

Original article:

Pattern of drugs use in orthopaedic outpatient department in a tertiary care teaching hospital in West Bengal

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ABSTRACT:

Introduction- Periodical evaluation of prescriptions is necessary to enhance therapeutic efficacy and decrease side effects. Orthopaedic Outpatient Department (OPD) plays an important role in health sector as many patients attend with different complains.

Methods-Two hundred newly patients attended Orthopaedic OPD were included in this study on the basis of subject selection criterias.Prescriptions were collected from selectedpatients. No follow up of prescription was done.

Result –Non-Steroidal Anti-inflammatory Drugs (NSAIDS) groups prescribed much (93%), in which ibuprofen is prescribed frequently (91.5 %) . Gastro-protective agents prescribed secondly in which rabeprazole is commonly prescribed drug (86.5 %). Drugs prescribed as generic name commonly (98.5 %). Majority prescriptions contained 3-4 drugs.

Conclusion: NSAIDS are commonly prescribed drugs, followed by gastroprotective agents. The rate of generic prescription is very high and drugs are prescribed in rational way.

Key words:NSAIDS, generic name, cross sectional study

INTRODUCTION

The World Health Organization (WHO) addressed drug utilization as the marketing, distribution, prescription and use of drugs in a society, considering its consequences, either medical, social, and economic.¹

Periodical evaluation of drug prescription is necessary to find out the essential drugs for the particular region or community and to promote rational use of medicine. Periodic evaluation of drug prescription will help to enhance therapeutic efficacy with less side effects.²

Orthopaedic Outpatient Department (OPD) have an important role in health sector. Lot of patients attend this OPD for treatment. Although bone fractures, soft tissue injuries etc are managed by emergency section of Orthopaedics, still patients

with congenital anomalies, chronic pain, joint stiffness attend the OPD.

On this background the study was designed to evaluate the pattern of drugs use among patients attending orthopaedic OPD.

AIM

To evaluate the pattern of drugs use among patients attending orthopaedic OPD.

METHODS

The study was conducted after obtained permission of Institutional Ethics Committee.The patients who gave consent were enrolled in this study on basis of subject selection criteria. All patients with 18-70 years of age, either sex, came in Orthopaedic OPD for first visit were included in this study. However, patients came with emergency conditions (fracture, soft tissue injuries etc),pregnant, lactating mother, unconscious and patients with addiction or mental

retardation were excluded from this study. All data were collected during June-August, 2017.

The study was conducted in the OPD of Orthopaedic Department, College of Medicine & JNM Hospital, WBUHS, Kalyani, Nadia, WestBengal. Data store, Data compilation and Statistical analysis were performed in Department of Pharmacology, College of Medicine & JNM Hospital, WBUHS, Kalyani, Nadia, WestBengal.

The study was Cross sectional, Observation, Unicentric study.

All data were collected during June-August, 2017.

Study methodology: The cross sectional, unicentric study was conducted in the Orthopaedics OPD of a tertiary care, teaching hospital in West Bengal during from July 2017 to September 2017. Prescriptions were collected from patients attending the Orthopaedics OPD. No follow up of prescription was done. Data were collected from

prescription and analysis were done after completion of 200 prescriptions.

This cross sectional, unicentric study was conducted in the Orthopaedics OPD of an urban, tertiary care, teaching Hospital in West Bengal. New prescriptions were collected from patients attending the OPD during June –August 2017. The drugs use pattern was analysed. No follow up of prescriptions were included in this study.

The parameters included gender distribution, age of the patients, type of illness, type of drugs prescribed, drugs prescribed either generic form or brand name, combination drug prescriptions were collected from prescription.

RESULT

200 patients attended first time in Orthopaedics OPD ,satisfied the subject selection criterias were included in this study. Different parameters are noted from their prescription.

Gender –wise Patients distribution is presented in table 1.

Table 1. Gender wise distribution of patients

Gender	No of patients	Percentage
Male	131	65.5%
Female	69	34.5 %

Age-wise distribution of illness is presented in table no 2.

Table 2. Age-wise distribution of patients

Age range	No of patients	Percentage
18-30 Years	56	28 %
31-40 Years	53	26.5 %
41-50 Years	41	20.5 %
51-60 Years	29	14.5 %
More than 60 years	21	10.5 %
Total	200	

Provisional diagnosis or various illness of patients are presented in table no 3.

Table 3. Distribution of illness

Disease /Symptoms	No of patients (N- 200)	Percentage
Low back pain	64	32%
Cervical spondylosis	28	14 %
Osteoarthritis involving different joints	29	14.5 %
Muscle spasm in different region	21	10.5 %
Shoulder pathology	12	6%
Soft tissue injury and swelling in different region	21	10.5%
Gout , Rheumatoid arthritis	13	6.5 %
Others	12	6 %

Table 4 represents the pattern of drugs use on patients attended Orthopaedics OPD.

