



Medicines Evidence Commentary

commentary on important new evidence from Medicines Awareness Weekly

Published: October 2019

Antibiotic prescribing for respiratory tract infections in children: study finds antibiotic-seeking behaviour by parents does not influence prescribing

A qualitative and quantitative study in English general practice found that parents of children with apparent respiratory tract infections communicated the problem to the clinician in 5 different ways. The study concluded that clinicians potentially misinterpreted some presentations as antibiotic-seeking behaviour when they were not. There was no association between the different ways the problem was presented and resulting antibiotic prescribing decisions. NICE has published [antimicrobial prescribing guidance for many conditions](#) and the NICE key therapeutics topic [antimicrobial stewardship: prescribing antibiotics](#) summarises available resources and practical advice.

Overview and current advice

The substantial public health threat posed by growing antimicrobial resistance is widely known, and a major cause of this – overprescribing of antibiotics for self-limiting, often non-bacterial conditions – is widely acknowledged. Many prescribers cite antibiotic-seeking behaviour and expectations of patients and carers as important drivers for such prescribing.

The NICE key therapeutics topic [antimicrobial stewardship: prescribing antibiotics](#) summarises the available evidence on the topic, including NICE guidelines on [antimicrobial stewardship: systems and processes for effective antimicrobial medicine use](#) and [antimicrobial stewardship: changing risk-related behaviours in the general population](#), together with links to resources and practical advice.

New evidence

Researchers undertook qualitative and quantitative research to explore the communication patterns of parents in primary care consultations for children with apparent respiratory tract infections. They aimed to find out if certain types of communication were particularly associated with antibiotic prescribing ([Cabral et al. 2019](#)).

The primary data consisted of video recordings of 56 consultations for children aged 3 months to 12 years in 6 general practices in the south west of England between May and December 2013. Most (78%) children were aged under 5 years. The clinicians were 9 GPs, 3 nurse practitioners and 1 physician's assistant. The sample of children and parents was diverse: people came from deprived and affluent neighbourhoods and included people of white British (64%), eastern European (13%),

black (16%), Asian (4%) and mixed (4%) ethnicity; 23% of consultations included non-native speakers of English. The authors developed a comprehensive coding system to analyse the consultations with a method that included code development, testing and review.

The authors identified 5 different types of problem presentation by parents:

1. **Symptoms only (23/56, 41%)**: for example, “she’s had a cold and a cough, er, for about a couple of weeks now... ..the cough’s sort of getting worse. She’s still got a bit of a runny nose. Erm, and it’s sort of waking her up at night. And I just really wanted some guidance.”
2. **Viral candidate diagnosis (11/56, 20%)**: for example, “it looked like it was a viral infection.”
3. **Candidate explanations (7/56, 13%)**: for example, “I think sometimes he’s just coughing so much that he’s ending up being sick.”
4. **Antibiotic implicative symptoms only (8/56, 14%)**: for example, “she’s now sounding really phlegmy, and right on the chest.”
5. **Antibiotic implicative candidate diagnosis (7/56, 13%)**: for example, “she’s had a really bad chest infection.”

The authors state that the first 3 of these, characterising about three quarters of consultations, did not imply expectation of antibiotic treatment. The other 2 problem presentations suggested candidate diagnoses or symptoms that, they say, a clinician might understand to imply a possible need or expectation for antibiotic treatment. However, the authors did not report any explicit requests for antibiotic treatment.

The most common treatment recommendation was home care only (31/56, 55%). This varied widely from a simple watch and wait strategy to detailed instructions about how to manage the symptoms. Antibiotics were prescribed in 12 (21%) cases (immediate antibiotics in 8 of these and back-up prescriptions in the other 4). In 3 cases (5%) only paracetamol and non-steroidal inflammatory drugs were prescribed (plus a cough mixture in 1 of these cases), in response to direct requests from parents. Oral or inhaled steroids were prescribed alone in 10 cases (6%) and with antibiotics in 2 cases (4%). The authors say that prescribing steroids implies a relatively severe illness.

Parents’ problem presentations did not seem to be associated with antibiotic treatment decisions. In 10 of the 12 cases when antibiotics were prescribed, this followed a ‘symptoms-only’, ‘viral candidate diagnosis’ or ‘candidate explanations’ presentation of the problem by the parent. (7, 2 and 1 occasions, respectively). Antibiotics were prescribed only once for each of the 8 ‘antibiotic implicative symptoms only’ and 7 ‘antibiotic implicative candidate diagnosis’ presentations.

In only 1 case did a parent question the initial ‘no antibiotic’ treatment recommendation: they asked what to do after the recommended 5 day ‘watch and wait’ period and informed the GP that accessing same-day appointments was difficult. The GP provided a back-up prescription to be used if needed after 5 days. In at least 1 case the parent asked a clarifying question about the need for the proposed antibiotic treatment and in another the parent expressed relief and agreement with the nurse practitioner’s statement “I don’t think she needs antibiotics today.” – “No, ...no, and to be honest I’d rather she didn’t.”

As the authors state, the sample provides robust qualitative analysis of the types of problem presentation by parents, but the quantitative analysis is more limited. In 5 of the 6 practices the clinicians had no control over which consultations were recorded; the other practice triaged all requests for same-day appointments, but the 10 consultations recorded in that practice were similar to the others. All clinicians had to opt-in to the study, and so may not be representative of those who did not take part.

Commentary

Commentary provided by Dr Gina Johnson, Clinical Tutor and Director, National Minor Illness Centre

Clinicians often perceive that parents are demanding antibiotics for their children with respiratory tract infections. This study helps us understand that we may be significantly misinterpreting parents' comments. Eighty percent of the children studied were not prescribed an antibiotic, yet there was only 1 consultation in which the parent questioned the clinician's conclusion that immediate antibiotics were not needed. But even here the parent's concern was not that an antibiotic was immediately necessary, but rather about the difficulty in accessing an appointment if the child were no better in 5 days.

It is well known that terms used by clinicians may be misunderstood by lay people, but less attention has been paid to the reverse of this process. The authors suggest that 'parents and clinicians often talk at cross purposes about the seriousness of the child's illness'. In this study the commonest diagnosis offered by the parent was a viral infection, suggesting that they were mostly *not* seeking antibiotics.

When a parent offers a possible diagnosis such as 'chest infection' or 'it's on the chest' they may not be making a tacit request for an antibiotic. Instead, they may be:

- justifying their request for an appointment or
- seeking reassurance that their child is not seriously ill or
- ensuring that the clinician considers the possibility of infection.

This potential misinterpretation of the parents' concerns has important implications for practice; the clinician's decision-making process is known to be influenced by non-clinical factors such as time pressure and conflict avoidance. 'Pressure to explain may be experienced as pressure to prescribe.' A mistaken perception that the parent expects an antibiotic could therefore lead to an inappropriate prescription.

It is possible, of course, that the knowledge that the consultation was being videoed may have altered parents' behaviour. And this study was performed in-hours; in my experience it is out-of-hours clinicians who complain most bitterly about parental pressure to prescribe antibiotics. Nonetheless the findings should make us think twice about parents' intentions when their opening gambit is "I think he's got a chest infection".

Declaration of interests:

Gina Johnson declared no interests.

Study sponsorship

The research was funded by the National Institute for Health Research (NIHR) School for Primary Care Research (SPCR 204).

References

Cabral C, Horwood J, Symonds J et al. (2019) [Understanding the influence of parent-clinician communication on antibiotic prescribing for children with respiratory tract infections in primary care: a qualitative observational study using a conversation analysis approach](#). BMC Family Practice 20, Article number: 102.

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