Research Article

DRUG UTILIZATION STUDY OF OSTEOARTHRITIS IN A TERTIARY CARE TEACHING HOSPITAL OF RAJASTHAN

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ABSTRACT

Osteoarthritis is a common musculoskeletal disorder of olderly people and its prevelance among relatively young people is increasing. Treatment of osteoarthritis aims at reducing pain and improving mobility. Non-steroidal anti-inflammatory drugs (NSAIDS) are most commonly used drugs for management of pain and inflammation associated with Osteoarthritis. To study the drug utilization pattern in Osteoarthritis and identify points for future intervention to improve outcomes. A total of 978 prescriptions during 6 month period from September 2011 to February 2012 were collected from Orthopedic Out patient unit of S.R.G. hospital Jhalawar. Permission was taken from institutional ethical committee. Datas was recorded in a preformed format regarding age, sex, Joint(s) affected, drug(s) prescribed and any other medicine or therapy prescribed along with pain relieving drug (Concomitant Medication). Datas were determined and charted in an excel sheet. Simple frequencies and percentages were obtained for various variables. OA was more common in Female (60.5%) as compared to male (39.5). Mostly seen in middle age group 40-60 years (65.9%). Knee joint is most common to be affected (82.9%) either unilateral or bilateral. In NSAIDS, Diclofenac topped the list either alone or in combination (63.3%). This study shows that in the drug management of OA, non-steroidal anti inflammatory drug specially Diclofenac is the most preferred drug. PCM, symptomatic Slow acting drug for OA (SYSADOA) and Non-pharmacological treatment are being under prescribed.

Keywords: Osteoarthritis, NSAIDS, SYSADOA, Knee joint, Physiotherapy.

INTRODUCTION

OA is widely known as the most frequent musculo-skeletal disorder, mainly occurring in elderly with a radiographic prevalence of nearly 70% in person >65 years. It's the major cause of pain occurrence frequently lading to functional disability ranging from slight limitation of movement to severe impairment of normal daily living activities. Therefore pain relief plays important role in treatment of OA[1].

Current recommendation for management of OA includes a combination of non pharmacological (exercise, weight reduction, education program and changes in life style) and pharmacological treatment (SYSADOA, NSAIDS, topical analgesics and intra-articular injection etc).[2,3]

SYSADOA (symptomatic slow acting drug for OA) include Diacerine, Glucosamine and its related compound, Chondroitin Sulphate. Many clinical trials have proven there safety and efficacy for symptom relief and possible structure modifying effect[4-7]. The recent EULAR (The European league against rheumatism) and OARSI (Osteoarthritis research society international) recommendation have laid down the importance of use of these disease modifying drug in OA[2,3].

Paracetamol due to its better gastro-intestinal safety profile has been recommended as the initial drug of choice for symptomatic relief in OA[2,3]. Other NSAIDS should be considered only in patients nonresponsive to PCM. Among pharmacological treatment NSAIDS remains the most widely prescribed drug for OA despite the Fact that they only provide symptomatic relief and do not prevent progression of the disease[8]. More over NSAIDS cause serious adverse effects especially on long term use.

Keeping the present scenario in mind a prospective study was planned, conducted and analysed for prescribing pattern of drugs in OA Vis-à-vis the standard recommendation as in the process provide considerable feedback to prescribing clinicians. A prescription based survey is considered to be one of the most effective method to assess and evaluate the prescribing attitude of clinicians[9,10]. Also it was seen in many studies that OA was more common in Female as compared to male. This difference may be explained because the females in our region have lack of physical activity, mobility, social issues[11,12]. In several studies it was found that Diclofenac, Ibuprofen and Paracetamol made the DU 90% segment (Drug utilization segment is the number of drugs accounts for 90% total drug use)[13].

MATERIALS AND METHODS

Patients attending Orthopedic OPD of SRG hospital Jhalawar Rajasthan during the period of Sept2011 to Feb 2012 diagnosed and treated for OA (Knee, hip, and others joint) were included in this study. But we excluded OA of spine because in many prescriptions lumber or cervical spondylosis was not differentiated from back and

neck pain due to non degenerative causes. Nine hundred and seventy eight (978) prescriptions from such registered patients were collected. Permission for this taken from institutional ethical committee. Data was recorded in a preformed format regarding age, sex, Joint(s) affected, drug(s) prescribed and any other medicine or therapy prescribed along with pain relieving drug (Concomitant Medication). They were analyzed on parameters such as demographic profile and NSAIDS usage Pattern.

