Fall in GP antibiotic prescribing has been slowest for older patients and those with an unclear diagnosis

Fewer broad spectrum beta-lactams are being prescribed suggesting GPs are opting for more targeted drugs

GP in England are prescribing fewer antibiotics and when they prescribe them they are increasingly choosing drugs that target a narrow range of organisms rather than broad spectrum antibiotics, suggests new research from King's College London published online in ***BMJ Open.***

However, falls in GPs' rates of prescribing have been smaller in some groups of patients, in particular patients aged over 55 and those with no clear diagnosis.

There has been a global drive to cut antibiotic use in response to the growing threat of antimicrobial resistance – a situation where bacteria develop resistance to antibiotics so become more difficult to treat and potentially ultimately untreatable.

The mechanism by which resistance develops is complex but the more frequently antibiotics are used, the greater the number of bacteria exposed to them and the more likely it is that those bacteria susceptible to the antibiotics will become resistant to them.

Antibiotic stewardship policies promoting more considered use of antibiotics have been introduced to slow the development of antimicrobial resistance. These policies encourage GPs to reduce prescribing of antibiotics overall, and where they are needed to choose one effective against a narrow range of bacteria over broad spectrum options, which target a wider range of bacteria.

Xiaohui Sun, PhD candidate of Population and Environmental Health Sciences, who led the research from King's College London, analysed GP prescription of antibiotics at 102 general practices in England from 2014 to 2017 by extracting data from the UK Clinical Practice Research Datalink (CRPD).

The data showed that over that period total antibiotic prescribing declined by 6.9% per year, from 608 prescriptions per 1000 person-years in 2014 to 489 per 1000 person-years in 2017.

The rate of prescribing for broad spectrum beta lactam antibiotics, which target a wide range of organisms, fell more rapidly – by 9.3% per year, from 221 prescriptions per 1000 person-years in 2014 to 163 per 1000 person-years in 2017.

Prescribing rates declined at a similar pace for male and female patients, but the rate of decline was lower for older patients (those aged over 55).

When the authors looked at the associated diagnostic codes for the prescriptions they noted that prescribing rates had declined most for respiratory infections (9.8% per year), followed by for genitourinary infections (5.7%), but had fallen by only 3.8% in cases where no medical reason for their prescription was recorded.

More than a third of antibiotics (38.8%) prescribed by GPs were associated with medical codes that did not indicate a clinical condition that would require their use, and a further 15.3% of antibiotic prescriptions had no medical codes at all recorded against them. A large proportion of prescriptions not associated with medical codes were repeat prescriptions.

One potential limitation of the study is that not all community antibiotic prescribing may have been fully recorded, the authors point out, as prescribing by out-of-hours services, walk-in and urgent care centres may not have made it into the electronic record. Prescribing data from specialist clinics and hospitals was not included and these services may have issued some community prescriptions.

On the other hand, as the study looked at the number of prescriptions written not the number of antibiotic prescriptions dispensed, the study could not determine whether GPs used a delayed or deferred antibiotic prescribing strategy. If that was the case, antibiotic consumption would be slightly lower than antibiotic prescription, the authors added.

A strength of the study was that it looked at prescribing habits at the same practices over four years. Sun concluded: “Antibiotic prescribing has reduced and become more selective but substantial unnecessary antibiotic use may persist. Improving the quality of diagnostic coding for antibiotic use will help to support antimicrobial stewardship.”