Table 4. Pattern of drugs use

Category	Drugs	Amount	Generic/ Brand	No of patients	Percentage
Analgesic	Paracetamol	500 mg	Generic	139	69.5 %
	Ibuprofen	400 mg	Generic	183	91.5 %
	Prescription contained both Paracetamol and Ibuprofen	500 /400 mg	Generic	136	68%
	Diclofenac gel		Generic	29	14.5 %
	Patients no received any analgesic	NA	NA	14	7%
Gastro protective agents	Rabeprazole	20 mg	Generic	173	86.5
	Famotidine	40 mg	Generic	10	5%
	Pantoprazole –Domperidone	40 + 30 mg	Generic	5	2.5%
	Rabeprazole- Domperidone	20 mg+ 30 mg	Generic	2	1%
Others	Calcium	500 mg	Generic	72	36 %
	Calcium + Vit D3	500 mg + 250 IU	Generic	46	23 %
	Pregabalin + Methylcobalamin	75 mg + 250 IU	Generic	24	12 %
	Vitamin B-12	1000 mcg	Generic	12	6 %
	Serratiopeptidase		Brand	14	7 %
	B-Complex		Generic	25	12.5 %
	Thiocolchicoside	8 mg	Brand and generic	8 (3 + 5)	4 %
Antibiotics	Ciprofloxacin	500 mg	Generic	14	7 %

	Metronidazole	400 mg	Generic	13	6.5 %
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Table 5 represent the number of drugs/prescription.

Table 5. Shows the no of drugs/ prescription

No of drugs	No of patients (N=200)	Percentage
No drug / prescription	6	3 %
One drug / Prescription	6	3 %
Two Drugs / Prescription	21	10.5 %
Three Drugs / Prescription	59	29.5 %
Four Drugs / Prescription	49	24.5 %
Five Drugs / Prescription	41	20.5 %
Six Drugs / Prescription	13	6.5 %
Seven Drugs / Prescription	4	2 %
Eight Drug / Prescription	1	0.5 %

Table 6 shows number of patient receipt combination drug prescription and without any combination drugs.

Table 6. Prescription containing combination drug prescription.

	No of prescription	Percentage
Patients have received combination drug	51	25.5 %
Patients haven't received combination prescription	149	74.5 %

Table 7 shows drugs prescribed as either generic name or brand name.

Table 7. Drugs prescribed as generic or brand name

	No of prescription	Percentage
Drugs prescribed as generic name	197	98.5 %
Drugs prescribed as brand name	3	1.5 %

DISCUSSION

This is an unicentric , cross sectional observation study conducted to evaluate pattern of drugs use in this tertiary care teaching hospital.

Total 200 prescriptions are collected and evaluated in detail.

It is seen that out of 200 patients 131 were male (65.5%) and 69 patients were female (34.5 %) [Table 1].

Patients between 18-30 years (28%) and between 31-40 years (26.5%) attended OPD frequently than other age group. [Table 2]

Patients came in OPD with different complains, commonest problem was Low back Pain (32%) followed by osteoarthritis involving different joints (14.5 %).

Other illness were Cervical Spondylosis (14%), soft tissue injuries etc [Table 3].

Most commonly used drug group was nonsteroidal anti-inflammatory drugs (NSAIDS) and ibuprofen is most frequently used medication (91.5%) followed by paracetamol (69.5%).

Patients came in Orthopaedic OPD with complain of pain in different region. So NSAIDS always play an important role in therapy. 68 % patients received both paracetamol and ibuprofen. Diclofenac gel also prescribed on 29 patients (14.5 %).

Interestingly it is seen that only 14 patients (7 %) didn't receive any type of analgesic drug.

Analgesic drugs impair the gastro protective barrier, always there is a possibility to develop peptic ulcer. So gastro-protective agents are commonly prescribed along with NSAIDS.

In this study it is seen that 190 patients have prescription with a gastro-protective agent. Rabeprozole is commonly prescribed gastroprotective agent (86.5 %), followed by famotidine (5%), proton-pump –inhibitor with domperidone prescribed rarely.

Calcium is given on 72 patients (36%) whereas calcium and vitamin D combination is prescribed on 46 patients (23%).

Pregabalin and methylcobalamin combination is prescribed on 24 patients (12 %).vitamin B 12 prescribed on 12 patients (6%) whereas serratiopeptidase (7%) ,vitamin B complex (12.5 %) and thiocolchicoside (4%) prescribed infrequently. [Table 4].

We also analysis number of drugs prescribed in prescription.

It is seen that majority prescriptions contained three drugs/prescription (29.5 %) followed by four drugs/Prescription (24.5 %) and five drugs /prescription (20.5 %),no drugs was advised in 6 prescription (3%) whereas in one prescription maximum eight drugs are prescribed. [Table 5].

We also find out whether any combination drugs prescribed or not. It is seen that 51 prescriptions (25.5 %) have combination prescription whereas 149 prescriptions contained drugs without combination prescription (74.5 %).[Table 6]

Drugs prescribed in brand name was seen in only three prescriptions (1.5 %) whereas rest 197 prescriptions (98.5 %) drugs are prescribed as generic name. [Table 7].

This results correlate with previous study also. In one study it is seen that NSAIDS are prescribed most commonly followed by gastro-protective agents.²

In another study it is seen that commonly used drugs were NSAIDS and diclofenac is most frequently used, but in our study ibuprofen is commonly prescribed as it is available in in-house.

In this study it is seen that rate of generic prescription was very low. But in our study the it is observed that 98.5 % prescriptions drugs are prescribed in generic name.^{3,4}

In another study it was observed that 3-5 drugs/prescription is seen frequently, that also correlate with our study.^{5,6}

The rate of fixed dose combination drugs prescriptions is correlate with other study.⁶

In every study there is some limitation, in our study we didn't able to collect more prescriptions, not include the emergency patients, also not able to include below 18 years age group and pregnant and lactating mothers.

CONCLUSION

To conclude it can be said that NSAIDS are commonly prescribed drugs, ibuprofen is frequently prescribed medicine among NSAIDS. Gastro protective agents also co-prescribed along with analgesic NSAIDS. Frequently prescribed drug is rabeprazole. The rate of generic prescription is very high and achieve the satisfactory level and drugs are prescribed in rational way.

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