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Relative Prescribing of NSAIDs in Management of Musculoskeletal Pain

Khawaja Tahir Mahmood, Asma Iqbal, Hira Maqbool
Pharmacy Department, Lahore College for Woman University
Drug Testing Lab, Lahore

Abstract:
The purpose of study was to collect observations for the long-term use of non-steroidal anti-inflammatory drugs (NSAIDs) in primary care practice for musculoskeletal pain management, particularly for patients at high risk for NSAID-induced complications. It was observational study of 50 patients of musculoskeletal pain and a survey among prescribers for highly prescribed NSAIDs conducted at Myo hospital Lahore and Services hospital Lahore and common prescribing trends of NSAIDs among prescribers were evaluated and represented. Data was analyzed and comparison was made between prescribing priorities of prescribers. The analysis revealed guided prescription, inappropriate patient counseling regarding gastropathy and more than one NSAIDs in one prescription. It was concluded that gastropathy was the major ailment of geriatrics. But it can occur at any age. Musculoskeletal pain can be due to poor nutrition, wrong body postures or it may be secondary to some other disease NSAIDs are the first choice for analgasia in this condition long term use of NSAIDs can cause moderate to severe gastropathy.

Key Words: Musculoskeletal pain, Fibromyalgia**,** Joint pain**,** Non-steroidal anti-inflammatory drugs (NSAIDs), Inflammation

INTRODUCTION:

Musculoskeletal disease accounts for a large proportion of a general practitioner's (GP's) workload. Osteoporosis creates a huge socioeconomic burden of disease and disability. Identifying high-risk groups in primary care and using preventative treatment can result in a substantial reduction in morbidity and mortality. GPs can help by presenting a unified lifestyle message, advising on fall prevention, and providing effective treatment; in particular, calcium and vitamin D for female nursing home residents. Osteoarthritis is eminently treatable in primary care with a number of management options for GPs, in addition to drug therapy. Post marketing surveys have been used to support claims that the new NSAIDs have few gastric or renal side effects. Using Misoprostol in conjunction with traditional NSAIDs reduces gastric and renal adverse effects. Misoprostol can be taken at the same time as NSAIDs or in a combination tablet. [1]

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 orthopedic 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 labor. [4]

Chronic pain is a significant public health burden. Several international guidelines and influential reviews recommend the use of paracetamol (acetaminophen) as the first-line analgesic of choice for the management of chronic pain. These recommendations are based largely on the balance of evidence, which favorably demonstrates the efficacy, safety, and low cost of paracetamol relative to other analgesics. [5]

Use of non-steroidal anti-inflammatory drugs (NSAIDs) increases the risk for hospitalization and death from gastrointestinal bleeding and perforation. The extent to which NSAIDs are prescribed unnecessarily and NSAID-related side effects are inaccurately diagnosed and inappropriately managed should be identified. [6]

Non-steroidal anti-inflammatory drugs (NSAIDs) are used widely to relieve pain, with or without inflammation, in people with both

acute and chronic musculoskeletal disorders. Over 20 NSAIDs, available in at least 40 different formulations, are listed in the British National Formulary. The efficacy of specific NSAIDs is hard to predict in individual patients, unwanted effects are common and some are serious. In this article we offer guidelines for the rational and safe use of NSAIDs for musculoskeletal disorders in adults. [18]

Millions of patients take analgesic and antiinflammatory medications regularly. The reasons are simple: these drugs are effective in relieving pain and inflammation, and aspirin provides protection from cardiovascular thrombosis.Osteoarthritis and other painful chronic conditions occur in a population of patients who often have coexisting medical conditions, including conditions associated with an increased risk of cardiovascular disease. Thus, aspirin is frequently prescribed for patients taking other analgesic and antiinflammatory agents. Since the mechanism of action of all these drugs is the inhibition of the cyclooxygenase (COX) enzymes, their adverse-event and efficacy profiles may change when they are used in combination. The choice of therapeutic agent should otherwise be based on the preference of the patient with respect to efficacy and tolerability.[11]

Chronic musculoskeletal pain is a major and growing burden on today's aging populations. Professional organizations including the American College of Rheumatology (ACR),American Pain Society (APS) and European League Against Rheumatism (EULAR) have published treatment guidelines within the past 5 years to assist clinicians achieve effective pain management. Safety is a core concern in all these guidelines, especially for chronic conditions such as osteoarthritis that require long-term treatment. Hence, there is a consensus among recommendations that paracetamol should be the first-line analgesic agent due to its favorable side effect and safety profile, despite being somewhat less effective in pain relief than anti-inflammatory drugs. Cyclooxygenase-2 (COX-2)-selective anti-inflammatory drugs were developed with the goal of delivering effective pain relief without the serious gastrointestinal (GI) side effects linked with traditional non-selective non-steroidal anti-inflammatory drugs (NSAIDs). [12]

Aim of study was to evaluate relative prescribing trends among physicians enlisting 42 physicians and 50 patients of musculoskeletal pain. Side effects of NSAIDs such as gastropathy were also taken under consideration while analyzing data.

