# Acute Gastroenteritis: A Qualitative Study of Parental Motivations, Expectations, and Experiences During Out-of-Hours Primary Care

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## ABSTRACT

**PURPOSE** Acute gastroenteritis is a common infectious disease in children younger than 6 years of age. Although it is a self-limiting disease, it nevertheless has a high consultation rate in primary care, especially during out-of-hours primary care (OOH-PC). Reasons for this high consultation rate remain unclear.

**METHODS** The aim of this qualitative study was to explore parental motivations, expectations, and experiences of OOH-PC contacts for children with acute gastroenteritis. We conducted 14 semistructured interviews with parents who contacted OOH-PC in the Netherlands. Interviews were audio-recorded, transcribed, and analyzed using elements of grounded theory and a constant-comparison approach.

**RESULTS** Unusual behavior of the sick child, absent micturition, and ongoing vomiting and/or diarrhea, with decreased or no fluid intake, motivated parents to contact OOH-PC. Parents initiated contact to prevent symptom deterioration and to be reassured by a general practitioner (GP), expecting them to perform a thorough physical examination, provide information, and make follow-up plans. Parents reported dissatisfaction if they felt unheard, misunderstood, or not taken seriously, and this increased their likelihood of seeking another consultation. General practitioners did not always meet parental expectations.

**CONCLUSION** Multiple factors affect the decision for parents to contact OOH-PC for their child with gastroenteritis. There is a mismatch between parental expectations and actions of the GP. Awareness regarding parental feelings and understanding their expectations can guide GPs in the interaction with parents, which could improve satisfaction with primary health care and OOH-PC specifically.

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## INTRODUCTION

Acute gastroenteritis is among the top 5 most common reasons for parents consulting a general practitioner (GP) or out-of-hours primary care (OOH-PC) service with a sick child.[1-3] However, we know little about what motivates parents, or indeed, what they expect and experience during OOH-PC consultations for this indication.

During the period 2007 to 2014 in the Netherlands, the incidence of acute gastroenteritis in young children decreased, while the incidence of face-to-face contact with OOH-PC increased from 51.6% to 55.2%.[4] Referrals for children with acute gastroenteritis increased by an average of 3% per year,[5] but it has been suggested that 45% of these could have received treatment at home.[6] In high- and middle-income countries, acute gastroenteritis is a self-limiting disease, with good treatment options at home.[7] Parental motivations for contacting primary care have been investigated for other childhood diseases (eg, acute otitis media and respiratory tract symptoms) or have been conducted in settings where children are more seriously ill (eg, emergency departments).[8-11] Parental motivations regarding other childhood diseases cannot be directly translated to childhood gastroenteritis because this disease presents with other symptoms, affecting parents differently.

Knowledge of parental motivations, expectations, and experiences could improve GP care and increase parental satisfaction with OOH-PC contacts, treatments, and outcomes, while providing opportunities to increase self-management by parents. In this study, we aimed to explore parental motivations, expectations,

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and experiences of OOH-PC contacts for children with acute gastroenteritis.

## METHODS

We performed a qualitative study using semistructured interviews, following the Consolidated Criteria for Reporting Qualitative Research and the Standards for Reporting Qualitative Research.[12,13] The Medical Ethics Committee of the University Medical Center Groningen approved the study (registry No. 202000674).

### Setting

Out-of-hours primary care services in 3 cities in the north of the Netherlands (Groningen, Assen, and Zwolle) took part. In the Netherlands, large-scale cooperatives provide OOH-PC services that cover primary care during evenings, nights, and weekends. These services provide an extension of the gatekeeping function to secondary care outside of normal working hours. When people call the OOH-PC, triage nurses assess the urgency of the health problem by telephone and triage all contacts into 1 of 3 options: telephone advice, consultation at the OOH-PC, or home visit by a GP.[14]

### Study Population

Parents contacting OOH-PC for a child younger than 6 years with acute gastroenteritis were eligible for inclusion and approached by telephone within 3 weeks of their contact with OOH-PC. We only included Dutch-speaking participants who provided written informed consent. They received information regarding the study and were asked to take part. We used purposive sampling to obtain representation of the following characteristics: contact type (telephonic or in-person consultation), gender and age of the child (<1 year, 1-2 years, 2-3 years, >3 years).[15] At inclusion, we assessed gender and age of the parents, parental work status (employed or unemployed), parental education level (low, intermediate, or high vocational), household composition (1 or 2 parents), and number of children.

