

Parenta Awareness of Care for a Child with Gastroenteritis

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Original Article

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Abstract:

Objective: Gastroenteritis is a common illness affecting children and requires proper care to prevent complications. This study aimed to determine the level of parental awareness about caring for a child with gastroenteritis.

Methodology: We conducted the research using a quantitative method in the form of a self-constructed questionnaire. A total of 52 respondents participated in the study, with a purposive sample consisting of parents of hospitalized children at the pediatrics clinic of the Faculty Hospital in Trnava. The questionnaire was distributed between October and December 2023. The return rate of the questionnaire was 100%. We evaluated the questionnaire using Student's t-test and One-Way ANOVA test.

Results: Our findings indicate that most parents have knowledge about gastroenteritis, recognize its symptoms, and

understand the nursing care procedures for a child with this condition. However, despite these findings, we identified deficiencies in the awareness of nursing care procedures for a child with gastroenteritis.

Conclusion: Our research found no significant differences in parental awareness regarding place of residence, number of children in the household, level of education, and field of work.

Introduction

Acute gastroenteritis is a common illness that occurs in people of all age groups and can have potentially serious complications in young children and the elderly, who are susceptible to dehydration. Since its identification in the early 1970s, it has become a leading cause of gastroenteritis worldwide. Among the main enteric viruses, rotaviruses tend to affect young children, while noroviruses are problematic for people of all ages (Bánayai, Estes et al., 2018).

Gastroenteritis (GE) is defined as a condition associated with symptoms of diarrhea or vomiting resulting from a non-inflammatory infection in the upper small intestine or an inflammatory infection in the large intestine. These infections can be caused by bacteria, viruses, or parasites; however, in many cases, no specific pathogen has been identified (Barrett and Fhogartaigh, 2017).

Acute gastroenteritis remains a major cause of morbidity and mortality in children, especially in resource-limited countries. Although it is often a mild and temporary illness, GE is one of

the leading causes of hospitalization and is associated with a significant disease burden. Each year, approximately 10.6 million children worldwide die before reaching the age of five, with gastroenteritis alone responsible for nearly 20% of these deaths (Ciccarelli, Stolfi et al., 2013).

The most common cause of dehydrating GE in children under five years of age worldwide is the rotavirus, which belongs to the group of double-stranded RNA viruses from the Reoviridae family. Children infected with this virus often suffer from severe watery diarrhea, vomiting, mild to moderate fever, and abdominal pain. GE symptoms usually resolve within 3 to 7 days, with a relatively short incubation period of 1 to 3 days (Hsing-Chen, Meng-Tsen et al., 2019).

In Slovakia, 10,153 cases of gastroenteritis were reported in 2022, with rotavirus being the most common cause, followed by norovirus and adenovirus. The highest morbidity was recorded in the Prešov region with 269.92 cases per 100,000 inhabitants, and the lowest morbidity was in the Trnava region with 144.17 cases

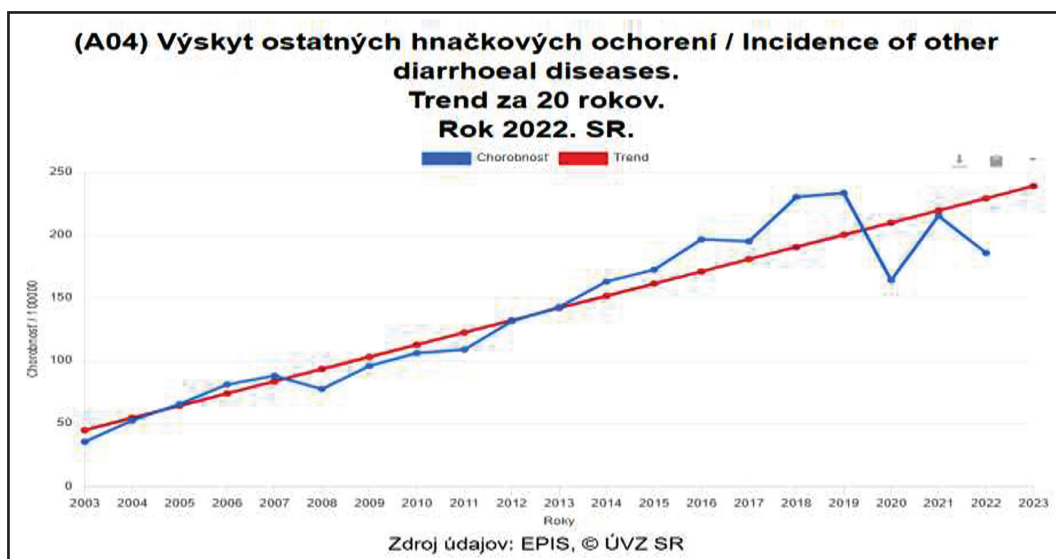


Table 1 Frequency Analysis Results of Awareness about Gastroenteritis

Question	n	%
When did you first encounter the term gastroenteritis?		
– From a pediatrician	12	23.1
– From social networks	10	19.2
– When your child first encountered this illness	30	57.7
Did your pediatrician inform you that it is possible to vaccinate?		
– Yes	13	25.0
Did your pediatrician inform you that despite vaccination?		
– (No response)	22	42.3
– Yes	13	25.0
– No	12	23.1
– Don't know	5	9.6
– No	31	59.6
– Don't know	8	15.4
Total	52	100.0

