Author's response to reviews

Title: The context and practice of handwashing among new mothers in Serang, Indonesia: a formative study

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Version: 3 Date: 5 April 2013

Author's response to reviews: see over
**Reviewer's report**

**Title:** The context and practice of handwashing among new mothers in Serang, Indonesia: a formative study

**Version:** 2  **Date:** 14 February 2013

**Reviewer:** Pavani Ram

**Reviewer's report:**

| Compulsory revisions | We do not feel that we claim to have elicited substantive information on motivators and barriers to handwashing in the paper; rather that we describe the context in which handwashing takes place and suggest which motives might be involved. We were attempting to confirm what we already know about handwashing from many previous studies, and interpreted the potential motives for handwashing based on observed handwashing occasions and reasons giving for handwashing at these times. The statement in the discussion about handwashing being motivated by feelings of “disgust” directed at substances or smells perceived to have contaminated hands derives from various interview findings: women explained that they rinse hands after cooking and eating to remove bad smells, they wash hands after contacting “dirty things” or contacting people in town. However, we agree that we have not focussed a lot on this area. So, to assuage the reviewer’s sense that we have overstated our evidence, we have changed the crucial word in the quoted statement from ‘conclude’ to ‘hypothesize’. |
| 1) My largest concern with the manuscript remains that, in the rationale and methods, the authors assert that the study elicited substantive information on the motivators and barriers to handwashing behavior. However, the results do not support this assertion. We see relatively little information provided directly by respondents about the drivers of handwashing, even though, on page 14 in the discussion section, the authors state “Observation and interview responses lead us to conclude that handwashing at these times is most likely to be driven by feelings of “disgust”….”. | |
| 2) Also, the recommendations regarding critical times for handwashing in the neonatal period would benefit from further thought about leading causes of neonatal morbidity / mortality, and transmission pathways. | Please see comment below on the neonatal period. We see new motherhood as an opportunity to introduce handwashing behaviour primarily as a good time to try and introduce a new habit that will stick as the child grows and is more susceptible to diarrhoea. We are unsure what recommendations the reviewer refers to as we don’t believe we have made recommendations about critical times for handwashing that prevent neonatal morbidity. |
| Abstract: 3) No data are presented in the results section that support the final sentence of the conclusions. | This conclusion that mothers should teach their daughters about caring for a newborn is actually a recommendation about how we might go on to develop an intervention in this population. It comes from the finding that a woman’s mother is a key source of advice and practical help in caring for a newborn. We have modified the abstract (last sentence of results and end of conclusions) to make this clearer. |
| Results: 4) Define unusual terms such as “dirt washers” and “dirt rinsers” in the text of the methods section rather than as a footnote to a table. Also, what was the purpose of categorizing individuals in this way. Might some individuals be dirt washers at some critical times, and be avoiders at other critical times? | The reviewer is quite right. This manuscript has had various modifications as we have questioned whether or not to include these categories and as a result we have ended up without an explanation of these categories in the text. This has now been included at the end of the data analysis section. Our reason for categorising the data in this way was to try and identify some patterns of behaviour and to see the extent to which |
handwashing with soap was practiced and the type of events that cued soap use. We believe these categories offer a different way of viewing the data, illustrating the range of behaviours that take place and the differences between individuals in terms of whether and when soap is used to wash hands. We believe this categorization is insightful and may be true of other populations, and so could usefully guide data collection on handwashing behaviour in future projects. These points are now made in the paper Discussion.

5) On page 10, there is interpretation about handwashing status being linked to education. These seem like discussion points and should be moved to the relevant section.

We have decided that as this is merely a supposition we will remove this sentence about education altogether.

6) The information around lifestyle changes is important but the section of the manuscript loses focus on handwashing behavior (page 12). Can appropriate findings relevant to the implications of these lifestyle changes on handwashing behavior be integrated into this section?