### Data Collection

We collected data from January 2021 to March 2021 using a semistructured interview guide. We used grounded theory with sensitizing concepts for the construction of the interview guide.[16] Sensitizing concepts can direct researchers in certain ways and can provide starting points for building analysis and creating an interview guide.[17] Based on the literature[18-25] and discussions within the research group, we formulated the following concepts: parental motivations, expectations, and experiences when contacting OOH-PC for a child with acute gastroenteritis (arranged chronologically before, during, and after the contact). In the interviews, we addressed these concepts with open questions. Based on the interview guide (Table 1), a trained researcher (A.A.H.W.) conducted semistructured audiovisual online interviews. Another trained researcher (J.T.) observed the interviews and added questions as necessary. We performed interviews until thematic saturation appeared to be achieved by iterative data analysis. We completed 4 additional interviews in which no new codes were found. All interviews were audio-recorded, transcribed verbatim, and anonymized. Each parent received a written summary for response validation.

### Analysis

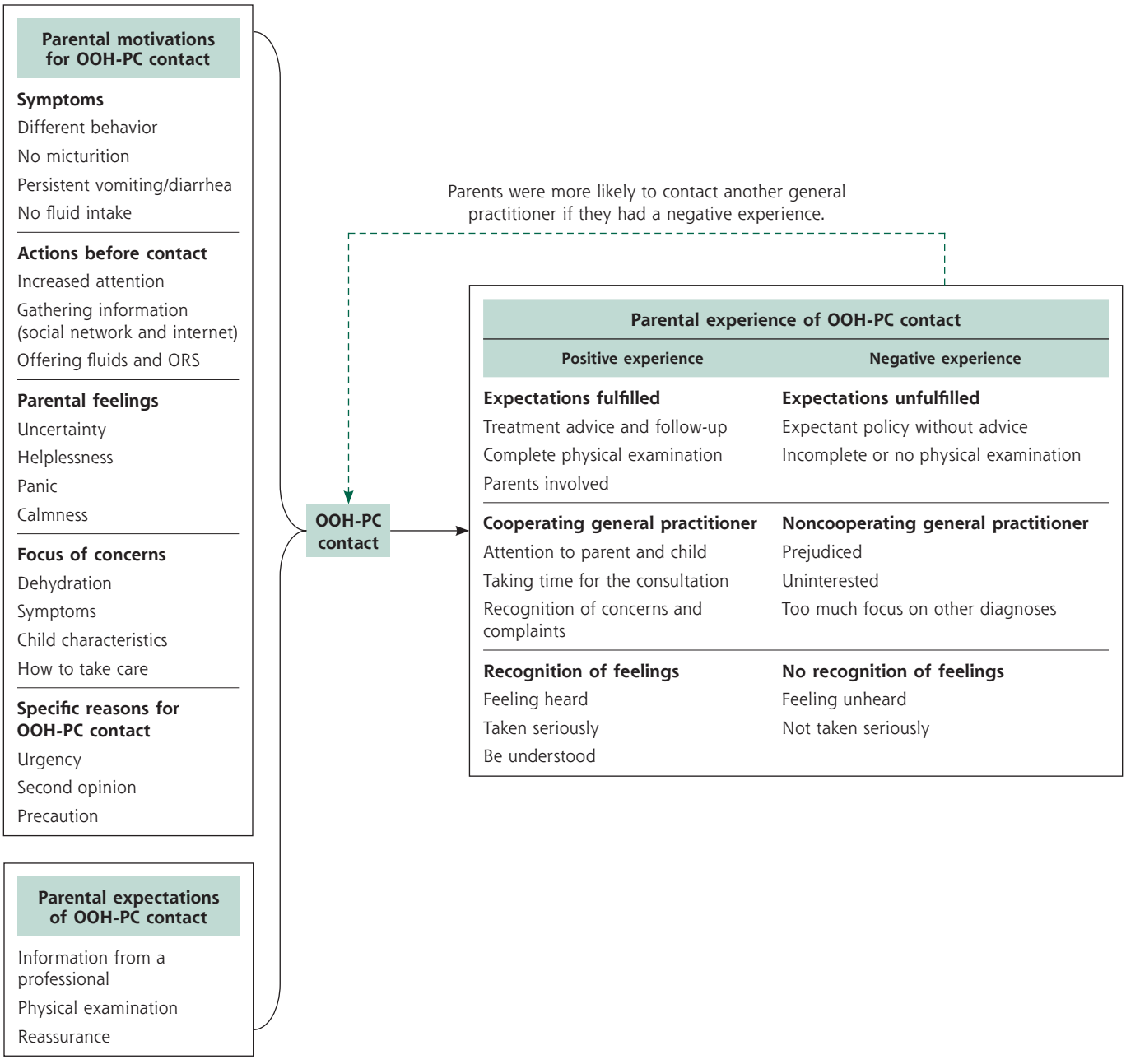
We analyzed the data using the constant-comparison method, marked by an iterative process, in which each code was constantly compared with other codes.[16,26] First, open coding was performed by 2 researchers (A.A.H.W. and J.T.), in which a large number of codes were developed to describe the data. The 2 researchers had different backgrounds (Supplemental Table 1) to enhance the reliability of the results by focusing on topics from different perspectives. A third researcher (I.J.B.) checked all of the interview coding for inconsistencies. Thereafter, axial coding was used to investigate the relations between codes that were developed in the open coding process, resulting in different categories. Selective coding was then used to group all different categories into overarching themes. During