per 100,000 inhabitants. Gastroenteritis affected all age groups, but the most frequently affected group was infants and toddlers. Morbidity among infants was 1576.31 cases per 100,000 inhabitants, and for children aged 1-4 years, it was 641.21 cases per 100,000 inhabitants. The incidence of this disease increased by 79.2% over the past year and by 49% compared to the average of the last five years (Epis, 2023).

Research Methodology

Data Collection: The data for this study were obtained through an anonymous questionnaire distributed to parents of children hospitalized at the Pediatrics Clinic of the Faculty Hospital in Trnava. The questionnaire consisted of 30 questions focusing on demographic data, knowledge about gastroenteritis, and procedures for caring for a sick child. The questionnaires were distributed between October and December 2023, and the response rate was 100%.

Results

The study focused on analyzing parents' knowledge about gastroenteritis (GE) and evalu-

ating their responses to various situations related to this illness. The results are presented in the following sections: frequency analysis, descriptive statistics, and inferential statistics.

Frequency Analysis

First Encounter with the Term Gastroenteritis:

- The majority of respondents (57.7%) first encountered the term „gastroenteritis“ when their child fell ill.
- Only 23.1% of respondents received information about GE from a pediatrician.
- Other sources of information included the internet (11.5%) and family or friends (7.7%).

Awareness of Vaccination Against GE:

- Only 25% of respondents stated that their pediatrician informed them about the possibility of vaccination against GE.
- The majority (59.6%) were not informed about this option.
- The remaining 15.4% of respondents were unsure or did not remember.

Table 2 Results of Frequency Analysis

Question	n	%
Did you give your child fluids immediately after repeated vomiting?		
– Yes	23	44.2
Were you concerned about dehydration?		
– (No response)	23	44.2
– Yes	23	44.2
– No	5	9.6
– Don't know	1	1.9
– No	29	55.8
Did you give your child food after repeated vomiting?		
– Yes	9	17.3
If you answered „yes“ to question 22, was it because:		
– (No response)	43	82.7
– The child was hungry	2	3.8
– To maintain energy intake	7	13.5
– No	43	82.7
What type of food did you give your child during this illness?		
– Dry food (dry rice, potatoes, biscuits)	40	76.9
– Biscuits	5	9.6
– Broth	2	3.8
– We did not modify the diet, he ate regular food	5	9.6
Do you think it is necessary to follow dietary measures during this illness?		
– Yes	48	92.3
– No	2	3.8
– Don't know	2	3.8
How many days do you think a child should follow dietary measures?		
– 2-3	19	36.5
– 3-5	19	36.5
– 5-7	14	26.9
What is the correct procedure for following dietary measures for a child with GE?		
– Immediate offering of fluids, dry food, rest for the child	2	3.8
– Offering fluids by spoonfuls, rest for the child, dry food	16	30.8
– Pause with fluids for at least 3 hours after vomiting, offering fluids by spoonfuls, dry food	34	65.4
Do you know how many stools can lead to dehydration in a child?		
– 2-3	5	9.6
– 3-5	19	36.5
– 5 or more	28	53.8
Total	52	100.0

Signs of Dehydration: How do you know if your child is dehydrated and needs hospitalization? As shown, correct answers (highlighted in red on the graph) were given by respondents: dark urine – 65.4% (n = 34); headache – 44.2% (n = 23); drowsiness – 61.5% (n = 31); and dry lips – 86.5% (n = 45).

Measures for Vomiting and Diarrhea:

- 55.8% of parents stated that they do not give fluids immediately after repeated vomiting.
- The remaining 44.2% of parents provided fluids out of concern for dehydration.

Descriptive Statistics

Awareness of Dietary Measures:

- The majority of parents (73.1%) knew that it is necessary to provide dry food during GE.
- 26.9% of respondents answered incorrectly or did not know.

Duration of Dietary Measures:

- Only 29.6% of respondents knew that dietary measures should last 5-7 days.
- 70.4% of respondents answered incorrectly or did not know.

Identification of GE Symptoms: Most respondents correctly identified GE symptoms:

- Weakness – correctly indicated by 78.8% (n = 41);
- Abdominal pain – 92.3% (n = 48);
- Fever – 65.4% (n = 34);
- Numerous loose stools – 90.4% (n = 47);
- Vomiting – 98.1% (n = 51).