In this section we consider how a new baby has impacted the life of the mother and the influence of her social world to provide important context for a handwashing intervention targeting this population. It paints a richer picture of the lives of the women whose behaviour we wish to influence. Our main points here were about disruptions to daily routine, the fact that household chores are taken over by other family members, and the nature of child care advice given (and taken) at this time. This section contributed to the discussion of routine, habits and advice and our recommendations on when handwashing could best be inserted. I am afraid we have no other findings specific to handwashing that could go in this section.

Discussion
7) Regarding the statement on page 14 that “disgust” may not be an effective handwashing promotion message”, have the authors considered that disgust may not be elicited by the neonate’s urine / feces, but that disgust related to external factors (other children’s feces, respiratory secretions) might be more motivating?

We have no experience of measuring the smell of urine or respiratory secretions on handwashing, and don’t know of any research that has examined this issue, so it is difficult to take up the reviewer’s offer to comment on this in the paper.

8) Did the data from the study confirm McBride’s heuristic for the teachable moment (reference 8)?

According to McBride a teachable moment is an event which i) increases a person’s risk perception, ii) triggers a strong affective or emotional response, and iii) redefines their social role or self-concept. We believe all three criteria are satisfied by new motherhood. A sentence to this effect has been inserted in the discussion. Thank you for pointing out that we had not followed this line of thought through after the concept was introduced in the introduction.

9) The authors suggest that “contact with faeces…should be the primary concern” for those promoting handwashing behavior (page 16). Have the authors considered that, whereas diarrhea is a relatively minor cause of neonatal mortality, pneumonia and sepsis (resulting from

We are indeed aware of this fact, which is largely why we changed the focus of the first version of this manuscript from being about reducing neonatal infections to new motherhood as an opportune time for intervening to reduce child mortality and morbidity due to diarrhoea. The introduction therefore focuses more on these
both Gram positive and Gram negative bacteria, as well as viruses) far more frequently cause deaths in the neonatal period? Thus, the times believed to be “critical” for handwashing in the post-neonatal period do not necessarily extend to the neonatal period. Also, the neonate is at lower risk of auto-infection as a result of exposure to his/her own feces than infection from the feces of other children and adults.

Minor revisions requested
Methods
10) video recording: describe why having the field worker stay in the home would have reduced reactivity

Results
11) What's a defecation pond (page 11)?

12) Regarding the woman who appeared to have handwashing cued by the presence of the handwashing station (Page 11) – how did the authors deduce this? This leads me to the question of how video data were analyzed in order to identify motivators and barriers to handwashing. Whereas, in the results section, the authors describe that video can help in this regard, the process of actually identifying the motivators and barriers using video footage is not clear to this reader.

Discussion
13) page 18: please use an alternate word for “mugging”, since that word has varying connotations. In the United States for example, a “mugging” is an assault, with the intent to rob the victim.

Reviewer's report
Title: The context and practice of handwashing among new mothers in Serang, Indonesia: a formative study
Version: 2 Date: 4 January 2013
**Reviewer:** Robert Dreibelbis  
**Reviewer's report:**

