

# A qualitative investigation of parents' concerns, experiences and expectations in managing otitis media in children: implications for general practitioners

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Antibiotic prescribing for acute otitis media is common and studies have failed to show significant short-term benefits for their use in the treatment of this condition. Antibiotic resistance is an escalating problem related to antibiotic use and the Department of Health has published guidelines advising that they are probably unnecessary in otitis media. The aims of this study were to primarily explore parents' ideas, concerns and experiences when consulting for otitis media in children. Secondly, to develop strategies that general practitioners can use to improve doctor–patient communication and the doctors' ability to negotiate management options acceptable to patients, taking into consideration current evidence-based guidelines. A qualitative research design using focus groups were employed. The study sample interviewed were parents of children. A total of 17 parents representing a range of ages and different socio-economic backgrounds attended the focus groups. Six major themes emerged from the analysis. These themes suggested that parents' were given little information and had a poor understanding of ear infections. They expected the general practitioner (GP) to primarily make a diagnosis followed by an explanation and discussion. Parents also wished to be reassured that their child was not suffering from anything more serious, in particular, meningitis. Most were happy not to have antibiotics prescribed and preferred the doctor to make the decision about the use of antibiotics. Parents were happy to consider seeing a practice nurse when their child presented with otitis media. The strategies recommended for general practitioners is to provide a diagnosis and reassure parents about meningitis and other long-term complications and to be aware that they may overestimate parents' expectations of a prescription. General practitioners should also be flexible in involving them in the decision making process.

**Key words:** antibiotics; doctor–patient relationship; otitis media; prescribing; primary care; qualitative

## Introduction

Two publications from the House of Lords Select committee (House of Lords Select Committee on Science and Technology, 1998) and The Standing

Medical Advisory Committee (DoH, 1998) have focused on the rising levels of antimicrobial resistance to antibiotics and stated that some of this resistance was due to excessive or inappropriate prescribing.

Acute otitis media is a common condition in general practice with a consulting rate of ninety two patients per year for a general practitioner (GP) with a list size of 2000 patients (Fry, 1992). Two meta analyses (Del Mar *et al.*, 1997; Fromm

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*et al.*, 1997) have called for restricted use of antibiotics in otitis media on the basis of minimal short-term benefits. The evidence from these meta analyses suggests that 17 children require treatment with an antibiotic at presentation to prevent one child experiencing pain at two to seven days. There was no significant difference in the prevalence of deafness between antibiotic treated and the no antibiotic group at one month. Dutch general practitioners have a lower rate of antibiotic prescribing in otitis media yet the incidence of complications is no higher than in countries where antibiotics are used routinely (Froom *et al.*, 1997).

The Dutch College of General Practitioners has tried to identify higher risk groups who should be treated with antibiotics. Damoiseaux *et al.*, (2000) found that seven to eight children aged six months to twenty four months with acute otitis media needed to be treated with antibiotics to improve symptomatic outcome at day four in one child. However, they also state that this does not justify prescription of antibiotics at the first visit, provided that the child can be monitored.

Despite the lack of evidence that antibiotics are beneficial, they are often prescribed for otitis media and sore throat. General practitioners often prescribe antibiotics when they are aware of minimal benefits to maintain good relationships with patients, though patient satisfaction with the consultation is not necessarily related to the receipt of an antibiotic (Butler *et al.*, 1998). Some studies have found that GPs' prescribe more medication than the patient expects (Virji and Britten, 1991; Sanchez-Menegay and Stalder, 1994). Doctors' opinions about patients' expectations has been found to be the strongest determination of prescribing (Cockburn and Pit, 1997). Stevenson *et al.*, (1999) suggests that patient demand for prescriptions is sometimes overestimated and may also be perpetuated by GPs' beliefs and a wish to maintain good doctor-patient relationships.

Kai (1996a) found fever, cough and the possibility of meningitis to be the factors causing parents most concern when their children have become acutely ill and has highlighted the importance of better communication with parents. Communication is central to the doctor-patient relationship yet remains an area of difficulty. He also identified a disparity between parents' beliefs and expectations about their children's acute illness and professionals treatment and behaviour.

