

Research paper

Identifying consensus on the appropriate advice for managing common childhood illnesses: a nominal group study

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ABSTRACT

Background Consultation rates in the UK for children aged 0–4 years are high and may be rising due to increased consultations for minor illness. It has been reported that parents lack confidence when making decisions on how to manage common childhood illnesses and that advice received from healthcare professionals is not always consistent.

Objective The objective of the study was to identify advice and information that should be given to parents or carers around the management of common childhood illnesses that is agreed upon by a range of primary healthcare professionals.

Methods The nominal group technique was used to identify items of advice that could be given to parents/carers relating to the management of common childhood illness. Forty-eight primary care professionals replied to an open question letter on what clinical advice they gave to parents, how to reduce parental anxieties in the consultation and how best to relay advice outside the consultation. The responses to this survey were developed into a 97-item questionnaire that would form the basis of the nominal group discussion. Two parents and seven primary care professionals were then recruited to take part in the nominal group. Prior to the group session, participants were asked to complete the 97-item questionnaire. Analysis was done to identify any pre-existing consensus and then a highly facilitated group discussion was held where group members were asked to discuss items

where consensus had not been reached. During this discussion the participants re-rated the questionnaire items, and the analysis to identify consensus was repeated.

Results There was a lack of consensus for many of the questionnaire items considered by the group members. Prior to the group discussion, consensus was reached on seven questionnaire items relating to the clinical management of common childhood illness. Following the group discussion, consensus was reached for a further 12. Items where consensus was reached included advice such as: 'If a child has a sore throat a standard dose of oral paracetamol or ibuprofen should be given as indicated on the bottle'.

Conclusion There was a lack of consensus on many of the questionnaire items that were discussed by the nominal group members. This may have implications for the consistency and hence quality of advice that is provided by the primary care team around the appropriate management of common childhood illness. It is recommended that primary care teams focus on providing advice on which there was consensus, as a means of generating greater consistency and improving the quality of management of childhood illnesses in primary care.

Keywords: common childhood illness, consensus methods, education, parents, primary care

How this fits in with quality in primary care

What do we know?

In 1975–2003 the average UK NHS general practitioner consultation rate was 6.5 consultations per child per year in the 0–4-year age group. Common childhood illnesses are a frequent reason for this consultation rate. It is reported that parents are not confident in managing these illnesses and also that the advice they receive from the multidisciplinary teams they are in contact with, is not consistent.

What does this paper add?

For many items of advice on the management of childhood illnesses discussed in the study, the multiprofessional/parent group process did not lead to a consensus being reached. The issue for quality in primary care is that this is likely to have implications for a corresponding lack of consistency in the advice given to parents/carers by the primary care teams. However, since consensus was reached in several areas, the knowledge and shared acceptability of these could be used in professional and parent education to improve advice giving for the appropriate management of common childhood illness.

Introduction

Finding ways to improve the management of common childhood illnesses is an important issue for primary care. Consultation rates are highest amongst the 0–4-year age group; there were 18 million such NHS general practitioner (GP) consultations in 2003, which amounted to an average of 6.5 NHS GP consultations per child in this age group.¹ This consultation rate for children under five may be rising, mainly due to minor illnesses.^{2–4} Data for the uptake of NHS Direct services in the three first-wave sites showed that one in four calls was about a child under the age of five,⁵ with an annual call rate of 170 per 1000 children.⁶

Ninety-five percent of calls to NHS Direct were about symptoms, and a significant number of these were from mothers who were unsure about what action to take.⁷ Parents and carers of young children consult for common symptoms because they regard the condition as potentially serious and are afraid the child is going to die or be permanently harmed.^{8,9} They feel frustration at their ignorance, worry in case they miss a serious problem, and also suffer guilt about bothering the GP.⁸ In addition to this anxiety, there is insufficient information available to parents about gauging the severity of illness and when to seek medical advice.⁸ Parents and carers state that more accessible and specific information would help them manage childhood illness more appropriately,^{8,10} and have also reported that there is some inconsistency in the advice they are given around the management of common childhood illness.¹¹ Given that within primary care, advice on common childhood illness is provided by all members of a multiprofessional team, including midwives, health visitors, practice nurses and GPs, the potential for variation in advice is considerable.