Number of Stools Leading to Dehydration:

- 53.9% of respondents knew that 5 or more stools could lead to dehydration.
- 46.1% of respondents answered incorrectly or did not know.

Inferential Statistics

Impact of Place of Residence on Knowledge Level:

- Testing the hypothesis regarding differences in parental knowledge based on place of residence (urban vs. rural) showed no significant differences ($p > 0.05$). This suggests that the

level of knowledge about GE is not influenced by place of residence.

Impact of Number of Children in Household on Knowledge Level:

- Testing the hypothesis that the number of children in the household affects parental knowledge about GE also showed no significant differences ($p > 0.05$). This result indicates that parents with different numbers of children have similar knowledge about GE.

Impact of Education Level on Knowledge Level:

- The hypothesis that parents' education level influences their knowledge about GE was not confirmed ($p > 0.05$). Parents with different levels of education demonstrated similar knowledge about GE

Summary of Results

The results of this study indicate that parental awareness of gastroenteritis (GE) and the appropriate care procedures for this illness is insufficient. Most parents first encountered the term GE when their child became ill, highlighting the need for improved preventive education. Communication between pediatricians and parents about vaccination options is also inadequate, as most parents were not informed about this possibility.

Parents demonstrated relatively good knowledge of dietary measures for GE; however, their awareness of the correct duration for these dietary measures was low. While parents mostly identified the symptoms of GE correctly, their knowledge about the proper procedures for dealing with dehydration was incomplete.

Inferential statistics showed that the level of parental knowledge about GE is not influenced by place of residence, the number of children in the household, or the level of education. This suggests that the need for improved awareness is universal across different social and demographic groups.

Discussion

The research focused on the level of parental awareness regarding the illness and nursing care for a child with gastroenteritis. Our study

included 52 respondents, of which 82.7% were women and 17.3% were men. The most numerous age group in our study was 31-40 years old (both men and women). The second most numerous group was 21-30 years old (only women), followed by 41 and older (16.3% women and 33.3% men), and one respondent (a woman) represented the 15-20 age group.

From an educational perspective, 53.8% of respondents had a high school education with a diploma, making it the largest group (including both men and women). The second largest group by education was respondents with a university degree, who accounted for 26.9% (with 23.3% women and 44.4% men). Among women, we also noted representation with primary education (4.7%) and high school education without a diploma (14%). A total of 59.6% of respondents came from rural areas, and 40.4% came from cities.

In terms of occupation, about a third of respondents (34.6%) worked in manual labor and services, similarly for both men and women. Another 28.8% worked in culture, education, and administration, with women comprising 30.2% and men 22.2%. In healthcare and social work, 21.2% of respondents worked, with women representing 23.3% and men 11.1%. In the public sector, 15.4% of respondents worked, with more men (33.3%) than women (11.6%).

We investigated parents' knowledge about GE. When asked when they first encountered the term gastroenteritis, 30 respondents answered that it was when their child first became ill. We then asked if their pediatrician informed them about the possibility of vaccination against rotaviruses. Only 13 respondents answered positively, while 31 respondents answered negatively. This finding is concerning as pediatricians should inform parents about vaccination options to reduce the incidence of gastroenteritis.

Šimurka (2012) notes in his study that vaccination is the only means to impact the occurrence of rotavirus-caused gastroenteritis. He further recommends vaccinating not only high-risk but also all healthy children. There is ample evidence of both medical and economic benefits of rotavirus vaccination. Leshem, Tate et al. (2018) found in their study that the introduction of routine rotavirus vaccination in 2006 significantly reduced the number of hospitalizations related

to acute gastroenteritis. It is estimated that since the introduction of rotavirus vaccines in the United States in 2006, 382,000 hospitalizations in children under five have been prevented, saving \$1.228 billion in direct hospitalization costs. Marchetti, Vetter, et al. (2017) found that 90% of hospitalized children were not vaccinated, and most of them (74.5%) were not informed about the possibility of vaccination against rotaviruses.

Gastroenteritis (an illness affecting the stomach and intestines) is considered a serious illness by 37 respondents, which is incorrect, while only 15 respondents correctly identified it as a less serious illness. This statement is confirmed by Frühauf (2013), who states that acute gastroenteritis is a frequent but not serious problem in childhood, particularly in the first three years of life. It usually, but not always, runs mildly and deaths are rare. However, it is often associated with hospitalization. Forty-four respondents believe that GE is an infectious disease, which is the correct answer. In the case of a positive response, respondents were asked when they believe a child can return to a group setting. Forty-five respondents indicated that a child can return when no longer showing any signs of illness, such as vomiting and having loose stools. We found that one respondent does not think GE is an infectious disease but still indicated that a child can return to a group setting only when showing no signs of illness.

