Author's response to reviews

Title: The effect of pelvic physiotherapy on reduction of functional constipation in children: design of a multicentre randomised controlled trial

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Author's response to reviews: see over
Dear Editor,

Please find enclosed our reply on the comments of the reviewer Prof. dr. William Whitehead and an updated version of the manuscript.

Our article describes the design of an RCT among children with functional constipation to assess the effect of PPT as an add-on to standard medical care on functional constipation and discusses the relevance of publishing the study design and the development of the presented physiotherapy study protocol. The Medical Ethics Committee of the Maastricht University Medical Centre approved the study at April 26th 2010.

After ethical approval, the study has started and the inclusion of children is ongoing. Therefore, changing the primary outcome, as the reviewer proposes in comment 1, is not possible. Moreover, we believe that, given the aim of the study, the most appropriate primary outcome to diagnose constipation are the Rome III-criteria since it is a consensus-based measure to diagnose constipation (in the absence of another highly recommendable outcome) and is less prone to information bias (subjective interpretation of improvement and experienced burden) as is the case with the proposed Global Perceived Effect (GPE) or Numeric Rating Scale. However, both outcomes measure the progress in complaints and experienced burden and are of interest from the perspective of the patient and therefore adequate and being included as secondary outcomes.

We hope that you will consider this manuscript for publication in your Journal.

Yours sincerely,

Drs. Marieke L. van Engelenburg – van Lonkhuyzen
Responses on the comments of reviewer William Whitehead

Major Compulsory Revisions:

1. The primary outcome measure continues to be listed as whether the child fulfills Rome III diagnostic criteria for functional constipation. As I noted previously, this is an inappropriate measure because 3 of 6 Rome criteria ask about the history of symptoms and will not be responsive to treatment. The authors should use one of the measures currently listed as secondary for the primary outcome. The best choice would be either the NRS or the GPE.

Although three of the Rome III criteria include the phrase ‘history of...’ the primary outcome, in our opinion, remains valid and preferable since it is a consensus-based measure to diagnose constipation (in the absence of another highly recommendable outcome) and is less prone to information bias (subjective interpretation of improvement and experienced burden). However, the GPE and NRS remain of interest from the perspective of the patient and therefore adequate and will be included as secondary outcomes.

The primary outcome will be supported by the completed patient reported outcome (symptom score), the numeric rating scale (NRS), the diaries and the global perceived effect (GPE) at M-WB 3 (and M-WB-2).

Modified text:

Web-based measurements include a structured patient reported outcome, which assesses the presence of the Rome III criteria and laxative use, co morbidity (such as urinary problems and abdominal pain), the Strength and Difficulties Questionnaire (SDQ), the numeric rating scale (with regard to experienced burden) and a two weeks diary. At follow-up (M-WB 2 and M-WB 3) the web-based measurements are supplemented with the global perceived effect (GPE).

2. The protocol states that the intervention will be patient-tailored based on the child's age and motivation, and the parents' motivation. The relative lack of specificity in how these decisions will be made and how the “dose” of the intervention received by each child will be assessed, will make it difficult for others to replicate the trial. This level of ambiguity may also make it difficult to interpret a negative trial outcome.

During the treatment period the focus and starting point of treatment is always the existence of constipation symptoms in combination with the use of laxatives. On this basis the children are treated, both by the paediatrician as the pelvic physiotherapists. The existence of Rome III and the use and amount of laxatives is listed at each visit. ‘Patient-tailored’ as mentioned indicates that the training materials and methods are taken into account with regard to children’s age and cognition.

Modified text:

The PPT will be patient-tailored (with regard to exercises, materials and methods) and the sequence and intensity of PPT depends on the child's age and motivation, parents’ motivation, co-morbidity and cognition. Toilet training, including pelvic floor muscle training, will be the basis of the PPT and requires considerable attention. All exercises, materials and methods will be presented in a playful manner and in accordance with the children’s age, loco motor skills and perceptions.
3. *I believe what is needed is a set of decision rules for the interventionists and a checklist that will make it possible to characterize the intervention received by each child.*

Although not described in the article, the interventionists already register a set of decision rules, as suggested:

1. During the study period the paediatricians and therapists put each intervention (Rome III criteria, use, dose, laxative comorbidities etc.) in a structured web-based treatment record.
2. Prior to the study, in close consultation with the participating pelvic physiotherapists, a phased physiotherapy protocol has been drafted, regarding the application of biofeedback and other physiotherapy interventions. This protocol is included in the structured web-based treatment record and is completed by the physiotherapist during each visit.

4. *Concerns were raised that differences in outcome could be attributed to differences in the number of clinic visits between treatment arms (up to 8 for PTT vs. up to 3 for standard medical care). If it is not feasible to match the number and length of visits, the authors should include a measure of expectation of benefit and a measure of satisfaction with treatment (completed after initial exposure to the intervention in each arm of the study).*

Confounding in our trial may arise due to the Hawthorne-effect as a result of differences in number of the protocolized contacts (6 vs. 3). Although it is expected based on daily clinical experience, that the mean number of treatment sessions in both groups will be nearly equal (4-5 sessions), adjusted group differences will be calculated to take into account the probability of confounding.