Is There Scope for Improving the Cost-Effective Prescribing of Nonsteroidal Anti-Inflammatory Drugs?

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Summary

Nonsteroidal anti-inflammatory drugs (NSAIDs) are used widely throughout the world to relieve the symptoms of musculoskeletal disorders, in particular osteoarthritis and rheumatoid arthritis. These drugs have significant adverse effects, including gastrointestinal ulceration and the associated complications of perforation and bleeding.

The relative toxicity of competing forms of branded and generic NSAIDs varies considerably. Their acquisition cost also varies considerably, sometimes with relatively more toxic drugs being more expensive. Thus, it may be possible to reduce both adverse effects and pharmaceutical expenditures associated with NSAIDs, if doctors' prescribing behaviour can be changed.

A tentative exploration of alternative patterns of NSAID use demonstrates that it may be possible to reduce expenditures on NSAIDs in the UK to below the 1994 level, and reduce adverse events. If prescribing of NSAIDs was reduced by...
Nonsteroidal anti-inflammatory drugs (NSAIDs) are widely prescribed throughout the world. Their use imposes high costs on all healthcare systems and on patients. The resource consequences of NSAID use do not result purely from the price charged but also from the prevention and treatment of the significant adverse effects that occur as a result of their use.

This exploratory analysis investigates how the prescribing of NSAIDs could be made more cost effective. NSAIDs are associated with considerable purchase costs and also a significant rate of adverse effects. Both of these costs (monetary and nonmonetary) vary greatly depending on which NSAID is used. Healthcare purchasers wish to be able to clearly identify those patient groups for which NSAIDs are suitable, and to avoid those types of NSAID that result in a higher cost and incidence of adverse effects. This will allow them to minimise the costs imposed on their healthcare system and on its patients and caregivers.

1. Epidemiological Background

NSAIDs are widely used to relieve the symptoms of musculoskeletal disorders, particularly osteoarthritis and rheumatoid arthritis. In addition, they are prescribed to relieve the pain and inflammation of acute musculoskeletal injury (sprains and strains and sports injuries) and menstrual disorders. They may also have a small role in the management of patent ductus arteriosus in neonates.11

Arthritis is a common and chronic disease that, according to the WHO, affects 1 in 10 of the world's population.12 Arthritis and rheumatism are the most frequently self-reported conditions in Great Britain, with a rate of 80 per 1000 women and 40 per 1000 men.13

Wynne and Campbell11 suggest that half of all prescription use of NSAIDs is for the management of pain associated with degenerative conditions, particularly osteoarthritis. In addition, approximately 15% of NSAIDs are taken for rheumatoid arthritis. This leaves around 35% of NSAID use for other conditions.

The overall efficacy of different NSAIDs appears to be relatively similar. Consistent differences in the clinical effectiveness of individual NSAIDs has not been demonstrated,11 although there is considerable variation in individual patient response.14 However, there are significant differences between NSAIDs in the incidence and severity of adverse effects.

In the UK, 5% of all prescriptions are for NSAIDs,15 and some NSAIDs (e.g. ibuprofen) are available over-the-counter from pharmacies. They account for 25% of voluntary reports of suspected adverse effects to the UK Committee on Safety of Medicines (CSM).15 The adverse effects associated with NSAID treatment are well known and their incidence has been recorded for many years.15,6 They include a variety of serious adverse reactions, primarily involving the upper gastrointestinal (GI)