Childhood illnesses and the use of paracetamol (acetaminophen): a qualitative study of parents’ management of common childhood illnesses

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Objectives. Parents frequently give over-the-counter paracetamol (acetaminophen) during childhood illness. This study aims at exploring parents’ use of this medicine in relation to their management of common childhood illnesses and the impact on the family.

Methods. Parents of pre-school aged children were asked open-ended questions about their perceptions of illness, its impact on the family, the use of paracetamol and sources of medical information. The interviews were audiotaped. The transcribed text was condensed and different views and opinions were identified for each question. The parents were recruited from six Norwegian public health centres during a questionnaire study on the use of paracetamol among their children. Volunteering parents supplied their name and telephone number for further contact. A strategic sample of 24 parents was selected for interviews according to their responses to the questionnaire and family characteristics.

Results. Parents recognized illness among their children either intuitively or by taking notice of specific signs or symptoms. Fever was considered a definite sign of illness, almost congruent with the disease itself. Some parents acknowledged that low or moderate fever reflected a battle between the body and the disease-causing organism. High or rapidly increasing fever, however, was frequently looked upon as dangerous. Mothers preferred to stay close to their child during illness and postponed other duties. Inexperienced parents felt particularly anxious and helpless since they often found the severity of the illness difficult to judge. Administration of paracetamol gave parents the feeling of mastery. The medicine was also used to calm down the child enabling sleep and rest for the whole family. Some parents were generally interested in information about child diseases, others were only eager to know more about it during periods of illness, and some parents were not interested as they felt information only caused more anxiety.

Conclusions. Fever was often judged to cause discomfort and danger. Thus antipyretics like paracetamol were regarded as a medicine counteracting disease. Paracetamol constituted an important tool for parents in managing different upsets during childhood illnesses. Information was not always wanted. Better knowledge about the significance of fever and how to handle children during common illnesses might need to be presented in a context familiar to parents, for instance, in relation to general information on childcare.

Keywords. Acetaminophen, childhood illness, fever, paracetamol, parenting.

Introduction

Fever is the most frequent signal of childhood illnesses serving as the chief complaint for as many as one third of all paediatric consultations in general practice.1 The antipyretic medicine paracetamol (acetaminophen) is used rather frequently in many countries, and the use seems to be growing.2,3
Paracetamol is an over-the-counter (OTC) medicine, and the use is therefore mainly in the hands of the parents. Parents’ views about the use of paracetamol will probably be affected by their attitudes to fever. Studies have revealed that parents’ knowledge about fever may be incorrect, and that their worries about fever may be historically deep-seated across generations. In managing parents’ misconceptions of childhood illnesses it is recommended that doctors listen more to the concerns and beliefs of parents about their children’s illnesses, and tailor information and education to parents’ particular needs.4

This study aims at describing parents’ ways of recognizing common childhood illnesses, their ideas on the significance of fever, the impact of children’s illnesses on everyday life of the family and their management of illnesses using paracetamol. Their attitudes to receiving information on childhood illnesses will be examined.

Methods

This study included parents visiting four public health centres in a middle-sized Norwegian town of 50,000 inhabitants with 5000 children less than 5 years old, and two public health centres in a nearby rural district. Pre-school aged children in Norway are offered regular physical examination and vaccination at public health centres during their first five years of life. The participating parents were recruited during a questionnaire study anonymously asking about the amount of paracetamol their children had consumed recently. In the questionnaire they were invited to participate to an interview giving further details about their experience of childhood illnesses, and of their child’s consumption of paracetamol. Volunteering parents were asked to supply their name and telephone number for further contact.

Of the 991 parents responding to the questionnaire, 365 volunteered to participate in an interview. Based on their answers to the questionnaire, we used predefined criteria mentioned below to extract a strategic sample of parents for interviews. The purpose was to include parents with different opinions about the use of paracetamol, and with different experiences as parents. The criteria were (i) some of the selected parents should recently have given their child paracetamol, and (ii) some parents should have children less than one year of age. The social security system in Norway ensures that one of the parents may stay home with the child during its first year of life. The selected sample should thus include families where one or both parents worked outside home, ensuring both family settings being represented. The parents were recruited from all six public health centres to increase the probability of including families with different socio-economic status. The characteristics of 24 included parents are summarized in Table 1.

