Author's response to reviews

Title: Pediatric gastroenteritis in the emergency department: Practice evaluation in Belgium, France, The Netherlands and Switzerland.

Authors:

Raphaëlle Pelc (raphaelle.pelc@gmail.com)
Sébastien Redant (sebastien.redant@huderf.be)
Sébastien Julliand (sebastienjulliand@gmail.com)
Juan Llor (juan.llor@hopitalvs.ch)
Mathie Lorrot (mathie.lorrot@rdb.aphp.fr)
Rianne Oostenbrink (r.oostenbrink@erasmusmc.nl)
Vincent Gajdos (vincent.gajdos@abc.aphp.fr)
François Angoulvant (francois.angoulvant@nck.aphp.fr)

Version: 2 Date: 3 April 2014

Author's response to reviews: see over
Ref: MS 4593030311198947

“Pediatric gastroenteritis in the emergency department: Practice evaluation in Belgium, France, The Netherlands and Switzerland”

Dear Editor,

Please find enclosed our point-by-point replies to the comments by the reviewers.

We thank the reviewers, whose comments have allowed us to improve our manuscript.

As suggest by the Reviewers, the English as been revised by a native English speaking colleague.

We hope you will find this manuscript suitable for publication in the Biomed Central Pediatrics and look forward to hearing from you in that respect.

Sincerely,

Dr Angoulvant
Reviewer 1: José M M Quintillá:
The study is interesting in that it attempts to reflect what is the current practice in the management of GEA and dehydration, looking for differences between countries. There are previous studies that analyse the clinical decisions of professionals in the management of rehydration, but this study provides in addition a differential analysis between several European countries. Its main limitation is the sample size, determined by the number of responses.

The article shows in general an adequate coherence between objectives, description of the methodology used, results and comments. Study limitations are well expressed.

We thank Mr Quintillá for his positive comment.

1. It is necessary to include the full text of the survey, even as an appendix. The reader needs to know on what terms the questions were formulated to respondent physicians to judge the quality of the survey, and therefore the validity of the results.

   • As suggested by Reviewer 1 we included the full text of the survey as an appendix, to improve the understanding of our study and the validity of the results (Line 348-463)

2. Confidence intervals of proportions are not specified, so no idea of the accuracy of the results is given.

   • As suggested by Reviewer 1 we added the confidence intervals of proportions to the manuscript in the Table 1.

3. The selection of an adequate and representative sample of the population under study is essential to ensure the validity of a survey. It is not specified how people were selected from each center. Does the study also included residents in training or only qualified pediatricians? All of them were pediatricians or also family physicians were included?

   • As suggested by Reviewer 1, we precised how we selected the population which include residents and paediatricians. For each center we had a contact with the head of the department, who was in charge to spread the survey to his colleagues, so we selected the centers but we didn’t select ourselves all the participants. In the appendix, you can see the questions that aim to characterize the population. “Our survey was sent to both senior, junior physicians and residents. Every center was asked to include at least 3 participants to improve the measurement representativeness. “ (Line 112-114) Our study is descriptive, we wanted to know if the guidelines were followed and we didn’t search for differences of practices between junior and senior paediatricians. This could be a part of further studies.

4. It is not specified how many surveys were sent to each center.
For each center we had a contact with the head of the department, who was in charge to spread the survey to his colleagues, so we selected the centers but we didn’t select ourselves all the participants.

5. In the case of intravenous fluid types, the results are only expressed in absolute numbers but not in percentage. Since this information is not included on the table and the fields of the survey were not mandatory, it is impossible to know the proportion of respondents who answered a particular option.

As suggested by Reviewer 1: we add the percentage for intravenous fluids type “However, normal saline (0.9% NaCl) was the most frequently used fluid reported (N=10/27, 37%) in Belgium, The Netherlands and Switzerland. In France, 56% of the participants (N=18/32) reported frequently using a fluid composed of 5% glucose with 4 g/L NaCl and 2 g/L KCl. “(Line 176 and 179)

6. The volume of fluid administered is expressed in range, but no measure of central tendency (such as the median) is provided.