<table>
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<tr>
<th>Major compulsory revisions:</th>
<th>We thank the reviewer for suggesting that the classification of handwashing practices into types is insightful. We have made considerably more reference to this classification in the current version of the paper, including a more detailed definition of the classes in the text itself (see responses to the first reviewer above for details). We also take up the reviewer's suggestion that the classification has implications for promotion programs because it implies that people are segmented differently by handwashing practice by introducing additional text to address this possibility (in the Discussion).</th>
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<td>1. Table 1 provides a much clearer explanation of the HW categories than present in the text. I think this classification is both interesting and insightful. If data available, it would be good to draw more direct comparisons between these groups in later sections of the manuscript. As is, this classification provides a bit of effort to understand and digest, but is never returned to in the subsequent results or discussion. Does this breakdown suggest different intervention strategies?</td>
<td>This is not intended to be a contradiction, perhaps it has not been clearly explained: currently, handwashing behaviour appears to be as it always was, nothing specific seems to have been introduced to protect the child, i.e. nurture isn’t motivating handwashing. However, “nurture” motives might be stimulated if women see handwashing as a trait of a “good mother” or they believe it will be beneficial to their child’s health. We believe it could be an important campaign angle. We have attempted to put this more clearly.</td>
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<td>2. Discussion, Paragraph 3: “New mothers…” This paragraph seems to contract the previous section that presents nurture as not a primary driver of handwashing in this context</td>
<td>Following the reviewer’s suggestion, we have taken out the discussion of fear of mortality during childbirth, as this was based on only a few comments by mothers during interviews.</td>
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<td>3. Discussion, paragraph 4: “However, we believe…” through “generation to generation of mothers.”: This section introduces information and interpretations that are not reflected in the results and/or cited as additional information. The only statement supported by the data is “On the other hand, it is common practice for new mothers to return...how to care for newborn babies”. This data should be presented in the results. While there are mentions of concerns about diarrhea and other illnesses, these presented as natural stages of child development. There is no mention of mothers mortality or even any dire risk to the child.</td>
<td>Perhaps ritual is not a good word to use – this merely means that some women take a good deal of time and effort thoroughly cleaning children after defecation. This comment is a reference to findings in the “defecation-related events” section of the results. We have added there that the process of cleaning the child was time-consuming. The basket referred to is mentioned in the results in the same section as the above: “She placed the soiled / wet napkins in a basket underneath this handwashing station and washed hands afterwards, occasionally using soap.”</td>
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<td>4. Discussion, paragraph 5: What elaborate rituals were observed? Please provide more details on these in the results. Similarly, the ‘baskets’ are first introduced in the discussion section. If this provides a potential intervention strategy it would be helpful to introduce these during the results.</td>
<td>Minor Essential revisions: Thank you for finding this error, it has been</td>
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1. Table 2: Please check the math on the “Before serving food” category. The number of participations who wash hands with water only is larger than the number of times the event was accompanied by handwashing. Corrected, I see I have counted one participant who handwashed after serving in this category; the total should be 2 not 3.

2. Are midwife and traditional birth attendant the same thing? The terms seem to be used interchangeable. A midwife works within the health system similar to in a high-income country. A traditional birth attendant is untrained. TBAs are often old women and “skills” are often passed down to younger family members. The Indonesian health service doesn’t officially recognise them although many people still use their services. These are both common terms used in this field so we don’t believe we need to explain the differences in more detail.

Discretionary revisions:
1. Discussion / Analysis: It remains unclear the extent to which the conceptual framework presented by Curtis et al (reference 6) informed either the analysis or interpretation of the data. If the thematic analysis took an emergent approach and the findings from this study support that framework and/or challenge, it would be important to note that. However, if this framework was used to guide semi-structured interview guide development and/or subsequent analysis of the data, then the introduction would benefit from at least a brief presentation of the theoretical model. Addressing the theoretical orientation would allow these findings to inform a more general understanding of handwashing practices and the determinants of those practices.

We very much appreciate the reviewer having suggested the utility of using a theoretical approach to help frame our results. However, we have tried several times to use the Curtis et al framework for this purpose, without it being found to help organise our discussion of the results, primarily because that framework only makes reference to brain-based levels of control over behaviour, leaving out all of the environmental factors that proved to be so strongly important in the context of new motherhood. For this reason, we have not made reference to this framework in the latest versions of this paper. We have followed the reviewer’s suggestion of admitting that analysis was largely qualitative, and relied upon themes emerging from the data itself. This has been made more explicit in the paper.

2. Given that handwashing with mud or ash is often presented as a viable means for washing hands, I initially interpreted the “dirt washers” and “dirt rinser” as people who used dirt for handwashing purposes. It wasn’t until I read the footnotes on Table 1 that this became clear. A different name may avoid similar confusion for other readers.

We can appreciate how this confusion would come about without clear explanation of the categories in the text. This was an oversight, when the table was revised the text should have been revised accordingly. We have kept the category names, but have explained the categories in the analysis section before they are used – we hope this is a reasonable solution.