**Table 1. Interview Guide**

| | Questions Asked in Relation to Contact |
|---|---|
| **Before** | • Could you tell me what happened before you contacted OOH-PC? |
| | • Could you tell me about what you did before contacting OOH-PC? |
| | • What were your feelings before the contact? |
| | • Did you have previous experience with a sick child? |
| | • What was the impact of the illness of your child? |
| | • What was the trigger to contact OOH-PC? |
| | • What other things did you do or think to do before contacting OOH-PC? |
| | • What were your expectations from the contact? |
| **During** | • And then you had the contact; could you tell me what happened next? |
| | • What did the general practitioner do? |
| | • How was the contact with the general practitioner? |
| | • How was it for your child? |
| **After** | • What was the course of the disease after the contact? |
| | • How do you look back at the contact? |
| | • Did you have any positive or negative experiences with the contact? |
| | • What would you do next time? |
| | • Were your expectations fulfilled? |
| | • What advice would you give to the OOH-PC service? |

OOH-PC = out-of-hours primary care.

**Figure 1. Overarching themes and their interactions.**




OOH-PC = out-of-hours primary care; ORS = oral rehydration solution.

data collection and analysis, experts in the research group with different backgrounds discussed the codes, categories, and overarching themes and made adjustments as necessary (Supplemental Table 1). We used Atlas.ti software version 8.4 (Scientific Software Development GmbH) for analysis.

## RESULTS

Figure 1 provides an overview of the categories, with overarching themes and their interactions.

### Participants

Fourteen parents took part in single semistructured interviews, which lasted 30 to 45 minutes. These included 11 mothers (78.6%) and 3 fathers (21.4%) with an average age of 32 years (range, 22-46 years). Table 2 summarizes their key characteristics.

### Parental Motivations for OOH-PC Contact

Multiple factors affected parental motivation to contact OOH-PC. These included their child's symptoms, the

actions taken before contact, and their feelings, concerns, and specific reasons for OOH-PC contact (eg, urgency, second opinion, or precaution).

### Symptoms

Parents immediately sought OOH-PC contact for 3 major symptoms. The most important was a change in their child's behavior, including the child becoming almost unresponsive, but lack of micturition for a while and the combination of ongoing vomiting and/or diarrhea with decreased or no fluid intake also prompted contact. Although fever could be present, it was not the main motivator.

"I thought, now I am going to call because this is no longer my child." (Parent A06, age 27 years, female)

### Actions Before Contact

To manage symptoms, parents often performed various actions before contacting OOH-PC. These comprised paying extra attention to their sick child, gathering information from their social network and/or the internet, and offering fluids and/or oral rehydration solution more frequently and in different ways. Seeking information reassured some parents but caused anxiety for others. Failure to respond to increased fluid offerings often prompted consultation.

"We worried way too much about what was said on the internet, especially about how much she should drink." (Parent G03, age 35 years, male)

### Parental Feelings

Parental feelings of uncertainty, helplessness, and panic were important motivations for OOH-PC contact. Uncertainty focused on a range of questions including, Are we on the right track?, What is it?, Will the symptoms ever stop?, and When should we call?, with particular uncertainty expressed about whether they could call OOH-PC with the current symptoms. Parents felt helpless when fluid loss continued and when their child did not want to drink or take oral rehydration solutions. Some parents reached the stage of panic when their child became less alert, or the vomiting did not stop. In addition, emotions during OOH-PC contact differed between parents seen face-to-face and by telephone, with parents who had telephone contact being calmer.