This paper reports the findings of a nominal group technique study, to identify where consensus lay

within the primary care team, with regard to the advice given to parents/carers on the management of common childhood illness.

Methods

The nominal group technique was used to identify a consensus view on what advice to give parents/carers on the management of common childhood illnesses such as sore throat or diarrhoea and vomiting. The nominal group technique is an established method for developing consensus, which deploys both qualitative and quantitative methodology. A guide to using the approach employed in this study has been published elsewhere.¹² The same approach has been used for consensus development to establish national research priorities in critical care.¹³ The initial qualitative phase (phase 1) consisted of a postal survey of open questions to GPs and health visitors, and the quantitative phase (phase 2) consisted of the analysis of data collected through a highly structured group discussion.

Qualitative phase: phase 1

The qualitative consultation survey (phase 1), consisted of an anonymous postal survey sent to a random sample of 50 health visitors and 50 GPs in a county neighbouring Nottinghamshire, in order to avoid contamination of the nominal group itself. The county chosen included areas that could be described as rural and semi-rural as well as urban and inner city. The inclusion of health visitors in this initial phase was decided upon, based on their role in the primary care team (i.e. their involvement in advising parents on the management of common illness and their role in child health surveillance and disease prevention). Health

visitors advise on a range of common childhood illnesses; a study by Kendrick *et al* for example found that 87% of health visitors responding to a postal survey stated that they provided advice on the management of fever, and 83% provided advice around gastroenteritis.¹⁴ The research team (MJ and JB) identified that the conditions to be included in the study were symptoms of common childhood illnesses, which were not obviously linked with chronic conditions. Therefore cough, although common in young children, was excluded because it can be clinically difficult to distinguish between respiratory viral illness and asthma.¹⁵ This qualitative consultation survey (phase 1) took the form of a letter with three themed, open questions. The first asked recipients about the advice they gave to parents/carers relating to the following symptoms of common childhood illness: sore throat, diarrhoea and vomiting, fever and earache. The second question asked about helping parents cope with anxieties. A question on how best to relay such advice outside of a consultation was also included to inform the future development of an educational intervention. Consensus on this latter issue is not reported in this paper.

The responses were analysed into specific broad themes (JD and JB) relating to assessing severity, seeking assistance, relieving symptoms and reassurance for child and parent. Nine-point Likert scale statements were developed for use in the questionnaire that would be sent to the members of the nominal group in phase 2, with 1 = strongly agree and 9 = strongly disagree.^{13,16} Care was taken by the researchers to ensure that each view was incorporated into a statement. The resulting questionnaire contained 97 statements. Of these, 69 were related to advice on management of common illness and 28 were about how the advice should be incorporated into an educational intervention.

Quantitative phase: phase 2

Nine individuals (two health visitors, two parents, two practice nurses and three GPs) were recruited from the city of Nottingham to take part in the nominal group. The health professionals who were from general practices within the same primary care trust (PCT) were recruited by telephone. This was done by working through the PCT staffing list, asking the practitioner if they would be interested in taking part, and if they were free on the day that had been set. They were then provided with details of the study. A second phone call, to confirm the commitment that was required was made just before the questionnaires (phase 2) were to be sent out. Written consent was obtained on the day of the meeting. The first acceptances were those who were recruited. This was therefore a