Twenty-two respondents indicated that upon detecting the illness, they try to manage the situation at home. Although most parents try to handle the situation at home, they also stated in another question that immediate medical help is necessary for GE, which is incorrect. When asked if immediate hospitalization is necessary, 20 respondents answered correctly, 19 indicated hospitalization is necessary, and 13 did not know. Corcoran, Well et al. (2014) confirm in their study that hospitalization can be avoided by following treatment procedures, stating that children admitted to the hospital mainly suffer from severe GE requiring rehydration therapy. Most children do not require examination or admission to the hospital and can be treated at home.

Dobiáš and Podhoranský (2022) state that visiting a doctor for GE in a small child should occur within 12 hours and within 24 hours for

older children if fluids are not gradually tolerated. They also note that in case of any doubts about the child's condition, including changes in consciousness, mood, abdominal pain, or frequent vomiting, it is important to seek immediate medical help. It is known from practice that parents often get scared when their child vomits, especially if it is the first time, which is a common reason for seeking immediate medical help. Albrecht, Hartlingová et al. (2016) confirm this in their study, stating that when the first symptoms of GE appear, parents report feeling fear and concern for their child and are unsure how to proceed to help their child recover.

When investigating the correct nursing care procedures for a child, we asked parents if it is correct to give fluids immediately after repeated vomiting. Twenty-nine respondents correctly answered no. However, 23 respondents still think it is correct to give fluids immediately after vomiting due to fear of dehydration. Regarding giving food after repeated vomiting, 43 respondents correctly answered that they did not provide food. Nine respondents provided food despite vomiting to maintain energy intake, which is incorrect. When asked what food they provided to their child during GE, 40 respondents correctly indicated dry food. When asked if it is necessary to follow dietary measures, 48 respondents correctly answered yes. We then asked how long they believe these dietary measures should be followed. Nineteen respondents indicated 2-3 days, another 19 indicated 3-5 days, which is incorrect. Only 14 respondents correctly indicated 5-7 days. Thirty-four respondents follow the correct dietary measures by pausing fluids for at least three hours after the last vomiting, offering fluids by spoonfuls, and then dry food.

Klima et al. (2016) state that the first step in therapy is maintaining a diet and carefully ensuring hydration and nutrition. After restoring the loss of fluids, minerals, and energy, a diet that helps soothe the intestinal mucosa and contains easily digestible components can begin. Such dietary foods include rice broth, carrot broth, and certain fruits.

When investigating parents' knowledge of GE symptoms, we found that most respondents correctly identified the symptoms. In our study, parents indicated vomiting as the most frequent

symptom, followed by abdominal pain, loose stools, weakness, fever, and breathing problems as the last possibility. Gabor and Grimwood (2019) found that the most common symptom of GE was loose stools and vomiting. When asked how they determine if their child is dehydrated and needs hospitalization, respondents most frequently indicated dry lips (86.5%). This was followed by dark urine, drowsiness, headache, and the least indicated was a high fever. When asked when they believe medical help is necessary, the most common reason was when the child does not accept fluids, which is correct as the child can quickly dehydrate. Dehydration associated with electrolyte imbalance and metabolic acidosis is the most common and risky complication, as confirmed by Leung and Hon (2021).

Conclusion

The results of our study suggest that parents' knowledge of gastroenteritis and its management is insufficient, which can negatively impact their children's health. Most parents encounter the term gastroenteritis only when their child becomes ill, with information primarily obtained from informal sources such as the internet or personal experiences, rather than professional sources. This lack of preventive education points to the need to improve parental awareness of GE during regular preventive check-ups with pediatricians.

Another important finding is that communication between pediatricians and parents about vaccination options against GE is inadequate. Most parents were not informed about this preventive measure, leading to unnecessary health complications in children.

While parents show relatively good knowledge of dietary measures for GE, their awareness of the correct duration of these measures and the steps to prevent dehydration is insufficient. This can lead to incorrect practices that can worsen the child's condition and prolong recovery time.

Statistical analysis did not show significant differences in parental knowledge based on place of residence, number of children in the household, or education level. This suggests that the problem of low awareness is present across various social and demographic groups, requiring

a universal approach to improving awareness and education.

Based on these findings, we recommend increasing activities in educating parents about gastroenteritis and its management, focusing on preventive measures, proper dietary habits, and recognizing signs of dehydration. Pediatricians should actively inform parents about vaccination options and provide clear guidelines for managing GE. This way, we can improve children's health and reduce the incidence of complications associated with gastroenteritis.

Ethical Aspects and Conflict of Interest

We declare that there were no conflicts of interest related to the study, and ethical aspects were considered in processing the results. All literary sources were properly cited

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