"You feel helpless because you see your child is suffering. You just don't know what to do anymore. There is nothing you can do." (Parent A01, age 22 years, female)

### Focus of Concerns

Parents expressed concerns about 4 general aspects of the illness and its management. First, they reported concerns about dehydration, given that their child kept losing fluids because of vomiting and/or diarrhea without replenishing those losses with suitable fluid intake. Second, the duration of fever, change in their child's behavior, and perceived pain also increased their concerns. Third, the household type and child's age appeared to influence the amount of parental concern, with younger child age and parental inexperience (ie, first child) associated with greater worry.

**Table 2. Participant Characteristics (n = 14)**

| Characteristic | No. (%) |
|---|---|
| Child sex, male | 8 (57.1) |
| Child age, y | |
| <1 | 5 (35.7) |
| 1-2 | 4 (28.6) |
| 2-3 | 4 (28.6) |
| >3 | 1 (7.1) |
| Contact type | |
| Telephone | 3 (21.4) |
| In-person consultation | 11 (78.6) |
| First-born child | 10 (71.4) |
| Parent sex, female | 11 (78.6) |
| Parent age, y | |
| 20-29 | 5 (35.7) |
| 30-39 | 8 (57.1) |
| 40-49 | 1 (7.1) |
| Contacting parent employed | 12 (85.7) |
| Educational level | |
| Intermediate vocational | 6 (42.9) |
| Higher vocational | 8 (57.1) |
| Type of household | |
| 1 parent | 3 (21.4) |
| 2 parent | 11 (78.6) |
| Number of children | |
| 1 | 7 (50.0) |
| 2 | 5 (35.7) |
| 3 | 2 (14.3) |

"You worry, of course. It is your first child, so it is also the first experience. You rely purely on your feelings." (Parent G04, age 35 years, female)

Fourth, given that acute gastroenteritis is a contagious disease, parents who also got sick expressed concern about how to take care of their child while sick themselves.

### Specific Reasons for OOH-PC Contact

Most parents contacted OOH-PC instead of their own GP because of the perceived urgency, reporting that they felt a consultation could not wait until the next working day. Other parents reported contacting the OOH-PC service because they felt that their own GP had not listened to them adequately.

"Then we thought, we want someone to look at our child. If our own general practitioner is not willing to do that, we will go to the out-of-hours primary care." (Parent Z01, age 30 years, female)

Others cited doing so as a precaution, reporting fear that symptoms might worsen, a desire to prevent dehydration, and/or not wanting to take any risk.

## Parental Expectations of OOH-PC Contact

Parents expected to receive information, for their child to undergo a physical examination, and to be reassured by a GP. Specifically, they wanted information regarding different aspects of the disease such as the required amount of fluid intake, the symptoms to be aware of, and what to do in given situations. In addition, they expected the GP to perform an adequate investigation, including physical examination of their child. Reassurance varied from excluding other diagnoses to reassurance about the amount of dehydration.

"We hoped to get answers to the questions, What is it? What is going on? What should we do? What can we do to get her through this? When does it go wrong?" (Parent G02, age 32 years, male)

## Parental Experience of OOH-PC Contact

The actions and attitudes of GPs affected parental experiences. In general, parents experienced the contact as satisfying if their expectations were met and they felt the GP cooperated and recognized their feelings. If this did not happen, parents reported dissatisfaction with the OOH-PC contact.

### Fulfillment of Expectations

Parents thought that GPs should identify parental expectations and that if met, the experience will be more positive. Parents reported satisfaction if they received information and advice on how to improve fluid intake, alarm symptoms, what to expect over the course of the disease, and when and whom to call.

"Advice for the general practitioner: explain to parents how the body works when the child has gastroenteritis and where it comes from. Try to explain this well, so that parents feel better when they end the contact. A very important thing, I think, is to ask if the parents are reassured before they go. Just ask, reassure the parents, and then let them go. Did the parents receive an answer to their question, or do they have further questions? Treat them like humans and not a number." (Parent A04, age 35 years, female)

By contrast, parents reported dissatisfaction if they received no information about the disease or follow-up.

