

Primary care antibiotic prescribing practice for children under the age of five years and mothers' attitudes to managing their child's illness

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Aim of the project:

To explore primary care antibiotic prescribing practice for children under the age of five years, and mother's attitudes to managing their child's illness, using General Practitioner (GP) prescribing data and focus groups with mothers

Background:

Overuse of antibiotics and inappropriate prescribing has resulted in rapid development of antimicrobial resistance (World Health Organisation (WHO) 2018). Most childhood illnesses caused by viruses rather than bacteria (Murphy et al 2012), and often spontaneously resolve without medical intervention, Clinicians report parents apply pressure for antibiotics to be prescribed, mostly on behalf of their children (Horwood et al 2016).

Mixed Methods (quantitative and qualitative phases)

Phase One: Quantitative

- GP practices within a defined geographical location contacted via email and phone
- Antibiotic prescribing data sought regarding antibiotic prescriptions in identified population and conditions commonly treated

Phase Two: Qualitative

- Participants for the focus groups identified via attendance at local play groups (identified using internet searches)
- Six focus groups held with a total of nineteen participants

Results: Phase One Quantitative- GP prescribing data

- Most consultations took place on Fridays (table 1)
- Under one's received the least number of antibiotic prescriptions (table 2)
- Chest infections were most common illness treated with antibiotics (table 3)

Results: Phase Two Qualitative- Focus Groups

- Mother's felt anxious and less confident if their child was unwell, especially first time mothers

Table 1. Most common day of the antibiotics issued

| | Most common day of the week antibiotics issued % | | | | | | |
|----------------------|--|---------|-----------|----------|--------|----------|--------|
| Age of child (years) | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| Under 1's | 23.5% | 23.5% | 11.7% | 5.8% | 35.2% | 0 | 0 |
| 1-2 years | 23.6% | 9% | 18.18% | 29% | 20% | 0 | 0 |
| 2-3 years | 10% | 16.6% | 21.6% | 21.6% | 25% | 5% | 0 |
| 3-4 years | 17.8% | 16% | 14.2% | 30.35% | 21.42% | 0 | 0 |
| 4-5 years | 16.6% | 28.3% | 15% | 18.3% | 21.6% | 0 | 0 |

Table 2: Number of consultations resulting in antibiotics prescriptions by age group

| Age range of child (years) | Number of children seen by GP | % receiving antibiotics following consultation | % not receiving antibiotics following consultation |
|----------------------------|-------------------------------|--|--|
| Under 1's | 137 | 12 | 88 |
| 1-2 years | 147 | 37 | 63 |
| 2-3 years | 136 | 44 | 56 |
| 3-4 years | 133 | 42 | 58 |
| 4-5 years | 143 | 42 | 58 |

Table 3: Top two reasons children received antibiotics per age group

| Age range of child (years) | Top two infections treated with antibiotics | % of children treated with antibiotics for infection |
|----------------------------|---|--|
| Under 1's | Chest infection /cough | 23.5% |
| | Ear infections | 23.5% |
| 1-2 years | Chest infection/cough | 36.3% |
| | Ear infections | 23.4% |
| 2-3 years | Chest infection/cough | 42.5% |
| | Ear infections | 11.6% |
| 3-4 years | Chest infection/cough | 31.9% |
| | Ear infection | 27.6% |
| 4-5 years | Chest infection/cough | 40% |
| | Ear infections | 18.1% |

Following analysis of data, four main themes were identified:

1. Seeking information to aid decision making

"The internet is not a one stop shop. I want to be mentally ready for what I'm going to hear when I go to the doctors" FG3

"I would always go to the doctor to get their advice and listen to the doctor, cos I think as a first time mum not knowing what to do" FG19

"they (GP) see lots of cases of children brought to them, so they know what's OK. But for me I have one son" FG8

2. Seeking reassurance for maternal uncertainty

"It's easier to manage with a child who can tell you what is going on" FG12

"I think I'm not going to come back. I've gone all out to get this appointment so want it dealt with today" FG3

3. Recognising maternal concerns, behaviours and triggers

"It was more trusting he (GP) was making the right decision to hold back, so I did feel a bit guilty in the end as she did actually need it" FG2

"He was miserable. I don't want him to be ill longer than he needs" FG10

4. Feelings of maternal guilt

Discussion:

The lack of detail recorded on the GP database systems does not allow for detailed and accurate rationale of prescribing choices and provides limited information. Using mixed methods it is possible to gain some insights into possible influences on mothers' experiences and attitudes regarding antibiotics use for their children. Both sets of data when analysed provide a context for maternal attitudes towards antibiotics and the age of the children who are most likely to receive antibiotics following a consultation.

Conclusion:

Children under one year of age received the least number of antibiotic prescriptions and were more likely to be prescribed and seen on a Friday. Antibiotics were commonly prescribed for chest infections followed by ear infections. Mothers benefit from support, reassurance and information from trusted healthcare professionals to inform their decision making. Further research is required into antibiotic prescribing for young children in order to gain a more accurate view of practice.

References

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- Murphy, M., Bradley, C. and Byrne, S. (2012). Antibiotic prescribing in primary care, adherence to guidelines and unnecessary prescribing - an Irish perspective. *BMC Family Practice*, 13(1) p. 43
- Horwood, J., Cabral, C., Hay, A. and Ingram, J. (2016). Primary care clinician antibiotic prescribing decisions in consultations for children with RTIs: a qualitative interview study. *British Journal of General Practice*, 66(644), pp.207-213