The investigators were a paediatrician (PL), a public health nurse (SH) and a pharmacist (TH). They had different professional backgrounds, which supplied the study with various perspectives within healthcare. The interview guide was developed by the team and tried out in test interviews at a non-participating public health centre. The interview guide is presented in Figure 1. The probing questions in the interview guide were used as memos to ensure that all participants touched on the topics. The interviewer was attentive to ideas given by the participants and endeavoured to uncover train of thought in new topics. The interview proceeded as a dialogue lasting between 30 to 60 minutes. The interviews were all conducted by the same investigator (PL) at the local public health centres, except in one case where the mother’s office was the venue. The interviewer presented himself as a scientist, not wearing a white coat, and he was not a staff member at the participating public health centres.

The interviews were audiotaped and transcribed by a secretary, and listening to the tape while reading the transcripts checked congruence.

Broad categories of interest were chosen prior to the analyses of the interviews in order to correspond to the main topics of the interview guide: perception of illness; impact on the family; use of paracetamol; and ways of obtaining information (Fig. 1). Each investigator read and condensed the transcripts independently. Sub-categories with different views were identified by each investigator within the chosen categories. At successive meetings all three investigators explored similarities and differences between the identified opinions, and discussed and labelled the main views. The technique of phenomenography5 was applied, in which the identified views were checked against the transcripts. Extracts of statements were made from the transcripts for each identified view within the categories of interest. The presented extracts are meant to illustrate the identified viewpoints. During the entire study we have followed the overall standards for qualitative research, namely relevance, validity and reflexivity, as proposed by Malterud.6

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Characteristics of the 24 interviewed parents and their families</th>
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<tr>
<td>Age of interviewed parents, median (range)</td>
<td>31 (25–42)</td>
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<tr>
<td>Number of interviewed mothers and fathers, respectively</td>
<td>23, 1</td>
</tr>
<tr>
<td>Numbers of families with a child less than one year old</td>
<td>7</td>
</tr>
<tr>
<td>Number of families with 1, 2, 3 and 4 children, respectively</td>
<td>7, 12, 4, 1</td>
</tr>
<tr>
<td>Numbers of families giving paracetamol to their youngest child during the last three months</td>
<td>15</td>
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Perception of illness and the impact of illness on the family

How many children do you have?
Has illness been a nuisance to your children?
What kinds of illnesses have affected your children?
Could you please describe a typical case history?
How do you recognize when your child is ill?
What do you look for when judging the condition of your child?
Which considerations do you make for further actions?
How do you judge the presence of fever?
What do you feel about using medicines?
How do you decide whether to consult a doctor or not?
What kinds of practical difficulties occur in your family when one of the children gets ill?

Paracetamol

Are you familiar with paracetamol (Paracet®, Pamol®, Panodil®)?
Has one of your children ever received this medicine?
Could you please describe a situation, based on own experience, where you gave or would consider giving paracetamol to your child?
What do you know about the effects of paracetamol?
Have you experienced any side effects of paracetamol?
Are unwanted effects of paracetamol something you consider?

General questions

How do you find out about childhood diseases and the use of medicines?
Is there anything you would like to add or stress before we conclude this interview?
How did you experience this interview?

The Regional Committee on Medical Research Ethics and the Norwegian Social Science Data Services approved the study.

Results

Perception of illness (Box 1)

Two different ways were identified in which parents realized that something was wrong and that the child might be ill.

(i) The intuitive approach: the parents emphasize overall changes. The child behaves in an unusual way not easily described by words. Parents have a kind of intuitive perception.

(ii) The analytical approach: the parents use specific words to describe the changed behaviour and appearance of the child.

The importance parents ascribed to fever during childhood illnesses could be classified into three different viewpoints, mainly depending on the body temperature of the child.

(i) The presence of fever is considered as the obvious sign of disease, accepted by everybody and requiring definite action. When describing the importance of fever, parents often refer to their own sufferings during febrile illness.

(ii) Stable low or moderate fever indicates that the body is defending itself. Parents may then think that the fever is beneficial to the child; a battle between the disease-causing agents and the body is expressed by fever.

(iii) When the fever is high or increases rapidly the interviewed parents may think their child is seriously ill, and that the fever itself might hurt the child. Convulsion, brain damage and death are some of their major concerns.

Perceived impact of illness on the family (Box 2)

When their child is ill, parents explained that they had to organize their daily life differently. Social activities might be limited, and a feeling of incompetence in managing the situation made them feel anxious. The parents described different ways illness would affect them, depending on their experience as parents and their family situation. The identified feelings are not mutually exclusive but may be expressed with different intensity.

(i) The major priority is to care for and stay close to their child during illness. Mothers do not like to delegate this task to others.

(ii) Other duties are postponed or given a provisional solution. The healthy children of the family may get less attention than usual. In addition, the neglect of professional duties may give rise to a bad conscience.