pragmatic rather than random recruitment approach. The parents were recruited through focus groups which had previously been undertaken to explore parents' experiences of minor childhood illness.¹¹ Nine participants was suggested as an optimum number for reliability and manageability.¹⁶ The quantitative questionnaire (phase 2) was sent out two weeks before the date of the nominal group meeting, with a return deadline of one week before the meeting date. On return, analysis took place to identify where there was an existing consensus; details of how this was done are given below in the section 'Assessing the degree of consensus'. Another questionnaire was then developed for use at the group session and this only included statements where consensus had not been reached. For each of the statements the median rating was highlighted. Each member of the nominal group received a copy of this questionnaire at the nominal group meeting, which showed their own rating alongside the median for each statement. At the nominal group meeting this questionnaire was issued in confidence, and a highly structured discussion was facilitated for each statement. The purpose was to identify ambiguity in the questions and to provide the attendees with the opportunity to hear each other's views. The role of the facilitator (JD) was key in ensuring equal opportunity for participation. Two observers (JB and MJ) were also present to record changes to the wording of questions and to alert the facilitator on matters of interaction within the group. After each discussion, participants were asked to rescore either individual or groups of statements. The process took four hours.

Statistical analysis

Assessing the degree of consensus

- *Step 1:* returned data from the first questionnaire of phase 2 were analysed using SPSS version 9. For each question the median rating was calculated. To assess the deviation from the median of individual ratings, the absolute mean deviation from the median was calculated (AbMDM).
- *Step 2:* these were then summed and divided by the total number of questions, to give the mean absolute mean deviation from the median. This was divided into thirds. Questions with AbMDM ratings in the lowest third were classified as having high consensus, those in the middle range medium consensus, and those in the lowest range, low consensus. After the rescoring of the questionnaires in the nominal group, step 1 was repeated. The new AbMDM ratings were then classified for the level of consensus using the thirds identified in step 2.

The Wilcoxon matched pairs signed-rank test was used to test whether changes in the level of consensus that occurred during the group were statistically significant.

Results

A total of 48 responses were received from the health professionals surveyed in the initial qualitative phase. Of these responses 26 were from GPs (a response rate of 52%) and 22 were from health visitors (a response rate of 44%). From these responses, 378 different items of advice were identified by content analysis and these were developed into the 97 statements included in the initial quantitative questionnaire (phase 2).

Consensus was reached on 14 statements. In line with formal consensus technique methodology, which aims to aggregate the judgements of expert individuals, rather than generate a group decision that is influenced by group processes,¹⁶ these were then excluded from the questionnaire discussed at the nominal group as consensus had been reached. Of these there were six statements that were related to advice on

clinical management and these are shown in Table 1. High consensus was an absolute mean deviation from the median (AbMMDM) of less than 0.42, and a moderate level was 0.42 to 0.81. It was considered that statements relating to clinical management needed to show a high level of consensus for them to be excluded from the nominal group discussion. A moderate level of consensus was considered acceptable for statements associated with general health issues.

The group discussion identified that ambiguity in the statements had an effect on the way in which participants had responded to the first questionnaire. For example, in one original statement, carers who are anxious about their child's health 'are advised to seek telephone advice from their GP'. Initially, this statement generated a median score of two with a low level of consensus. After discussion, the advice was changed to 'seek telephone advice from a health professional', which generated a median score of one with a high level of consensus ($P = 0.04$). There were also changes in consensus that were attributed to the process of sharing opinions and ideas during the group discussion. All statements that achieved a high level of consensus are included in Table 2. The Wilcoxon matched pairs signed-rank test determined that for three statements, the change in consensus level, due to the *Nominal Group* process, was statistically significant

Table 1 Clinical advice statements where high consensus was reached prior to the nominal group meeting

Statement	Median score ^a	Level of consensus
Earache is common after a cold and cough and not always a sign of infection.	2	High
If a child has a sore throat, a standard dose of oral paracetamol or ibuprofen should be given, as indicated on the bottle.	1	High
If a child has diarrhoea and/or vomiting, parents/carers should encourage the child to drink clear fluids little and often for 24 hours.	1	High
Active children will get minor illnesses and this is quite normal.	1	High
If a child has earache, parents should be advised not to attempt to clean the ear or put anything in it – e.g. a cotton bud.	1	High
Parents should be advised that antibiotics are not necessary for most childhood illnesses.	1	High
If a child has diarrhoea and/or vomiting, parents/carers should be given advice on how to check for dehydration.	1	Moderate

^a 1 = strongly agree; 9 = strongly disagree.