Parents' experienced inadequate information sharing by their general practitioners and found difficulty making sense of their children's acute illness (Kai, 1996b).

One general practice study reduced antibiotic use in children with otitis media by 19% (Cates, 1999). Parents were given a prescription with a handout summarizing the limited benefits of antibiotics in otitis media. Parents were advised to hold the prescription for a day or two and use the prescription if the child did not get better over this period.

All general practitioners in the two health centres where our research was conducted are aware of the research findings. From an audit undertaken within these two general practices, the prescribing of antibiotics for otitis media varied between GPs' from 50% to 95%. As with sore throat, the doctor-patient relationship, patients expectations, time and communication are likely to be important factors in the general practitioners prescribing decisions.

In this general practice study our aims were to primarily explore parents' ideas, concerns and experiences when consulting for their child with otitis media. Secondly, to develop strategies that general practitioners can use to improve doctor-patient communication and the doctors' ability to negotiate management options acceptable to patients, taking into consideration current evidence-based guidelines for otitis media. The recent changes in the management guidelines of otitis media may give rise to problems in the communication and acceptance of these changes.

## Participants and methods

The study was conducted in two, urban practices in the South West of England with a total of 15 500 registered patients and eight general practitioners. The local research ethics committee granted approval of this study.

A qualitative research design using focus groups were employed. The study sample interviewed were parents of children. The ages of the children ranged from six months to fifteen years. The sample was selected from a retrospective computer search of medical records with acute otitis media from the twelve-month period between September 1997 to September 1998. The exclusion criteria were children who had chronic illness and congenital ear, nose and throat (ENT) malformations. All invi-

tation letters were addressed to the parent of the child and from their registered GP. Any patient identified by the GP not suitable to take part in the study was also excluded.

Four focus groups were conducted stratified by each of the following groups:

- 1) parents of children who have received antibiotics for otitis media;
- 2) parents of children that have had otitis media but NOT received antibiotics;
- 3) parents of children who have never had otitis media;
- 4) a group of parents with a mixture of characteristics from children identified from the above three subgroups.

The study was interested in the insight parents would provide for otitis media. The four focus groups and characteristics of the parents of children invited were not mutually exclusive as we had defined and this only became evident once the discussions were progressing.

The recruitment of participants was by letter informing them of the background of the study, followed shortly by a personal telephone call from Luthra inviting them to the focus group.

All the focus groups were conducted by a trained qualitative researcher (Plastow) and were moderated and observed by two other qualitative researchers (Wright and Luthra respectively) all of whom were nonmedically trained. The focus groups ranged from 3–6 participants. There were a total of 17 parents who attended the focus group discussions. Attendance was voluntary and no financial inducement was offered. Five were male and twelve were female with ages ranging from 27 years to 47 years (mean age of 39.2 years). We used purposive sampling methods to ensure a range of socio-economic backgrounds, demographic characteristics and experiences. However, in the final attendance at these meetings social class I and II was over represented.

The focus group discussions followed a semi-structured format (Box 1). The project was introduced to parents as the authors were interested to gain an insight into their personal experiences of visiting the surgery when their child had presented with acute otitis media and what their understanding of the condition was. Additionally, that the study was also interested in their concerns and views on treatment with antibiotics. In the case of

**Box 1** Semi-structured focus group discussion guidelines for otitis media

1. What is your personal experience of middle ear infection?
2. What do you understand about acute otitis media (ear infections)?
3. What are the parental concerns?
4. Why do you think you were prescribed antibiotics?
5. Opinion on evidence (facilitator discusses the Cochrane evidence?)
6. Why do you think we do NOT want to prescribe antibiotics?
7. What do parents want from the GP when their child presents with an ear problem?
8. How much information do parents want from general practice?
9. Is written information useful and if so, what type?
10. In light of the evidence discussed, do they still need to see a GP?
11. How do parents feel about seeing a nurse?
12. How would you now respond to the evidence presented and what do you feel about it?

focus group three, what their expectations would be from the general practitioner if their child had this complaint.