MATERIALS AND METHODS:

This observational study was conducted at Myo hospital Lahore and Services hospital Lahore enlisting 50 patients of musculoskeletal pain. The patients fulfilling these inclusion criteria: Patients with musculoskeletal pain, mentally healthy people, Patients using NSAIDs. The following patients were excluded from study: Patients with surgeries of bones, mentally retarded patients, Patients with muscle pain other than skeletal muscles (i.e. smooth muscles).

RESULTS AND DISCUSSION:

During the study, case studies of 50 patients were considered having musculoskeletal pain 19 of them were males and 31 were females, they were suffering from different types of musculoskeletal pain such as knee pain, back pain rheumatoid pain and joint pain.(Fig 1)

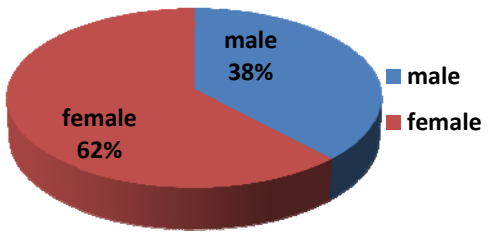

Figure1: Patient's demographic features

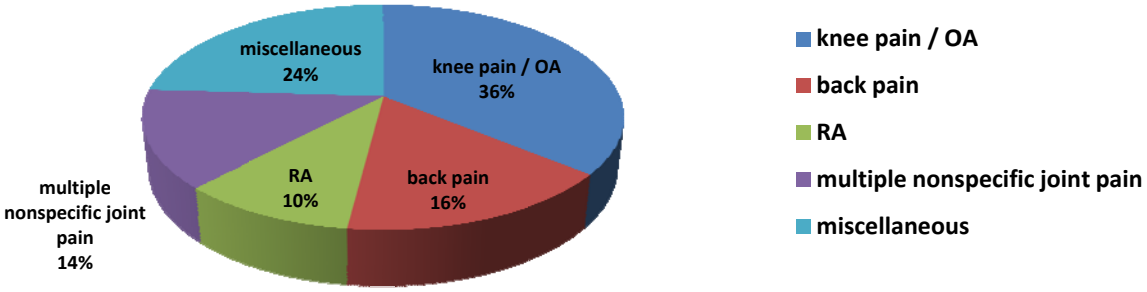

Figure 2: Stratification of musculoskeletal conditions

Prescriptions of these 50 patients were evaluated to determine the general prescribing trends of NSAIDs by physicians. Among 62% females and 38% males 36% were suffering from knee pain,16% were suffering from back pain,10% were suffering from rheumatoid arthritis pain,14% were suffering from multiple nonspecific joint pain and 24% were suffering from wrist pain, heel pain, headache and shoulder pain(Fig 2).

Study also includes views and preferences of physicians of Lahore for prescribing NSAIDs in management of musculoskeletal pain. A comparison of four mostly prescribed NSAIDs is done that is Ibuprofen, Diclofenac, Piroxicam and Naproxen. Study showed that 52% physicians prescribe Diclofenac,24% prescribe Piroxicam,19% prescribe Naproxen and 5% prescribe Ibuprofen for musculoskeletal pain management and for long term therapy. (Fig 3)

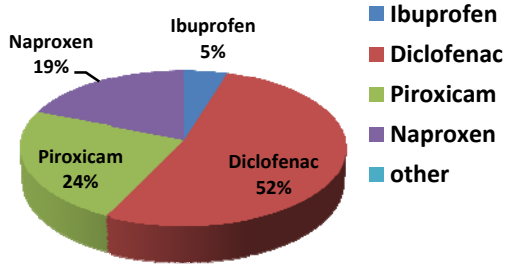

Figure 3: More often prescribed NSAIDs for musculoskeletal pain

33% physicians prescribe Diclofenac,19 % prescribe Piroxicam,22% prescribe Naproxen,12% prescribe Ibuprofen and 14% prescribe other drugs which include Panadol,Celecoxib,Nimesulide and Misoprostol.(Fig 4)

