Reviewer's report

Title: Retrospective Analysis of the Diagnostic Yield of Newborn Drug Testing

Version: 1 Date: 13 April 2014

Reviewer: Crystal Silva

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Major Compulsory Revisions:
1. Methods: clarify if the use of the assessment tool was used throughout entire study period: “… is based on assessment of 29 items related to … and newborn risk factors, which was implemented on [date] (see Additional File 1).”
2. Results – under Yield of Screening Criteria: this section needs a substantial addition of content. Discussion draws conclusions on the risk factors that are never presented in this section.
3. Discussion: Last sentence of second paragraph: No mention of specificity of testing anywhere else prior to this. You need to substantiate this. What was the specificity of the test prior to inclusion of those factors? What was it after?
4. Discussion: 7th paragraph: you need to add to this a discussion on how urine drug screening also failed to detect non-medical drug use found in meconium testing.
5. Discussion: 8th paragraph: elaborate on the limitation of: “only newborns meeting protocol criteria had screening ordered”
6. Discussion: Add to the discussion a part regarding unexpected findings shown in Table 3 such as the “Total including poor prenatal care and social risk factors” being relatively high for the “No drug(s) or metabolite(s) detected”

Minor Essential Revisions:
1. Background: Change percentage in opening sentence to a rate.
2. Background: Last sentence, second paragraph: change “states” to either “hospitals”, “providers”, or “practitioners”.
3. Background: Remove the single quotes from “‘gold standard’ “.
4. Background: Stay consistent with use of “ethanol” or “alcohol”
5. Background: 5th paragraph, 1st sentence needs revised. Consider: Protocols for identifying which newborns to screen present a number of challenges for the clinical and social work team.
7. Methods: Include sample size in first sentence: “(n=__)”
8. Methods: Elaborate on random selection process to select the 200 charts where no drug was detected
9. Methods: 2nd paragraph, 2nd sentence: include sample size of patients with urine but no meconium testing

10. Methods, Under drug testing analysis: Get rid of “(e.g. no false positives)” in 1st paragraph, last sentence. Suggestion: “…methods agreed eliminating likelihood of false positives.”

11. Results: Insert “(n=___)” where you have % only.

12. Results: 1st paragraph, 1st sentence: remove unnecessary comma after “both”

13. Results: 1st paragraph, 2nd sentence: after “…87.6% and 74.6%, respectively” add statement about resulting sample size.

14. Results: 3rd paragraph, 1st sentence: remove the “or” and place “23.3%” in parentheses

15. Results: 3rd paragraph: add a statement that all positives were confirmed positive by GC/MS or LC/MS/MS to be consistent with the finding in urine section

16. Results: Under Findings in urine, 3rd sentence needs rephrase to something like: “Nine of those samples were confirmed positive by….. and the other 3 urine specimens screened positive for THC…” As is, the “All confirmed positive” beginning is misleading.

17. Results: Under Findings in Urine: for sentence starting with “In 128 cases” add clarification whether meconium analysis was confirmed positive or not. As it reads, it is unclear whether urine or meconium results are true.

18. Results: Under Findings in Urine, 2nd paragraph: reword 1st sentence. Suggestion: An additional 354 newborns had urine drug testing performed in the absence of meconium testing.

19. Results: Under Yield of Screening Criteria: replace “categorical criteria” to something more descriptive. Suggestion: various risk factors from the assessment tool

20. Results: Under Yield of Screening Criteria: replace % at end of 2nd sentence to reflect the % of “all but 7” not the % of “7.” Add the “3.1% to the next sentence after “7”

21. Discussion: Last paragraph, 3rd sentence: “(e.g…..)” not appropriate. Reword to something like: “Specimens can be held for up to 2 weeks allowing…”

22. Figure 1: add % whenever n is given

23. Table 2: the superscript “1” in the title describes that all non-medical drug use was a result of unintended (non-medical) use of prescription drugs. Either remove the place somewhere more appropriate or reword the explanation to state that when drug used was a Rx, it was confirmed that the Rx was used for non-medical reasons as “clearly established….”

24. Figure 2: hard to distinguish color in key because color scheme does not vary enough. Either choose different variety of gray scale or print in color

25. Figure 2: Add a title to entire Figure 2 (in addition to titles for A and B)
26. Figure 3: Hard to distinguish color in key because color scheme does not vary enough. Either choose different variety of gray scale or print in color
27. Figure 3: Add some statistical comparison
28. Figure 3: Add a title
29. Table 3: Change superscripts so they are listed in numerical order as you read down the table
30. Table 3: Explain bolded numbers
31. Why are data being reported as mean? – will need to confirm that data are normally distributed for both maternal age and gestational age. If not, please report as median. If report as median, change explanation of * at bottom of table 1 as well as make appropriate edits to test of manuscript.

Discretionary Revisions:
1. Background: 3rd paragraph: start a new paragraph at “Urine drug testing is widely…”
2. Background: 4th paragraph, 1st sentence: change “in” to “during” – “…non-medical drug use during pregnancy…”
3. Background: 4th paragraph, 2nd sentence: Add oxford common after “placental abruption”

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.