

Antibiotics for lower respiratory tract infection in children presenting in primary care: ARTIC-PC RCT

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Plain language summary

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Background

Children are commonly prescribed antibiotics for chest infections, but such infections are becoming resistant to antibiotics, and it is not clear if antibiotics work in treating them.

Methods

A total of 432 children who saw their general practitioner with a chest infection were given either an antibiotic (amoxicillin) or a placebo (no antibiotic) for 7 days. Symptom diaries documented the infection's duration and its side effects. Children not in the placebo study were able to participate in another study that documented the same outcomes (an 'observational study'). We interviewed parents, doctors and nurses about their observations and concerns. Our patient and public involvement and engagement work with parents indicated that a 3-day symptom reduction was required to justify giving antibiotics.

Results

After seeing the doctor, parents whose children received antibiotics rated infective symptoms as moderately bad or worse for 5 days, and parents whose children received the placebo rated these for 6 days. Side effects and complications were similar in the two groups. Findings were similar when including the results of the observational study, and for children in whose chest the doctor could hear wheeze or rattles; who had fever; who were rated by the doctor as more unwell, who were short of breath, or who had had bacteria detected in the throat. The costs to the NHS per child were similar (antibiotics, £29; placebo, £26), and the wider costs to society were the same (antibiotics, £33; placebo, £33).

Parents found it difficult to interpret their child's symptoms, and commonly used the sound of the cough to judge severity. Parents commonly consulted to receive an examination and reassurance, and accepted that antibiotics should be used only when 'necessary'. Clinicians noted a reduction in parents' expectations for antibiotics.

Conclusion

Amoxicillin for chest infections in children is unlikely to be effective. General practitioners should support parents to self-manage at home and give clear communication about when and how to seek medical help if they continue to be concerned.

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