RESULTS

Total of 978 prescriptions collected during study period were analyzed. Demographic profiles of patients were shown in table no. 1. OA was more common in Female (60.5%) as compared to male (39.5). The prevalence of OA in this study was more common in middle age group 40-60 years (65.9%) as the age increases female affects more.

Table 1: Demographic Profile

Age group	Male	Female	Total	Percentage (%)
<40	45	72	117	11.9
40-60	271	374	645	65.9
61 & Above	71	145	216	22.2
Total	387	591	978	100
%	39.5	60.5		

Knee joint is most common to be affected (82.9%) either unilateral or bilateral (table 2). Hip cases were 10.9% while 6.2% cases were of OA of others joints like Shoulder, wrist, Ankle.

Table 2: Location of symptoms

Site	Number	Percentage (%)
Knee	811	82.9
Hip	107	10.9
Others Joints	60	6.2
Total	978	100

Study shows that only 3.3% prescriptions having one drug while 19.8% prescription having two drugs separately or in combination, rest 76.9% were having more than two drugs (table 3).

Table 3: Number of drugs in prescription

Drugs per prescription	Number	Percentage (%)
Single drug	32	3.3
Two drugs/Combination	193	19.8
More than two drugs	753	76.9
Total	978	100

Table 4: Concomitant medications

Type of treatment prescribed	Number	Percentage (%)
Advise for physiotherapy	145	14.8
Gastro-protective drug	485	49.6
Topical Gel	193	19.7
Other (Vit, cal, antioxidants)	706	72.1

Non-pharmacological (advise for physiotherapy) treatment were seen in 14.8% while gastro-protective drug in 47.5% and adjuvant therapy (vitamin, calcium anti-oxidant) was prescribed in 71.2% (table 4).

As for as NSAIDS concerned Diclofenac topped the list either alone or in combination (63.3%) followed by Paracetamol, Aceclofenac and Ibuprofen (table 5). The newer drugs like Eterocoxib (23%), Diacerine (16.8%) were under prescribed.

Table 5: Drugs prescribed

Name	Prescribed as single drug	Prescribed in combination	Total prescribed	Percentage (%)
Diclofenac	435	184	619	63.3
Paracetamol	-	321	321	32.9
Ibuprofen	80	82	162	16.6
Aceclofenac	76	102	178	18.2
Tramadol	55	80	135	13.8
Nimesulide	35	91	126	12.9
Naproxan	14	-	14	1.43
Piroxicam	22	-	22	2.24
Eterocoxib	224	-	224	22.9
Diacerine	92	72	164	16.8
Glucosamine	206	72	278	28.4

DISCUSSION

In this study OA was more common in Knee joint and female are more commonly affected due to excessive use of squatting and cross-leg sitting positions in Indian customs.

Despite better role of SYSADOA in OA, in this study this was under prescribed. May be because most of the Patient attending OPD demands medicine which is supplied free from hospital counter hence Diclofenac, PCM and Ibuprofen and their combinations accounts for 90% of total drug use which are all freely supplied from hospital.

PCM alone is least prescribed, could be because symptoms modifying efficacy of Paracetamol is suspect and perceived by most clinicians[16]. Also true that majority of Patients believed this drug only for fever. Non-pharmacological treatment (exercise, advise for weight reduction, change in life style) has qualitative role in treating OA. But in our study it was found in only 14.8% of prescriptions.

CONCLUSION

This study shows that in the drug management of OA, non-steroidal anti inflammatory drug specially Diclofenac is the most preferred drug. PCM, SYSADOA and Non-pharmacological treatment are being under prescribed.

WHO suggests that drug utilization studies are needed in every health care setting. Data are useful for preparing Essential Drug Lists and standard treatment protocol. For a developing country like India, a National Drug Policy is needed to rationalize the drug use. To achieve this, it is very important to determine drug use pattern and monitor drug use profile over the time.

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