(iii) Increased responsibility for the ill child may be a heavy burden to the parents. If they do not feel able to give sufficient care, they feel helpless. This feeling of helplessness is frequently cited as one of the main reasons for consulting a doctor.
Anxiety that the child may be severely ill may be prominent. Inexperienced parents, in particular, may find it difficult to evaluate whether the child is in a dangerous condition, and this may make them very concerned. Experienced parents explain that these exaggerated feelings often settle down when they learn to know their child better and get more familiar with the common illnesses that might affect them.

Conflicts may arise between family members about how to handle the situation. Usually one of the parents, often the mother, is put in charge of what to do when the child is ill. Other family members may intervene if they do not feel confident about the situation.

Isolation from the outside world may be perceived as a burden. In particular, single mothers express that they feel jailed at home when they are unable to move outdoors to meet other people or go shopping.

Attitudes to the use of paracetamol (Box 3)
Parents frequently used paracetamol. All the interviewed parents were acquainted with the medicine, and most of them had personal experience of using paracetamol. Very few parents had any worries about
side effects. Fever was the most prominent reason for giving the medicine, although the analgesic properties, to alleviate headache and earache, were also mentioned. However, this image was blurred when the parents described the situations prompting them to give paracetamol to their child. Fever legitimated using paracetamol, although more globally difficult situations, e.g. restlessness and lack of sleep, often were the real reason for medication. Parents described three reasons that prompted them to give paracetamol. Although the reasons were not mutually exclusive, each parent mainly expressed one reason.

(i) Parents want to help the child during illness, to alleviate suffering and to calm the child, enabling him/her to fall asleep. Being able to do something for the child comforts the parents and gives them a feeling of coping.

(ii) Parents want to help the family through the illness period. The interplay of the whole family is affected when one of its members gets ill. It is important to counteract sleep deprivation in parents too, and have the family co-operating.

(iii) Parents want to follow professional recommendations for handling the disease. The use of paracetamol seems to be well accepted by health professionals, and they often recommend this medicine when advising parents about how to care for their children during illness.

The need for information (Box 4)
We identified three different attitudes towards the importance of obtaining information about childhood diseases. These reflected parents’ interest and motivation to acquire knowledge about medical issues.

(i) Parents express a general interest in medical issues. Some parents are curious to know about common childhood illnesses and have already acquired information from books, pamphlets or friends beforehand.

(ii) Parents express a context-dependent interest in medical issues. They actively seek information only when the child is ill.

(iii) Parents show a lack of interest in medical issues. Some parents do not like information, saying it only adds to the burden of the situation or makes them anxious.

Discussion
Our goal has been to get a better understanding of parents’ concerns about childhood illnesses and the use of paracetamol. The different perceptions of illness, its impact on the family, the use of paracetamol and the acquisition of knowledge about childhood illnesses were revealed using questions targeting these topics. The different views should reflect a cross section of parents of ordinary healthy children since public health centres offer service to all children. The interviewed parents, however, were mainly mothers. Perhaps some different opinions could have been uncovered by interviewing more fathers. The investigators in this study have focused on problems encountered with common childhood illnesses. In this context we considered it beneficial that the interviewer was a paediatrician with

<table>
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<th>Box 3</th>
<th>Paracetamol</th>
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<td>Help the child:</td>
<td>“Then I give paracetamol so she can have a quiet night.” (No. 19)</td>
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<td></td>
<td>“When you are aware that your child is that ill, you find it hard to relax, and then, then it feels better to do something.” (No. 23)</td>
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<td>Help the family:</td>
<td>“I accept that sleep is important to everybody. It is important to the parents too. One can get crazy without any sleep. I realize you have to consider this when using paracetamol.” (No. 17)</td>
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<td>Accommodate professional advice:</td>
<td>“We wondered what to do and my wife took her to the emergency ward where she got this suppository (of paracetamol).” (No. 20)</td>
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<tr>
<th>Box 4</th>
<th>Information</th>
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<tr>
<td>General interest:</td>
<td>“Knowledge about disease... you know I’m really interested and I soak up information everywhere.” (No. 18)</td>
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<tr>
<td>Context-dependent interest:</td>
<td>“If something should happen... then I’m sure I would sit down and read about it, but as long as the children are healthy, why should I read about diseases?” (No. 16)</td>
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<td>Lack of interest:</td>
<td>“I have a pretty big book which I occasionally look into, but mostly it makes me more nervous to read about all the symptoms, and it makes me see all kinds of strange stuff.” (No. 21)</td>
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experience in consultations at public health centres. During the interview no comments or guidance was given to the parents, however. What mattered was the parents’ own experience as explained when introducing the questions (Fig. 1). Still, the fact that the interviews were conducted at public health centres may have influenced some parents to respond more in accordance with what they believed to be acceptable treatment. With this consideration on reflexivity in mind we are nevertheless impressed by the openness of the participating parents.