As suggested by Reviewer 1: we added the median for the volume of fluid administered IV. “The volume of fluid administered during the first 4 hours in cases of IV rehydration was also widely heterogeneous, with responses ranging from 10 mL/kg to 100 mL/kg (with a median of 15mL/kg). “(Line 179-182)

7. It is not understood why etiologic studies appear in the table only "in case of oral rehydration failure." These studies were only asked on the survey in this case? It is not understood what is the relationship between management of dehydration and indication of microbiological studies.

As noticed by Reviewer 1, the etiological and microbiological studies were only asked in case of oral rehydration failure. This is clearer with the survey as an appendix. The ESPGHAN/ESPID guidelines specifies that there is no need for such investigations in case of typical AGE since the epidemiology is well know in Europe. For more clarity we add in the introduction a line inform the reader on the recommendations for etiological investigation.” They also clearly state that there is no need for microbiological investigation since the epidemiology of AGE is well known in Europe. “(Line 88-90)

8. The table and the text do not express the level of significance of the results, except in some data. Is it supposed that all other differences between countries were not statistically significant? You must add a column to the table with the value of p.

As noticed by Reviewer 1, we didn’t express the level of significance for every data. Because of the potential homogeneity, countries where clustered for analysis. We did not performed statistical analysis for each country.
9. The level of experience of the respondents to the survey is not specified. It would be interesting to know (although the small sample size makes it difficult) if there were differences in management between senior and junior pediatricians.

- As suggested by reviewer 1: we had a sentence in the results section to give the number of juniors and seniors respondents.” There were 7 juniors and 61 seniors.” (line 159)

10. Laboratory Tests: It would be good to express in the body of the text if the indication of blood tests was asked only in case of oral rehydration failure, as seems to be interpreted reading the table.

- As noticed by Reviewer 1, blood tests were only asked in case of oral rehydration failure. This appears now in the Appendix.
Reviewer 2: Jacob Manteuffel

We thank Jacob Manteuffel for his positive comment. We are glad to answer his questions: the NG tube is quite small (6 or 8 G) and easy to insert. It is well tolerated by the patient himself.

1. The total N to determine the response rate (54%) is not mentioned in the Results, nor is the response rate mentioned in the Results, the first mention is in Limitations. It seems that it should be in the Results section.

   • As suggested by Reviewer 2: we add a sentence in the result section to mention the response rate. This response rate is the number of responses we have compared to the number of responses we expected from our power analysis which was 120 responses (approximately 3 answers in each center and 40 centers throughout the 4 countries) the following sentence in the Result section was added “The response rate when we compare the number of answers received to the number of answers expected from the power analysis is 54 %.” (Line 154-155)

2. The sentence beginning in line 181 does not read well. I had to read it several times before I understood what the author was trying to say, this should be reworded. The mention of percentages twice which pertain to 2 different things is confusing.

   • As suggested by Reviewer 2 the sentence beginning line 181 was rewritten as follow: “Laboratory testing: 80% (N=8) of respondents from Belgium, 92% (N=34) of respondents from France, 43% (N=3) of respondents from The Netherlands and 29% (N=4) of respondents from Switzerland, conducted tests for serum electrolyte in more than 70% of the time.” (Line 183)

3. The table seems to have some incomplete data. For example, 8/10 respondents in Belgium chose NG hydration after failed oral rehydration, what do the other 20% choose?

   • As noticed by Reviewer 2, we choose on purpose not to put all the data in the Table. And this in order to maintain the clarity of the Table. For the frequency of endorsement questions we decided to put only the preferential treatment (frequency >70%). It appears that some respondents have no preferential treatment.
Reviewer 3: Françoise Smets:

We thank Françoise Smets for her positive comment.

1. Authors should detailed more how the people whom received the survey were chosen.

- As suggested by reviewer 3, we detailed the choice of the population we precised how we selected the population which include residents and paediatricians. For each center we had a contact with the head of the department, who was in charge to spread the survey to his colleagues, so we selected the centers but we didn’t select ourselves all the participants. “We selected primarily teaching hospitals because smaller hospitals often consider those facilities as reference sources. Our survey was sent to both senior, junior physicians and residents. Every center was asked to include at least 3 participants to improve the measurement representativeness.” (line 11-14). We also added the survey as an appendix where you can see the questions that aims to characterized the population (Line 361-476)

2. In Table 1 or in the text, in case of failure of oral rehydration, the total of answers should be 100%. It will allow us to understand what were the other possibilities. It is important for the conclusions.