All the focus group meetings were held in an upstairs meeting room of the health centre. This room is quiet; there were no doctors or other clinical staff present and it remained private whilst conducting the interviews. The health centre is in a central location and was easily accessible to all participants. Each focus group was audio taped and fully transcribed, lasting from a minimum of 35 minutes to a maximum of 60 minutes (average interview duration was 46.25 minutes). The group interaction was observed and field notes were made (Wright). The sample size was determined by saturation principles (Milesa and Huberman, 1994).

Analyses of the interviews were conducted

using Hycners' guidelines for phenomenological analysis (Hycner, 1985). A phenomenological approach was chosen because its goal is to describe accurately the experience of the phenomena under study not to generalize to theories or models (Morse and Field, 1996). Each interview was transcribed verbatim, including descriptions of nonverbal factors where appropriate. Analysis of the data proceeded by detailed scrutiny of the transcripts to identify common themes, which were coded. These coded segments of text were included in separate word processing files (Elder and Miller, 1995). These files were expanded with new transcripts and refined, focused, or altered as new themes emerged. Each focus group transcript was examined independently to assess the coherence of each account and the developing themes were then discussed and further refined in meetings of all the authors.

## Results

Six major themes emerged from the analysis of the data. These are detailed as below and summarised in Table 1:

The quotes have been attributed to the number of the focus group (groups 1–4) and the number of the parent from each of those groups. For example, '3:4' is focus group three and parent four.

### Parents lack of information and limited knowledge of otitis media

Several parents mentioned the lack of information given in the consultation and as a result they had a limited knowledge of what actually an ear infection was and its cause. Some parents could not make a clear distinction between otitis media and glue ear with the two conditions often confused. Parents wanted more discussion with the general practitioner and information about the risks and possible long-term complications in a language they understand.

I felt left in the dark ... I didn't feel that I got much feedback as to what the long-term loss might be (4:1)

I don't think it is a question of how much information it's how they give it to you. If it is in layman's terms that you can understand that's the most important thing to me (4:3)

Is it like one terminology that covers a multitude of conditions and they just lump it under one? (3:1)

Is it anything like glue ear or something like that? (3:4)

Two of my children have actually suffered from ear infections which leads me to believe that it [otitis media] possibly could be hereditary. (1:4)

I feel that a lot of ear infections are actually caused by something like dermatitis ... or some strange thing that can actually enter (ear) but there are particular noises and I suppose sounds that can play an important part. (1:4)

A few parents were well informed. They found that it was helpful if diagrams or drawings were used by the doctor to illustrate and explain the problem.

... he [doctor] showed us pictures of the inner ear and how it worked (4:2)

I also think it is useful to draw diagrams for the child's sake as well (1:2)

### Age and severity of symptoms

Parental concerns were greater with younger children. This was due to their child's distress and their inability to communicate the problem and the degree of pain being caused. Parents were keen to understand the cause of their children's distress and relieve their symptoms as soon as possible. Most were happy to try Calpol before contacting their GP but were keen to be seen quickly if pain was not relieved.

He was climbing the walls with the pain and we couldn't do a thing with him. (1:2)

He was a baby at this point and he was very distressed, in a lot of pain, despite Calpol (1:3)