The results of the present study show that one way parents identified illness was pattern recognition. They identified a change of behaviour in their child that was difficult to describe in words. Behavioural changes occurred before any specific symptoms developed. We have labelled this diagnostic approach ‘intuitive’ in the sense of expert intuition. This might be related to the clinical judgement of experienced clinicians as opposed to the more analytical approach used by novices in clinical sciences. Fever might be less in focus in this intuitive perception while more attention is given to the general condition of the child. Further studies should examine whether expert intuition is more prominent among experienced parents.

Another way to recognize childhood illnesses was an analytical approach using specific words to describe the condition of the child. This approach is in accordance with the description of signs and symptoms given to parents when they are informed about childhood diseases. Parents often considered fever as the cardinal sign of disease, which could even be measured objectively. Perhaps the presentation of factual knowledge in pamphlets and books overemphasizes the importance of fever. In judging the severity of illness, fever has been proven to have a low predictive value. Maybe we should teach parents to pay more attention to their child’s general condition and pay less attention to fever.

Parents often associated discomfort during illness with raised temperature. Antipyretics also have analgesic properties, relieving pain and fever concomitantly. Based on this experience, some parents assumed that counteracting their child’s fever also would counteract the illness. The advertisements for OTC antipyretics and general information to parents present fever as something that obviously should be treated. There is, however, no documentation indicating that fever causes pain, and fever may be an important defence mechanism during infection. Some parents appreciated the presence of fever since they acknowledge fever as a sign that the body was fighting the infection. This understanding that fever may be favourable during infection ought to be emphasized in parent education.

High or rapidly increasing fever was judged by most of the interviewed parents to be a threat to their child’s health. They probably do not know that fever is controlled by a homeostatic mechanism preventing the development of dangerously high temperature. Their anxiety might reflect a general fever phobia shown to be widespread among parents during the last twenty years. This fever phobia could be inherited from the professionals reacting to the presence of fever by quickly recommending the use of antipyretics. In this study, one reason parents gave for using paracetamol was to comply with explicit advice from doctors or nurses.

During childhood illnesses, parents explained that they had to reorganize their daily duties to be able to focus on the ill child in need of care, and thus to stay away from work and social activities. The family members might feel the situation increasingly difficult during prolonged illness, and may push them to do something. Paracetamol could be looked upon as a tool to help the family through the illness process and out of isolation. A positive linear relationship has been shown to exist between mothers’ socio-economic status and their use of medicines during childhood diseases. One explanation might be that a high socio-economic status means more professional duties and larger difficulties to cope with the situation when the children get ill.

The parents frequently expressed anxiety and a feeling of helplessness when left alone with the management of their child during illness. Paracetamol, like other medicines, seems to have a kind of healing power in itself; detached from the presence of doctors. It enables the parents to handle a situation isolated from the context of the healthcare system. The child’s discomfort may be interpreted as pain, legitimating the use of paracetamol at least when discomfort is presented concomitantly with fever. Some parents felt relief when administering paracetamol, since this gave them a feeling of coping. Mastering the situation of isolation and helplessness may perhaps be promoted by easier access to the healthcare system. Without medicine intervention, parents may feel the need to stay more closely in contact with the professional network to enable continuous evaluation of the illness.

Awareness of possible side effects may curtail liberal use of medicines. Doctors frequently fail to give parents information on the side effect of medicines prescribed for their children. The parents were only slightly concerned about the side effects of paracetamol. The status of OTC paracetamol, a non-prescription medicine, may be a reason why its efficacy and safety are taken for granted. Without promoting a scare campaign, side effects of paracetamol should be communicated to parents.

One way to improve medicine treatment of common childhood illnesses is to supply more information. Parents’ motivation for learning about diseases and medicine treatment differed from general interest, context-dependent interest, to disinterest since the parent found it difficult to sort relevant information. In the last case, information might even increase anxiety.
These behaviours can be associated with different ways of coping in childcare. Knowledge and understanding is of vital importance to coping. Information to parents may be integrated into a wider context of managing childcare, like what to do with sleeping or eating problems. Motivation may improve by making the context relevant, predictable and less anxiety provoking. Interaction among parents in small groups can enable parent-to-parent education and empowerment in addition to the information given by health professionals. Such group interaction has been designed to enhance successful coping by increasing parents’ self-efficacy in childcare. Its usefulness ought to be evaluated in future studies.

Acknowledgement

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