Prescribing safety:

the case of inappropriate medicines

Prescribing is a common outcome of many general practice consultations, and is the principle therapeutic intervention offered by the NHS. It is essential that this critical activity is clinically effective, cost-effective, and safe. Rates of prescribing are increasing year-on-year, with the average person in England receiving 17.8 prescription items in 2010 — an increase of 63% over the past decade.¹ The potential for adverse drug reactions is therefore considerable and growing. It is also exacerbated by the inappropriate or unnecessary use of pharmaceutical agents.

A number of articles in this month's issue of the *BJGP* examine commonly-used medicines, in particular, antibiotics, antidepressants, and benzodiazepines, which together account for over 10% of the 1 billion drugs issued last year.¹ Although perhaps not immediately evident, all these papers have implications from a safety perspective.

INAPPROPRIATE MEDICINES

Ever since Fleming's discovery of penicillin in 1928, antibiotics have been credited as one of the most important developments in medicine. However, they are also associated with numerous adverse effects, some of which can be extremely serious.² Furthermore, antimicrobial resistance is becoming increasingly prevalent and problematic,³ aggravated by a marked slowing in the development of new antibacterial agents by the pharmaceutical industry. Therefore, reducing inappropriate antibiotic prescriptions is important from both individual patient and public health perspectives.

In this issue of the *BJGP*, Jefferis and colleagues present a meta-analysis which demonstrates that antibiotics result in minimal benefit in the treatment of acute infective conjunctivitis, with most patients improving regardless.⁴ This is consistent

with prescribing advice for upper respiratory tract infection, another common self-limiting condition, where current guidelines caution against excessive use of antibiotics. Work in Sweden has shown that action to curb excessive antibiotic prescribing appears to result in lower bacterial resistance.⁵

The decision to prescribe antibiotics is influenced by more than objective clinical signs. In a study conducted in Ireland, Murphy *et al* note that private patients are significantly more likely to receive antibiotics than patients with state-funded access to health care.⁶ It is possible, of course, that patients who pay may delay consultation with their GP, resulting in more severe illness and a consequent greater need for active treatment. However, it is also possible that these discrepancies may represent differences in the way in which patient expectations are managed, and strategies to reduce excessive antibiotic prescribing should take such factors into account.

Inappropriate prescribing is obviously not just limited to antibiotics. Antidepressants — drugs with well-recognised side effects,⁷ and scant evidence for long-term use in general practice⁸ — are another area of concern. Lockhart and Guthrie report data from Tayside, showing a 3.1-fold increase in antidepressant volume between 1995 and 2006, apparently driven by multiple factors.⁹ Although much of this increase may be entirely justifiable,¹⁰ the underlying reasons should be the subject of further research, with interventions to reduce antidepressant prescribing tailored accordingly.

KNOWLEDGE GAP

As well as better knowledge of the rates of inappropriate prescribing and the reasons underlying it, we need to improve our understanding of the potential adverse consequences. Of course, the issue of drug safety is not necessarily foremost in busy GPs' minds, competing as it does with many other significant clinical issues. And,

unfortunately, prioritising the safety of medicines is made more difficult by the relative dearth of data on the prevalence of adverse reactions in the primary care environment. This is despite good evidence that they are common in hospital.

There is well recognised under-reporting of medication incidents in the community: of the 72 482 medication incident reports gathered by the National Patient Safety Agency in 2007, only 1% originated from general practice.¹¹ It has also been noted that an association exists between high prescribing and low reporting of adverse events,¹² suggesting those most willing to reach for the prescription pad and pen may also be least safety conscious. Considering the majority of prescribing in the UK occurs in primary care, a concerted effort should be made by the whole general practice community to address this information gap.

INTERVENTIONS

A number of options are available to address issues of inappropriate and excessive prescribing, although whether they translate to improvements in drug safety is difficult to say. Two possible methods are described in this issue of the *BJGP*. Mugunthan *et al* observed that brief interventions significantly reduced long-term prescribing of benzodiazepines.¹³ These drugs have well-recognised adverse effects, and the issue of dependency makes chronic use inadvisable. This approach may be applied to other areas, such as opioid use, minimising demand on resources and potentially complementing more complex interventions.

A second intervention is the delayed prescribing of antibiotics for respiratory tract infections, an approach supported by the National Institute for Health and Clinical Excellence. Interestingly, in a qualitative study, Peters and colleagues noted that prescribers did not find it a helpful strategy.¹⁴ Although benefits included safety netting, it was generally used to manage

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patients' expectations, with clinicians expressing concern that it may reinforce inappropriate consulting.

As well as methods targeted at specific clinical domains of inappropriate medicines use, broader tactics may be employed. Education is essential, and one area which would be appropriate to focus on would be the development of communication skills to enable clinicians to understand better patients' expectations and to address these in relation to prescribing.

At an undergraduate level, one example of prioritising good prescribing practice includes work by the Medical Schools Council and British Pharmacological Society to develop a Prescribing Skills Assessment for medical students. Increasing the visibility of clinical pharmacology and therapeutics within the Royal College of General Practitioner's curriculum may benefit trainees, and the recording of medication issues as part of continuing professional development for qualified GPs should be promoted.

Other generic approaches include guidelines placing increased emphasis on drug safety, inappropriate or unnecessary prescribing, and the minimisation of polypharmacy. Improved use of prescribing indicators and incentive systems could be implemented to encourage appropriate medicines use, although it is essential that such indicators are flexible and clinically relevant, taking into account diagnostic information and not simply volume of use. This can be facilitated through enhanced use of IT systems. Moreover, although generally more advanced in UK general practice than in secondary care, computer systems do not fulfil their full potential as clinical aids, and implementing good electronic clinical decision support should be encouraged.

Finally, the primary-secondary care interface should not be forgotten, with hospital discharge drugs carefully reviewed in general practice to ensure ongoing use is justified.

THE WAY FORWARD

Inappropriate use of medicines has important safety implications, and should be actively addressed. We need to

encourage research to document rates of inappropriate medicines use, describe the mechanisms underlying it, and explore methods by which it can be tackled. Better information should also be gathered about the adverse consequences of drugs in primary care, both with respect to inappropriate prescribing and more broadly. Such evidence will help foster effective and safe prescribing, and is essential to achieving overall high quality clinical care.

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