"The general practitioner said, 'she is not dehydrated, so we cannot do anything for her.' So, basically, I went [to the out-of-hours primary care] for nothing." (Parent A07, age 29 years, female)

Parents felt satisfied when their child received a complete physical examination and when the GP involved them in the examination. Parents appreciated it when the GP thoughtfully described the next steps. By contrast, they reported dissatisfaction when the GP performed little or no physical examination.

### Attitude of the General Practitioner

Parents also mentioned the importance of the GPs' attitude, reporting greater satisfaction when the GP paid attention to both the parent(s) and the child. This included the GP being empathetic and showing sympathy for the situation. Parental satisfaction also increased when they perceived that the GP had taken enough time and had acknowledged their concerns about their child's symptoms.

"They saw she was really sick. The general practitioner said, 'it is good that you came,' and that recognition for the visit is quite nice to hear." (Parent A09, age 27 years, female)

The GP could generate parental dissatisfaction by presenting an attitude indicating that they had a prejudice (ie, a young mother or single parent), showing no interest (ie, appearing nonchalant or uncaring), or focusing too much on another diagnosis that the parent had neither presented with nor complained about.

"The first question the general practitioner asked was, 'Is this your first child?' Even if it had been my third child, I would still have gone there. I did not experience that as very pleasant…The general practitioner just had certain statements and a way of communicating. I am a young mother and sometimes people look at that, that happens, and that is very annoying." (Parent A01, age 22 years, female)

### Feelings of Parents

Satisfaction with the contact improved if parents felt heard, taken seriously, and understood by the GP.

"The general practitioner listened very carefully. She did everything, [did a] full check from head to toe and really listened. I sat there for a long time, I think like 25 minutes. I felt really heard." (Parent A04, age 35 years, female)

In retrospect, parents reported dissatisfaction with the contact because they felt unheard or not taken seriously. This applied, for example, when the GP focused more on the computer than on the parent, did not acknowledge parental worries, and did not recognize the child's complaints. Parents often said that they know their own child best and felt that their authority was denied if the GP expressed an alternative opinion.

"Then the general practitioner said, 'I don't think your son is drowsy, don't worry.' He wanted to explain to me what a drowsy child was. I don't think I am stupid, and I thought my child was drowsy, and I wanted someone to look at him." (Parent A01, age 22 years, female)

Parents reported that failure to take their concerns seriously had a significant effect on their negative feelings. They sometimes felt that the GP judged them as being overprotective parents, which they considered very unpleasant.

"I was not taken seriously at all. I got the feeling like, oh god, there you have her again." (Parent A02, age 34 years, female)

If satisfied with the contact by having their expectations met, parents felt that they would be less likely to contact their own GP or OOH-PC again. They also said that good

advice about acute gastroenteritis and dehydration could help them with future illnesses and perhaps even prevent GP or OOH-PC contact.

## DISCUSSION

In this qualitative study, we investigated parental motivations, expectations, and experiences regarding OOH-PC contacts for children with acute gastroenteritis. Parental motivations to contact OOH-PC were a change in their child's behavior, absent micturition, and a combination of persistent vomiting and/or diarrhea with decreased or no fluid intake. These features led to parental concern and OOH-PC contact to prevent symptom deterioration. In addition, we found that most parents became dissatisfied with OOH-PC when they felt unheard, misunderstood, or not taken seriously. In turn, this dissatisfaction made them more likely to seek another consultation with a GP. Parents mainly expected to be reassured by the GP, which could be achieved by providing information, making follow-up plans, and performing thorough physical examinations. Unfortunately, GPs did not always fulfill these expectations.

### Strengths and Limitations

A strength of this study is that the same interviewer completed all of the interviews to ensure consistency. The interviewer was not employed at the OOH-PC to optimize objectivity. In addition, the research group in which codes were discussed and analyzed comprised a range of experts with different backgrounds, helping to improve the analysis. The fact that we performed interviews online, owing to the coronavirus disease 2019 pandemic, could be a limitation, though research has shown similar parent responses with audiovisual media and in-person interviews.[27]

### Comparison With Existing Literature

#### Parental Motivations for OOH-PC Contact

This study found that a different behavior of the child motivated parents to contact OOH-PC. A prior study of rotavirus gastroenteritis revealed a greater effect on parents' daily activities and greater parental distress with increased changes in the child's behavior.[28] Our findings add to the hypothesis that behavioral changes might increase anxiety and therefore cause parents to contact OOH-PC (Figure 1). In addition, we found that ongoing vomiting and/or diarrhea with decreased or no fluid intake and absent micturition caused parents to contact OOH-PC. Interestingly, fever was not a main motivator for parents of children with gastroenteritis to contact OOH-PC. This might be explained by the fact that in the Netherlands, parents have easy access to well-designed and trustworthy information regarding how to handle fever.[29] This might decrease the feeling of helplessness regarding childhood diseases.