**Table 1** Major themes

Major themes	Results
1. Parents lack of information and limited knowledge of otitis media	<ul style="list-style-type: none"> <li>• Lack of information provided in the consultation</li> <li>• Limited knowledge of ear infections and their cause</li> <li>• Parents want more discussion with the GP</li> <li>• Parents want information about risks and long-term complications</li> <li>• Helpful if GP used diagrams to illustrate and explain the problem</li> </ul>
2. Age and severity of symptoms	<ul style="list-style-type: none"> <li>• Parents more concerned with younger children</li> <li>• Parents keen to understand the cause of their children's distress and relieve their symptoms</li> <li>• Parents wished to see GP quickly if pain was not relieved</li> </ul>
3. Preference to see own GP	<ul style="list-style-type: none"> <li>• Parents preferred to see their own GP whom they trusted more</li> <li>• Parents happy for their child to see nurse if they knew that the nurse would refer to GP appropriately</li> <li>• Parents want locum GP to take time to read medical notes and have a brief knowledge of medical history</li> </ul>
4. Reassurance of diagnosis	<ul style="list-style-type: none"> <li>• Parents main reason for consulting was for a diagnosis and for reassurance</li> <li>• Parents wished their child to be seen immediately as worried about complications e.g., meningitis, perforation and deafness</li> </ul>
5. Parents views of antibiotics	<ul style="list-style-type: none"> <li>• Parents did not want antibiotics unless the GP explicitly recommended them</li> <li>• GPs often willing to prescribe antibiotics when parents preferred not to have them</li> <li>• Parents happy not to be prescribed antibiotics if GP explained reasons</li> <li>• Parents more likely to expect antibiotics the greater the level of pain</li> </ul>
6. Confidence in seeing a nurse	<ul style="list-style-type: none"> <li>• Parents happy to see a practice nurse provided that the nurse would refer to GP if uncertain</li> </ul>

I think it is very difficult when you have got young babies and/or young children that need, um, sort of attention very swiftly (1:3)

At a young age it's a child's general inability to express the problem in terms that we might recognise and I think for any young child in a real level of discomfort, rather like tooth-ache, it can be very significant and you want to do something as quickly as possible (1:4)

I think it depends again on the age of the child because if you have got a young child you don't know whether they are in pain ... you really need to get it checked out sometimes to confirm it (3:2)

### Preference to see own GP

There was a strong preference by parents to see their own GP whom they trusted more because

they were familiar with the parent/child and their medical history. Parents were happy for their child to be seen by a nurse but would like to be reassured that the nurse would refer to the doctor appropriately.

When seeing a locum, parents expressed a desire that the locum GP take some time beforehand to familiarize themselves with the patients notes and have a brief knowledge of their medical history.

If you are seeing your own GP then obviously they know your family history and so they will know that your child has had ear infections before and things like that. If you are not seeing your normal GP then I think they [doctors] ought to maybe read the notes so they know, just take a couple of minutes before you actually go in, so they know a little bit about your family and things like that. (3:5)

To do with, you know personalities and

having probably slightly more confidence in whom you are seeing (1:2)

I feel it is nice to have the GP knowing obviously the parent and the child ... a sort of continuity in care so that you come in and they know you, they know the child, they can sort of talk to them and relate to them and the child is not frightened or anxious either about them (1:3)

It depends on the trust you have with the doctor (2:3)

I have got more confidence with the one [doctor] we are registered with. (4:2)

### Reassurance of diagnosis

Parents' main reason for consulting the doctor was for a diagnosis and to reassure parents that it was not anything more serious. They wished to be seen immediately, as they were worried about meningitis and other long-term complications such as fear of perforating the eardrum and deafness.

Finding out that it is an ear infection is quite reassuring because you suspect all kinds of things so the diagnosis in itself is very reassuring and that is usually what I come for (1:1)

I think there is always the fear about meningitis when children have those symptoms especially in the early years when they can't clearly tell you (2:2)

To be reassured ... then you know it is not the dreaded meningitis (2:1)

I suppose the thing at the back of your mind is meningitis and occasionally when you hear they've got a temperature and its not coming down and they are generally unwell you sometimes seek reassurance. (3:6)

I think I would feel happier in case there was some other underlying problem and after all they [GPs'] have been through University and studied for a lot of years to do their trade and I don't think as a lay person I would want to take the responsibility for diagnosing (1:2)

### Parents view of antibiotics

The majority of parents did not want antibiotics unless the general practitioner explicitly recommended them. Parents felt that general practitioners were often willing to prescribe antibiotics when they would prefer not to have had them. One parent thought that the GP was more likely to prescribe antibiotics if there was greater parental anxiety.

