Author’s response to reviews

Title: Breastfeeding and pain relief in full-term neonates during immunization injections: a clinical randomized trial

Authors:

Maryam Modarres (modarres@sina.tums.ac.ir)
Azam Jazayeri (jazayery@yahoo.com)
Parvin Rahnama (p_rahnama1381@yahoo.com)
Ali Montazeri (montazeri@acecr.ac.ir)

Version: 2 Date: 4 September 2013

Author’s response to reviews: see over
Dear Marielette,

MS: 5527687971035349
Breastfeeding and pain relief in full-term neonates during immunization injections: a clinical randomized trial

Thank you for your e-mail. We have found the reviewers’ comments very helpful. Thus we revised the manuscript accordingly. Please find the following point-by-point responses as requested:

Reviewer: José Dórea

Minor Essential Revisions
General comments:
The study evaluated the effect of breastfeeding on pain relief in full-term neonates during injection of hepatitis B vaccine. The material is not new, but carries the merit of bringing into perspective two important practices – immunization and breastfeeding. It reinforces another complementary role of breastfeeding on immunization – pain and stress relieve. This is a simple, straightforward study, timely, and of value to pediatric professionals. The objectives are clearly specified and justified, and for the purpose of the study, the sample size is adequate. The paper is well written, concise and there are no obvious errors of fact, logic or interpretation which need to be rectified. The hypothesis is clearly formulated and is supported by pertinent references.

Thank you.
Specific Comments:
The formulation of the Hepatitis B should be stated (Materials and Methods) in relation to the preservative (if any). There are recent reports indicating differences in pain reaction between vaccines preserved with Thimerosal or phenoxyethanol. Actually these papers (Tsuji et al, 2012; Terada et al, 2010) are worth discussing.


The following amendments were made in order to comply with the recommendation:
(a). Methods:
The Hepatitis B vaccine was manufactured by the Pasteur Institute of Iran and it preserved with Thimerosal.

b) Discussion:
The vaccine we used in this study was preserved with Thimerosal. In general it is argued that infant pain would be higher when using different physicochemical properties [24, 25]. However, since we used the same vaccine for all the participants, thereby the possibility of bias could be ruled out.

Please check the work of Sahebihag et al (2011) done in Iran and of Dilli et al (2008) in Turkey; they might be worth discussing. Other than that I could see no flaws and have no further suggestions that could improve it.

Done.

Reviewer: Francis Veyckemans
This is an interesting research on non-pharmacologic pain relief during a painful procedure in neonates. There are however some questions to answer at:

Major revision:
- The reviewer is surprised to read that the neonates involved in the study were less than 24h old. (Methods) because at that time only colostrum is produced by the mother's breast and the neonate is usually still on its "learning curve" for sucking.

The following sentences were added to the Methods to clarify the point:
The study did not start until the infant was observed to be sucking at the breast.

These two points should be discussed. Moreover, it would be interesting to know what was the mean time since birth when the neonates actually received their injection: 30 min or 12 hours?

The following sentence was added to the Results:
The mean time since birth when the neonates actually received their injection was 12.0 (SD=4.03) hours.

- In the Outcome measure section, the authors mention that they were able to determine that the best time to assess pain was 45 seconds after the injection: does this mean that the behavioural changes were the most important at that time? Any correlation with physiological variables such as heart rate?

The following sentences were added to the Methods:
Since several studies reported different timing for the assessment of pain [9-11], we performed a pilot study and found that behavioural changes were the most important measurements for assessing pain. Also we found that the best time for assessing pain would be 45 seconds from needle injection.

- in the reviewer's opinion, breastfeeding could interfere in two ways with the assessment of pain using DAN score: it makes the observation of facial expression more difficult and interferes directly with vocalization. Please discuss this point.

Minor revisions:
Thanks for your observation. Table 4 was added to the results and the following sentences were added to the Discussion:

a) Table 4: Pain evaluation with DAN scale (0-10) in details (facial expression, limb movements and vocal expressions)

<table>
<thead>
<tr>
<th></th>
<th>Control group (n = 65)</th>
<th>Experimental group (n = 65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial Scores</td>
<td>Frequency %</td>
<td>Frequency %</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Expression</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>4.6</td>
<td>4</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>27</td>
<td>41.5</td>
<td>34</td>
<td>52.3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>44.5</td>
<td>25</td>
<td>38.5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>9.2</td>
<td>2</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Limb Movement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>23.1</td>
</tr>
<tr>
<td>1</td>
<td>18</td>
<td>27.7</td>
<td>36</td>
<td>70.8</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>34</td>
<td>52.3</td>
<td>4</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>13</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Vocal expression</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>10.8</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>6.2</td>
<td>32</td>
<td>49.2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>39</td>
<td>60</td>
<td>25</td>
<td>38.5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>22</td>
<td>33.8</td>
<td>1</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

b) The role of facial expressions in measuring pain has been questioned by a recent study [23]. Therefore we reported the DAN subscales in addition to the total score to evaluate the role of each separately.

- abstract, background, L1: breastfeeding on pain
  Done.
- abstract, results, L6: delete sore
  Done.
- abstract, conclusion, L1: replace in with during
  Done.
- p 5, L1: ... experimental group were breastfed during two minutes before, during
  ... Done.
- p 5, L7: immunizations were performed...
  Done.
- p 6, L1: a minimum sample size of
  Done.
- p 6, forelast L: from the mother
  Done.
- p 7, Discussion, L4: that breastfeeding...
  Done.
- p9, ,Conclusion, last L: replace practices with procedures
  Done.

I hope you find the revisions satisfactory.
Best wishes.
Parvin Rahnama