it was given for Viral Fever.

Mefenamic acid was found in 18.47% of total analgesics. Mostly it was prescribed for Dysmenorrhoea. Tramadol was found to be given in 10.82% of total analgesics. It was used for Malignancy and for Multiple Injury. **(Table-1, Fig-2)**

When considering the mode of prescribing of analgesics, the percentages of drugs prescribed in generic names in the hospital were 15.92% which was low compared to the brand name 84.08% **.(Table-2, Fig-3)**

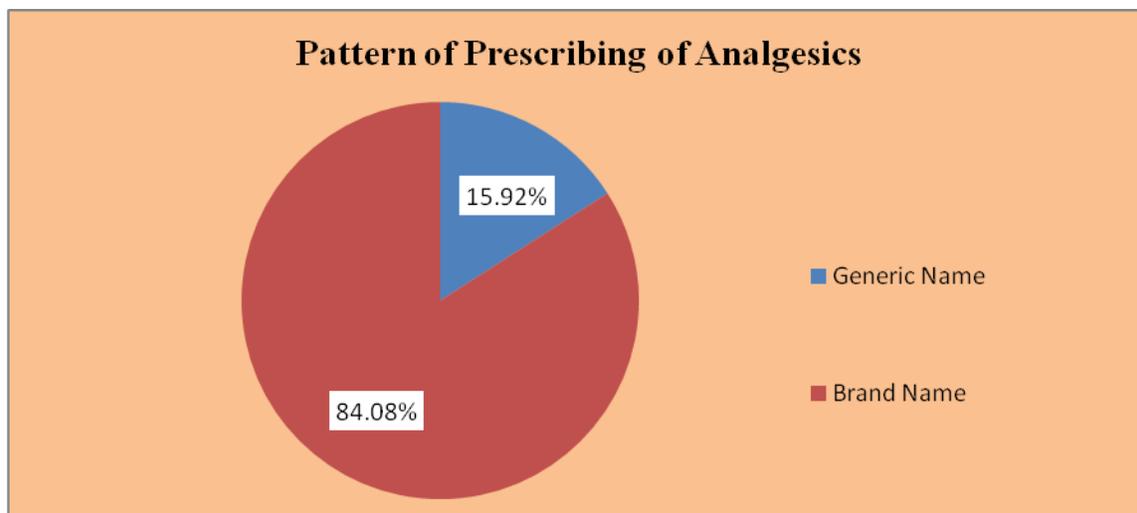
**Fig-2 Percentage of Prescribing Analgesics according to Diagnosis**



**Table 2 - Methods of Prescribing Pattern of Analgesics**

Prescribing Pattern	Number of Drugs	Percentage
Analgesic prescribed in Generic name	25	15.92%
Analgesic prescribed in Brand name	132	84.08%
<b>Total</b>	<b>157</b>	<b>100%</b>

**Fig-3 Pattern of Prescribing Analgesics**



### DISCUSSION

From the study we can summarize that Diclofenac was most commonly used analgesic, this may be due to its efficacy when compared to others. A similar study was conducted by Rauniar G.P[7].

The percentages of drugs prescribed in generic names were determined because generic prescription has got special importance for rational use of drug as regards to cost, safety and efficacy by permitting the identification of the products by its scientific names (Ara and Chowdhury, 2001) [8].

Moreover, generic drugs by allowing the recognition of the products by its scientific names provides easier for the prescribers, dispenser and users choose between many alternative competing in terms of quality, price or convenience. It has been founded that generic prescribing percentage were less in hospital compared to the brand name prescribing.

Though the practice of generic name was found to be very low previously in a teaching hospital (Ali and Chowdhury, 1993)[9]. As analgesics are sold in the market in trade name, therefore prescribers do not have much option in this opinion. Pressure from pharmaceutical companies may be one of the reasons for writing trade name. It was observed that in Cyprus, 20% of drugs were prescribed as generic (WHO Report, 1993).

### CONCLUSION

The result shows that, Diclofenac and Paracetamol were the most commonly prescribed analgesic, it may due to its lesser side effects and their effectiveness when compared to others.

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).



Although there are scopes for improvement of rational prescribing by introducing appropriate educational interventions, these may be considered as an effort to improve quality of health care.

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