- As noticed by Reviewer 3 the number of answers does not reach 100% for the case of oral rehydration failure. As now describe in the appendix there was two separate questions in the form and the respondent had no obligation to choose a favourite therapy. There was not a third option.

  “3 In case of oral rehydration therapy (ORT) FAILURE which method do you use?

<table>
<thead>
<tr>
<th>Intravenous rehydration?</th>
<th>&lt;5%, 5-25%, 26-50%, 51-75%, 76-95%, &gt;95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enteral rehydration/NG route?</td>
<td>&lt;5%, 5-25%, 26-50%, 51-75%, 76-95%, &gt;95%</td>
</tr>
</tbody>
</table>

“In case of oral rehydration therapy (ORT) FAILURE which method do you use? Intravenous rehydration? <5%, 5-25%, 26-50%, 51-75%, 76-95%, >95% Enteral rehydration/NG route? <5%, 5-25%, 26-50%, 51-75%, 76-95%, >95% “ (Line 387-392). In order to maintain clarity in the table we choose to show only the preferential treatment for the frequency of endorsement questions. Some respondent did not choose a preferential treatment so they do not appear in the Table.

3. The same for medications. Were ondansetron and racecadotril the only medications in the survey? If not, what were the others?

- As suggested by Reviewer 3 we modified the drug prescription part in the result section: “Drug prescription: Antiemetic agents, such as ondansetron, metoclopramide, domperidone, were rarely reported to be prescribed according to respondents. Among those drug types, ondansetron was reported the most frequently, by 9% (N=6) of respondents, most of whom were from Switzerland (N=5). No respondent reported the use of antimotility (loperamide) drugs. Probiotics were reported as prescribed more than 70% of the time by
only one respondent. Fifty-one percent (N=19) of the respondents from France reported prescribing an antisecretory drug (racecadotril) more than 70% of the time, but no such use was reported by physicians in the other countries (P < 0.001; Wilcoxon rank sum test). Antibiotics were reported as never prescribed by 87% (N=59) of respondents. None of the respondent reported the preferential use of adsorbent (Smectite). “(Line194-212 ). The question on the form for the use of drugs can be found in the appendix.

4. The discussion must be expanded. Other similar studies can probably be included. The general message should be clarified: do we need to better inform so the guidelines will be better followed or do we need to review the guidelines because of new studies available?

- As suggested by Reviewer 3, we expanded the discussion as follow :”Microbiological examinations were commonly reported in our study even though these exams are not routinely recommended for children with AGE [8]. Few drugs were reported to be frequently prescribed, and these varied across countries. Despite the lack of recommendations, the use of racecadotril was frequently reported by French respondents, whereas the use of ondansetron was reported often by Swiss respondents. The recommendations concerning laboratory testing and medication are maybe less known than the ones concerning the rehydration. Overall, our results suggest that interventions to increase the homogeneity of practices in the management of pediatric AGE could be useful [4], especially regarding adjuvant therapy such as racecadotril use and laboratory testing. Similarly, in light of the benefits of NG rehydration in terms of costs and side effects, the implementation of this method should be considered in France. Despite current recommendations [8], ondansetron use was frequently reported by respondents in Switzerland. This treatment does seem to facilitate oral rehydration [13], and some evidence was not available when the European recommendations were published in 2008. Nonetheless, a real risk / benefit assessment of the widespread use of ondansetron in AGE in Europe is still lacking. Studies have shown that parents prefer IV rehydration [12] and treatments that shorten diarrhea duration [11]. With respect to health care providers, another recent study indicated that only 14% of physicians favor NG over IV rehydration [6]. These elements highlight the need to refine the current recommendations for the management of pediatric AGE to avoid unfounded practice variations. Two major issues should be redefined. To favor one treatment over the other for the second line rehydration therapy,. And to update the pharmacological therapy statement, especially concerning the use of ondansetron, based on the recent evidences [13].” (Line 239-269)