Table 2 Statements where consensus was reached following the nominal group discussion

Statement	Median rating (level of consensus) pre group discussion	Median rating (level of consensus) post group discussion
If a child has earache, parents/carers should be advised to contact their surgery for advice if they believe the child has put an object into their ear.	2 (low)	1 ^a (high)
If a child has a sore throat, the parent/carer should be advised to contact their GP surgery for advice on the same day if the child cannot swallow fluids.	1 (moderate)	1 ^a (high)
If a child has a sore throat, parents/carers should be advised to give the child soluble aspirin to gargle if the child is over two years of age.	9 (low)	9 (high)
If a child has a raised temperature, the parent/carer should be advised to encourage the child to take plenty of fluids in the form of cool drinks (not ice cold).	1 (low)	1 (high)
If a child has a raised temperature, the parent/carer should be advised to keep the child's room cool and well ventilated.	1 (low)	1 (high)
If a child has a raised temperature, the parent/carer should be advised to give a standard dose of oral paracetamol or ibuprofen as indicated on the bottle.	1 (moderate)	1 (high)
If a child has diarrhoea and vomiting, the parent/carer should <i>not</i> give the child over-the-counter remedies for diarrhoea and vomiting.	1 (moderate)	1 (high)
If anxious about their child's illness, parents/carers should be advised to seek telephone advice from a health professional.	2 (low)	1 ^a (high)
Parents/carers should not worry if their child loses their appetite as long as they are still drinking plenty of fluids.	2 (moderate)	1 (high)
Parents/carers should give the child reassurance that they will get better.	1 (low)	1 (high)
Parents/carers should be advised that liquid paracetamol is available over the counter at a reasonable price.	1 (moderate)	1 (high)
Parents/carers should be advised that an immediate urgent consultation is required if the child has a raised temperature and any combination of stiff neck, rash, drowsiness, light aversion, headache.	3 (low)	1 (moderate)

^a Change in consensus between first and second questionnaire that was significant at $P < 0.05$.

($P < 0.05$), and in all cases this was due to ambiguity in the statement which needed clarification. These statements are highlighted in Table 2.

Table 3 shows some examples of statements where there was no consensus and hence no agreement on whether this was either appropriate or inappropriate advice to give to parents/carers.

Table 3 Examples of statements where consensus was not reached

Statement	Median score post group discussion	Level of consensus
If a child has earache, parents/carers should be advised to keep the ear warm, by for example using a hot water bottle.	5	Low
If a child has diarrhoea and/or vomiting, parents/carers should be advised to avoid giving their children dairy products such as milk until the symptoms cease.	4	Low
If a child has a raised temperature, parents/carers should be encouraged to cool the child by sponging with tepid (cool) water or placing them in a tepid (cool) bath.	5	Low
If a child has an earache, parents should be advised to visit their GP as an emergency patient if the child has a loss of hearing.	2	Low

Discussion

Summary of main findings

The nominal group process highlighted that while primary care professionals hold a broad range of inconsistent views on what information and advice should be provided, with regard to the management of common childhood illnesses, they did agree on a number of key issues. A degree of difference between professional and individual views might be expected, reflecting differences experienced both personally and professionally in terms of guidance and training. These will have been further shaped by their unique experiences of working with parents/carers in the primary care setting. Our findings identified many areas where consensus was not reached, indicating that the differences in opinion on what constitutes good practice in this area are firmly held. This lack of consensus regarding some aspects of the appropriate management of common symptoms, does perhaps explain previous research which suggests that carers of young children feel confused and disempowered when they have to deal with common symptoms in their children.^{8,10} Our findings suggest that there is some inconsistent advice from health professionals, which may lead to parents/carers feeling ill-equipped to manage these symptoms with confidence.

