

Prescribing of antibiotics to children still at a level to cause drug resistance, warn experts

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Regular prescribing of antibiotics to children in the community is sufficient to sustain a high level of antibiotic resistance in the population, warn experts in a study published on bmj.com today.

UK general practitioners are strongly encouraged to reduce antibiotic prescribing to minimise the risk of drug resistance, yet prescribing antibiotics to children remains common practice, write David Mant and colleagues at the University of Oxford.

A paper published in 1999 reported that over half (55%) of children aged 0-5 years in the UK (the group of patients who receive most antibiotics in the community) receive an average of 2.2 prescriptions for a β -lactam antibiotic like amoxicillin from their general practitioner each year.

Although a reduction in prescribing (and the strategy of recommending a 24-48 hour delay before filling antibiotic prescriptions) has probably resulted in about a 40% fall in consumption since then, unpublished data suggest that community antibiotic prescribing is again rising, they say. This week's BMJ also reports on a study showing that UK GPs are still prescribing antibiotics for a large proportion of patients with minor infections, despite national guidance.

So they set out to assess the effect of antibiotic prescribing on antibiotic resistance in individual children in primary care.

They identified 119 children attending general practices in Oxfordshire with acute respiratory tract infection, of whom 71 received a β -lactam antibiotic (amoxicillin) and 48 received no antibiotic. Background medical information was recorded and throat swabs were taken at the start of the study and again at two and 12 weeks to measure whether resistant bacteria were present.

Resistant bacteria were identified by the presence of a gene which codes for antibiotic resistance.

In children who did not receive an antibiotic, there was no increase in the proportion carrying resistant bacteria in the throat from the initial level at 2 or 12 weeks.

However, in children who received an antibiotic, the number carrying resistant bacteria more than doubled at the two week follow-up, but fell back close to the initial level by 12 weeks.

These results show that prescribing amoxicillin to a child in general practice doubles the risk of recovering a β -lactam resistance element from that child's throat two weeks later, say the authors. Although this effect is temporary in the individual child, it may be sufficient to sustain a high level of antibiotic resistance in the population, they warn.

Cutting resistance rates will require substantial and sustained changes in antibiotic prescribing in the community, they say. Options include shorter courses of treatment or only prescribing antibiotics in well defined and exceptional circumstances.

Source: British Medical Journal

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