I did not expect to get antibiotics (2:1)

I wanted to make it clear that I didn't want him to prescribe them [antibiotics] unless it was going to do damage because it seemed she was uncomfortable but Calpol was pretty effective for that (1:1)

My anxiety about my daughters having lots of unnecessary antibiotics ... I am so keen that at all costs they are not prescribed antibiotics ... (1:1)

I have just found it very reassuring to go to a surgery and not be prescribed antibiotics because I feel I am being given the right thing when the situation requires it rather than just being fobbed off ... (1:1)

The majority were happy not to be prescribed antibiotics if the doctor explained the reasons for this, though parents were more likely to expect antibiotics the greater the level of pain.

I was quite happy at that point to have antibiotics for him because he was so distressed with the pain (1:3)

It must depend surely on the degree of the severity of the infection and if somebody has got pus pouring out of their ears (1:2)

Some parents were reassured that general practitioners would not prescribe antibiotics all the time.

I would say great ... it's good to see an enlightened GP.(4:4)

I think its good that they [doctors] don't prescribe antibiotics all the time (3:5)

Unless the doctor says that's what is going to cure it, that's what you go and see him for, or why else are you seeing the doctor. (4:1)

It would depend on how the doctor explained it. If he says I am not giving you anything, goodbye. You go off thinking I wouldn't go back there, but if it was explained, why I think I would accept it (4:2)

A few of the parents had heard about limiting the general use of antibiotics and the increasing problem of antibiotic resistance.

### **Confidence in seeing a nurse**

Parents were happy to consider seeing a practice nurse when their child had an ear infection. No parent was unhappy to see the nurse. Their greatest concern was that the nurse would refer to the general practitioner if uncertain.

I wonder how difficult a diagnosis is when you have inspected someone's ear and what are the range of things a doctor would be looking for ... the feeling is that if a nurse could quite happily do that ... sometimes it has to be after a doctor's advice though and for a specific treatment as opposed to a diagnosis (1:4)

I would be happy if they got to the stage where they weren't sure they [nurses] would refer it back to the GP (1:2)

Well some nurses are very good and they seem to know a lot and they can say you need a prescription; I will get a doctor to look at you (2:1)

The issue of trust and confidence in whom they were seeing was also an important factor.

How much do I trust this person, I am not commenting on the actual level of skill involved and in fact the nurse could in fact be better because in some things they are (2:1)

From personal experience they are a darn sight better than the doctors in some things but it is trying to get that established and people comfortable with it (2:3)

### **Other factors**

Other significant factors that were raised by a few parents was the use of alternative remedies for the

treatment of their child's ear infection rather than an antibiotic or other pharmaceutical product.

I warm garlic oil and put it in with cotton wool, it's an antiseptic as well (2:3)

The treatment of milling flowers which is something that reduces the pain when used as drops in the ear and warmed olive oil with garlic crushed which acts as a antibacterial agent (4:4)

A few parents mentioned NHS direct.

When I have been concerned I have rung NHS direct (2:1)

### **Discussion**

This study has identified parents concerns, their experiences and expectations of otitis media in their children. Parents were very poorly informed about what otitis media was, despite the fact that many had considerable experience of consulting with children suffering from this condition. Parents' almost universal experience was that they were given very little information and left confused. The data indicates that general practitioners overestimate parental knowledge, expecting them to understand a condition GPs' would consider a minor illness. Providing better information to the parent would be one of the main factors in improving parents' satisfaction with the consultation. Parents would ideally prefer to receive this information in the form of a discussion with the GP relevant to their own needs, with some parents also requesting a leaflet with information. The main reason for seeing the doctor was to receive a diagnosis of the child's condition. This provided parents with reassurance and the younger the child the greater the need for reassurance. Most expressed the need to rule out meningitis and for reassurance about long-term complications.