One area where a lack of consensus may be important was in the difficult area of when to and when not to consult a health professional for advice. Since Kai found that many parents suffered guilt about bothering a GP,⁸ knowing when it is appropriate for a GP to be consulted might alleviate such guilt and attendant anxieties. Also, previous work with parents suggests

that they feel frustrated about their own perceived ignorance in relation to their child's ill-health.¹⁰ This research has identified some core information and facts that a range of health professionals and parents/carers find equally acceptable, and which could therefore be focused upon as part of a consistent approach to improve the quality of advice giving in this important field of health care.

Strengths and limitations of the study

The nominal group technique has previously been used in the healthcare setting for the development of clinical guidelines and also for the identification of research questions.¹³ However, to our knowledge, this is the first time that this technique has been used in the primary care setting to identify where consensus lies in a multidisciplinary team with regard to the management of common childhood illness.

The inclusion of parents (service users) was important.¹⁷ Parents can be described as experts in the health of their children, but there was a risk that using a multidisciplinary group, that included consumers, would lead to the group interaction becoming hierarchical.¹⁶ Observers identified that there was one dominant member of the group, but the facilitator was able to minimise the impact of this individual on the final outcomes. This is supported by the low number of changes in degree of consensus found to be statistically significant using the Wilcoxon matched pairs signed-rank test.

Nine individuals were recruited to take part in the study, and this is appropriate for this methodology.¹⁶ However, other professionals, such as NHS Direct advisors and community pharmacists were not asked

to take part. As NHS Direct and pharmacists have been shown to be a source of advice for parents and carers, then their inclusion could have provided valuable insight.^{5,11,18} The statements considered by the nominal group members were developed through the initial qualitative phase. It was, in some cases, difficult to develop clear single-issue statements from this information, and so consequently a small number of statements included more than one issue or contained a double negative. However, the nominal group process allowed participants the opportunity to identify and highlight any questions that were poorly constructed or ambiguous, and so this issue is unlikely to have impacted significantly on the findings. In positive, practical terms, the nominal group technique approach depends heavily on researcher time and minimises the input required by the participants. This is particularly important when working with a group of people who have many demands on their time, as was the case with all participants in this research.

Conclusions and implications for further research

It has been reported that parents/carers want more specific information on how to gauge severity of illness and the point at which to seek medical advice.^{8,10} This study found that a very broad range of advice is actively being given out by health professionals with regard to the management of some common childhood illnesses. Sixty-nine items of advice around clinical management were given by the primary care professionals who were initially surveyed as part of this study, but a consensus view was reached on only a limited amount of information (19 statements). In attempting to identify the consensus view we have uncovered that some advice is being provided on which there is no consensus as to its appropriateness. From a quality perspective, this is a cause for concern since parents/carers are likely to consult on the health of their child on more than one occasion and will encounter a wide range of health professionals over a period of time. If they are given inconsistent or even conflicting advice, then this will not improve their ability to appropriately manage common childhood illness. Further research, exploring the origins of the views held by both health professionals and parents, is important to fully understand this phenomenon. This, and the advice presented in this paper on which there is a consensus, would make a good starting point for developing a patient-focused educational information pack designed to help parents/carers appropriately manage common illness in their children.

ETHICAL APPROVAL

Ethical approval was obtained for the study from Nottingham LREC.

SOURCE OF FUNDING

This study was funded through NHS Budget One funding. The views expressed in this article are not necessarily those of the NHS Executive. Thank you to Trent Focus (now Trent RDSU) for additional financial support.

ACKNOWLEDGEMENTS

We would like to thank all of the health visitors and GPs who took part in the initial survey. We would also like to thank and acknowledge the commitment given by the members of the Nominal Group. Many thanks to Professor Nick Black for advice and guidance, Dr Carol Coupland for statistical advice and Dr Sarah Armstrong for reviewing our draft paper.

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CONFLICTS OF INTEREST

None.

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Received 23 May 2007

Accepted 16 July 2007