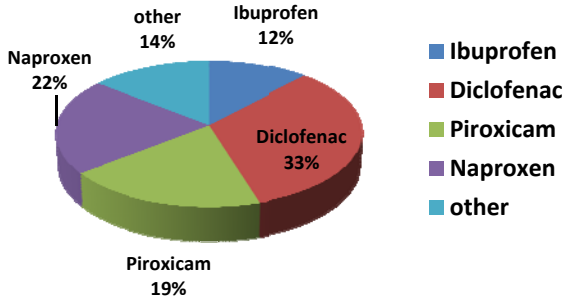

Figure 4: Preferable NSAIDs for long-term pain management

34% physicians consider Diclofenac most effective in management of musculoskeletal pain while 26 % consider Piroxicam and Naproxen as most effective and 14% physicians consider Ibuprofen as most effective drug .(Fig 5)

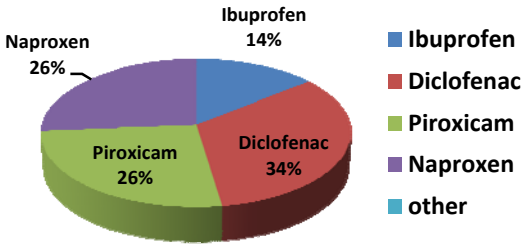

Figure 5 : More effective NSAIDs in the management of musculoskeletal pain.

38% prescribers think that Diclofenac produce maximum side effects in patients and 21% physicians think Piroxicam produce maximum side effects while 17% physicians think Naproxen and Ibuprofen as most harmful(Fig 6).

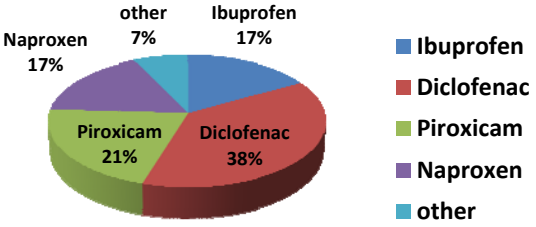

Figure 6: Which NSAIDs show greater side effects

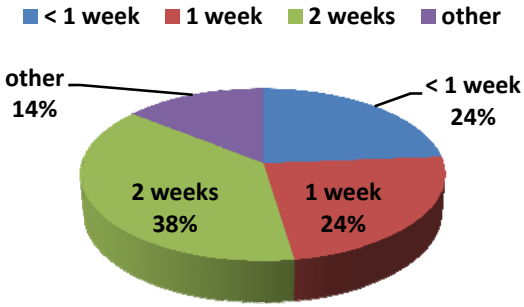

Figure 7: Minimum duration of therapy that showed the side effects

According to 38% physicians minimum duration of therapy that produces side effects is two weeks while 24% think it is one week and 24% think it is less than one week while about maximum duration of therapy that produces side effects.(Fig 7)
45% prescribes think it is one month while 12% think it is two weeks and 17% think it is three weeks (Fig 8) 71% physicians said that they don't prescribe more than one NSAIDs in one prescription and 12% said yes to this question while 17% said it depends upon condition of patient that may be arthritis and severe pain.(Fig 9)

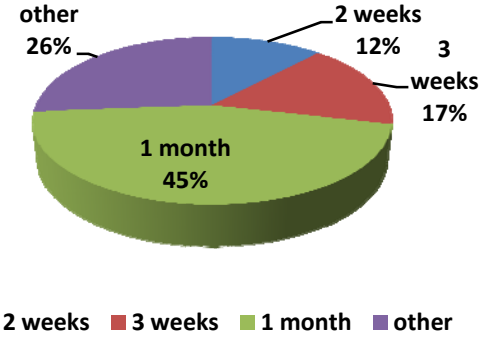

Figure 8: Maximum duration of therapy that showed the side effects

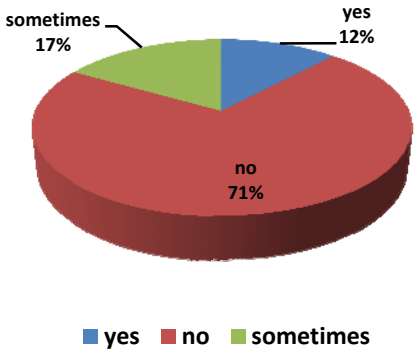

Figure 9: Prescribing more than one NSAIDs in one prescription

67% physicians prescribe COX-II inhibitors in patients with gastropathy and 19% physicians prescribe COX-II inhibitors in patients without gastropathy while 14% physicians prescribe COX-II inhibitors in other cases including rheumatoid arthiritis.(Fig 10)