The concerns expressed by the parents in this study in relation to meningitis and communication problems with general practitioners are similar to those found in a study of parents with preschool children (Kai, 1996b). One other study (Cates, 1999) found that parents welcomed a written handout and gave parents a choice about giving their children antibiotics. When they were passed a deferred prescription it resulted in a 19%

reduction in antibiotic prescribing in children. However, the balance of responsibility for the decision on prescribing was shifted to the parent having been provided with information in the form of a handout.

In our study, we found that most parents were happy to accept the general practitioners advice about antibiotics if adequately explained, although a few wanted greater involvement in the decision making process. These findings are similar to those of McKinstry (2000) who found patients might vary in their desire for involvement in decision making in the consultation.

The majority of parents were happy to see a practice nurse when their child had an ear infection and no parent was unhappy with this choice. The main factor concerning parents was that the nurse would refer to the general practitioner if unsure.

The use of a qualitative methodology provided an insight into parents concerns, their experiences and their expectations from their children who had otitis media. All the focus group discussions were conducted by staff who were not doctors and were employed by the health centre in which the study took place. For this reason, the parents' responses were open and they freely expressed their concerns, shared their experiences, care received and what their expectations are from the GP. A total of five fathers were interviewed including one single parent and this is representative of the trend with mostly mothers bringing their children for consultations.

Some of the groups convened had parents who did not have the child they were initially invited for treated with antibiotics but had another child who was. However, the subgroup stratification supported the validity of our data findings. Social class IV and V were under-represented in our groups raising questions about the groups acceptance of the nonprescribing of antibiotics. It would be interesting therefore to explore if similar findings are obtained from parents in social grouping IV and V.

The final attendance rate for parents (17) was lower than we had expected for the four focus groups conducted and this was due to nonattendance. Sample saturation is an important issue with small numbers. In our study we were looking at major qualitative themes concentrating on the issues in the interview guide (Box 1) especially looking at parents' experiences and understanding of otitis media, antibiotics and the recent evidence.

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Looking at major themes we reached saturation with a small number of patients and therefore did not convene further focus groups.

The major difference with our study was that patient satisfaction was not related to receiving an antibiotic. The issue of antibiotic prescribing was less important to parents and they did not relate this as a cost-cutting exercise by the practice. Most parents were happy not to have antibiotics prescribed and some were reassured that the doctor would not always prescribe antibiotics. Parents wanted the GP to make the decision about prescribing antibiotics and stressed the doctor's role in making this decision. This could be associated to not wishing to receive a deferred prescription for antibiotics.

The information obtained would be useful to inform doctors and other health professionals of the issues involved when they are consulting for otitis media. This would also increase the implementation of the evidence-based guidelines for otitis media.

## Conclusions

Most parents visiting the GP with a child who had otitis media were poorly informed and expressed a desire for more information in the form of a discussion. Parents most commonly consulted for reassurance and a diagnosis. They varied in their desire to be involved in the decision making process and most parents were happy to accept the GP's advice about antibiotic prescribing. Parents' preferred to see their own GP but were happy to see the practice nurse as long as referral to the GP was made where appropriate.

## Strategies for primary care management of otitis media

In primary care we should:

- Provide information related to the parents individual needs preferably as a one to one discussion and if parents receive an explanation they are more likely to accept nonantibiotic prescribing for otitis media;
- Provide a diagnosis and reassure parents about meningitis and other long-term complications;

- Be aware that we may overestimate parents' expectations of a prescription and should be flexible of their involvement in the decision making process.

## Acknowledgements

The authors of this report would like to thank the NHS R&D Directorate South West for a project grant funding this study and the Research and Development Support Funding for NHS Providers Grant, as Mount Pleasant Health Centre is a NHS funded R&D General Practice. We would also like to thank all the parents who volunteered their time to take part in the focus group meetings and all the general practitioners in both practices for supporting this study. We should also like to acknowledge the helpful comments from Dr William Hamilton, Barnfield Hill Surgery, Exeter during the protocol development.

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