With respect to childhood diseases, parents actively search for information before contacting the GP.[20] For parents of children with gastroenteritis, we found that internet, personal network, or prior consultations for the same condition were important sources of information before contacting OOH-PC. Prior studies of childhood fever revealed that an informative booklet for parents decreased the intention to reconsult for similar feverish illnesses.[30,31] Increasing knowledge and providing reliable information might increase self-management and decrease anxiety and helplessness for parents.

#### Parental Expectations of OOH-PC Contact

In accordance with the existing literature, we found that parents expected to receive information, a physical examination of their child, and to be reassured by a GP.[9,25] Research has shown that a physical examination is valued as an important component of a consultation and is reassuring for parents.[20,32] A new finding of the present study was the specific information parents of children with gastroenteritis need about different aspects of the disease such as the required amount of fluid intake, the symptoms to be aware of, and what to do in given situations.

#### Parental Experience of OOH-PC Contact

Regarding the actions of the GP, parents were generally satisfied if they received adequate treatment advice with follow-up appointments. A previous study concluded that parents of children with gastroenteritis were satisfied with telephone nursing advice if a follow-up call was offered and felt more secure if someone called them back.[33] We also found increased parental satisfaction when the GP paid attention to both the parents and the child, which is supported by qualitative research investigating how to facilitate consultations with children aged 1 to 2 years.[34] Parents reported a positive experience with OOH-PC if they felt heard, taken seriously, and understood by a GP. General practitioners could facilitate this by showing interest in wanting to know what the parent had to say, taking time to manage the child, listening carefully, and asking questions that the parents felt applied to them. We conclude that the general principles of good communication are especially important when dealing with parents of children with acute gastroenteritis. This is critical, given that parents are the principal caregivers of their child and are in a unique position to provide an informed overall view of their health.[35]

### Implications

The results of this study indicate that it is important for GPs to keep in mind that some children are not severely sick or dehydrated, but parents might be worried and want to prevent severe illness. In addition to reassurance, parents are in need of clear, practical information regarding the natural course of the disease, alarm symptoms, and when to contact again. For childhood fever, it appears that access to an illness-focused interactive booklet decreased the intention to consult again for a similar illness.[31] This could also be valuable for

childhood gastroenteritis. Studies have shown that effective communication with parents requires GPs to have a better understanding of parental concerns and their causes.[36,37] When parents feel that their needs are met, they are more likely to accept GPs' advice and decisions, even when this differs from their expectations.[32] This simple focus on communication could be all that is needed to improve the therapeutic relationship, improve parental satisfaction, and perhaps decrease reattendance. Moreover, if correctly triaged based on both clinical and parental need, a telephone call could be sufficient when parents only require information and not necessarily a physical examination.

## CONCLUSIONS

This study provides important information regarding parental motivations, expectations, and experiences that could serve as a reminder for GPs to provide more appropriate care, strengthened by listening to parents, taking them seriously, and understanding their feelings and worries. The parents of children with acute gastroenteritis have valid worries, and when the symptoms of their child reach a certain point, they will search for reassurance from GPs. Parents will have a more positive experience when a GP performs a complete physical examination, provides clear information about the disease course, discusses alarm symptoms, and meets parental expectations. Delivering on these preferences might improve parental satisfaction and decrease reattendance in primary care.

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**Key words:** children; parents; acute gastroenteritis; patient experience; motivation; expectation; primary care; general practitioner

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**Disclaimer:** Deidentified individual participant data (including data dictionaries), the study protocol, the statistical analysis plan, and the informed consent form will be made available on reasonable request by researchers who provide a methodologically sound proposal. Approved proposals should be submitted to m.y.berger@umcg.nl.

**Trial registration:** The Medical Ethics Committee of the University Medical Center Groningen approved the study (registry No. 202000674). All parents provided written informed consent.

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Supplemental materials

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