Reviewer’s report

Title: The Minimally Effective Dose of Sucrose for Procedural Pain Relief in Neonates: A Randomized Controlled Trial

Version: 0 Date: 22 May 2017

Reviewer: Carlo Valerio Bellieni

Reviewer's report:

This paper is worth of interest, because it examines the exact amount of sucrose to be administered to the baby to get analgesia. Nevertheless, it has some flaws that should be addressed to improve the paper.

Main concern

The main flaw is that authors admit that they allowed caregivers to give supplemental nonpharmacological help (e.g. skin-to-skin, breastfeeding and - to all babies - sucking) to some babies; this can have altered the results, unless they show that these maneuvers were given to the same amount of babies in the three groups. Moreover, using other nonpharmacological strategies (nonnutritive sucking, and these nonpharmacologic maneuvers), we cannot be sure that the analgesic effect was due to sucrose. Authors must address these points to permit their paper be acceptable for publishing.

Minor concerns

Authors write that only in a small number of heelpricks previous to that used for the study, babies received sucrose; it would be interesting to know which other nonpharmacological strategies were employed in previous heelpricks, to be aware that all babies had received some form of analgesia in all groups during their prior hospitalization.

Scoring pain with a complicated scale such as PIPP is usually done videotaping the event (the face of the baby) since scorers should simultaneously note the changes in HR and SaO2. How could scoresr do a careful assessment without a video of the event?

It emerges that pain was not annihilated by no dose of sucrose in no group (their pain scores exceed in some babies 17 or 18 of the PIPP scale (see also table 4). This should be more extensively discussed in the text and explained in the abstract, to show that sucrose can reduce pain, but it does not eliminate it.

Were babies with brain damage included in the three groups?
Are the methods appropriate and well described?  
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

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