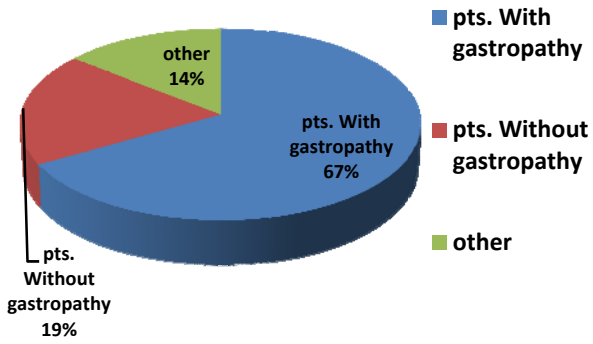

Figure 1 0: Prescribing selective COX II inhibitors

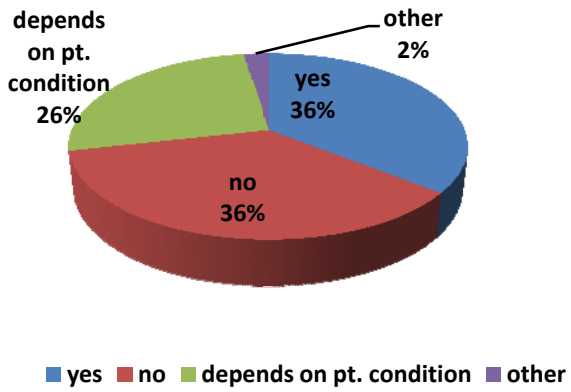

Figure 1 1: Efficacy and safety of COX II inhibitors over NSAIDs

36% physicians found COX II inhibitors more effective and safer than NSAIDs in musculoskeletal pain management and 36% physicians didn't find COX II inhibitors more effective and safer than NSAIDs in musculoskeletal pain management while according to 26% physicians it depends upon patient's condition(Fig 11)

93% physicians consider the socioeconomically status of the patient while prescribing and 2% don't do so while 5% of physicians emphasize on best drug therapy.50% physicians think socio economical status of the patient a major obstacle in the provision of best health care while other 50% of physicians think that it happens rarely or often.

Traditional pain management strategies have relied on the use of opioids, non-steroidal anti-inflammatory drugs (NSAIDs), and acetaminophen, as well as other adjuvant analgesics. Cyclo-oxygenase (COX)-2-specific inhibitors (coxibs) have an established efficacy in the treatment of chronic arthritic pain comparable to that of traditional NSAIDs, without the degree of gastrointestinal (GI) complications commonly attributed to NSAIDs. [15]

Persistent pain represents a major quality-of-life burden for patients and a challenge for their physician. Chronic pain often arises from multiple tissue sources and involves multiple chemical mediators and pain transmission pathways. Successful long-term pain management requires analgesic regimens that can treat pains of multiple origin and type. Safety and tolerability are also a high priority when prescribing chronic therapy**.** [16]

RECOMMENDATIONS:

It is recommended that basic health care facilities should be provided. NSAIDs should be started with low dose. Non pharmacological approach (exercises) should be used first. Holistic approach should be used. The practice of guided prescription should be discouraged. Complete medical history of patient should be asked. Antiulcer drugs should be given with NSAIDs to avoid gastropathy. Patients with stomach problems should be treated with COX-II inhibitors. Patient should take care of their nutrition and healthy diet should be taken. Home remedies should not be preferred and physician should be consulted. Pharmacist should perform regular monitoring in cases of physical trauma or strain. Patient care should be improved. There should be proper patient counseling. Role of pharmacist should be improved in pharmaceutical care.

CONCLUSION:

Gastropathy is the major ailment of geriatrics. But it can occur at any age. Musculoskeletal pain can be due to poor nutrition, wrong body postures or it may be secondary to some other disease. NSAIDs are the first choice for analgasia in this condition. Long term use of NSAIDs can cause moderate to severe gastropathy. Use of gastroprotective agents along with NSAIDs can avoid the GI problems.Non pharmacological approaches like exercise , weight loss, improvement in diet (calcium rich food). Hot or cold application can also be practised along with NSAIDS for analgesia.

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