Author's response to reviews

Title: A descriptive study of mastitis in Australian breastfeeding women: incidence and determinants

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Author's response to reviews: see over
Response to reviewers

MS: 171796838112967 - Determinants of mastitis in a cohort of Australian breastfeeding women

Reviewer: Suzanne Filteau

The title “Determinants of mastitis…” - change title to incidence of mastitis.
We have changed the title to “A descriptive study of mastitis in Australian breastfeeding women: incidence and determinants”

Abstract states three factors assoc with mastitis: milk stasis, nipple damage and maternal fatigue. Only nipple damage is discussed further.
Response: Maternal fatigue was not measured in this study. Women were asked about anxiety and depression, but not in relation to the episodes of mastitis, so we can’t use this information.

The intention of the first sentence was just to say something general about mastitis. We have deleted that sentence and inserted the first two sentences from the actual paper:
“Mastitis is one of the most common problems experienced by women who are breastfeeding. Mastitis is an inflammation of breast tissue, which may or may not result from infection.”

Mention the content of education in ABFAB. Explicitly state that the intervention made no difference to mastitis rates.
A sentence has been added to the first paragraph of the Methods section:
“Participants in ABFAB were randomly allocated to a control group or one of two small-group interventions: a previously designed and tested tool to teach practical aspects of breastfeeding or an exploration of family attitudes to breastfeeding.”

The intervention made no difference to mastitis rates. A new sentence added to the end of first paragraph of the Mastitis results section:
“There was no difference in the incidence of mastitis between the intervention and control arms of the ABFAB trial”.

The nature of lactation counselling and support at all 3 trial sites should be described.
Added to first paragraph of Method section:
“The Royal Women’s Hospital is an accredited Baby Friendly hospital. Both the Royal Women’s Hospital and Frances Perry House employ International Board Certified Lactation Consultants for inpatients and provide a breastfeeding clinic for women in the postnatal period.”
There were actually only two sites: the Family Birth Centre is part of the Royal Women’s Hospital. To clarify this, “The Royal Women’s Hospital” has been added before Family Birth Centre in the second paragraph of the Method section.

Since most women were breastfeeding at 6 months, it is misleading to quote median breastfeeding duration.
On p6, the point was that mean duration varied between the groups, but median was the same. We can delete this sentence, as you said, this can be seen from Figure 1. Median duration of breastfeeding is not mentioned elsewhere in the paper; in Table 2, mean duration only is presented.

*Seems odd to include pain as a predictor of mastitis since pain is part of the presentation of mastitis.*

Sorry this wasn’t clear. The question was actually about nipple pain. Women were asked “Can you estimate how old the baby was when you no longer experienced any nipple pain whilst feeding”. We looked at this in different ways (and also looked at severity of pain – on a scale of 0 to 10), and decided to focus on nipple pain that lasted less than four weeks or four weeks or more. Duration of nipple pain was stratified into pain lasted less than four weeks, pain lasted four weeks or more, and pain duration missing (if women gave a response that didn’t fit either of these categories).

We feel that it is appropriate to include nipple pain as a predictor as it may indicate poor attachment and therefore poor drainage of the breast or it may lead the woman to restrict feeds because of the pain. On the other hand, nipple thrush was likely to have occurred following the mastitis and women would have given a response to the nipple pain question that would have put them in the “pain duration missing” group.

We have added a sentence to the Method section explaining how this variable was collected:

“Women were asked “Can you estimate how old the baby was when you no longer experienced any nipple pain whilst feeding”. Duration of nipple pain was stratified into pain lasted less than four weeks, pain lasted four weeks or more, and pain duration missing (if women gave a response that didn’t fit either of these categories).”

*Minor revisions*

The definition of mastitis has been moved from the Results section of the Abstract to the Method section.

Sample size: Sorry, “the 270 from each group” is not clear. It is referring to private patients/birth centre patients (in the Survey) compared to public patients in the RCT (ABFAB). If we had calculated the ratio of unexposed to exposed as 1:3 and compared 25% (unexposed) to 15% (exposed) we would have needed 173 (unexposed women, private/birth centre) to 518 (exposed, public). Therefore our sample of 304 women (private/birth centre) gave us more power to detect a difference between these women and public patients. We have slightly reworded this section:

“Sample size for the Survey was based on an estimate that 20% of Australian women experience mastitis overall (Kinlay, O’Connell et al. 1998) and private/birth centre patients have an incidence of 25% (Waldenstrom and Nilsson 1994; Nicholson and Yuen 1995) and public patients 15% (estimate); therefore a sample of 270 private/birth centre women for the Survey would be able to detect a difference between these women and public women in ABFAB with 95% confidence and 80% power.”
An asterisk indicating “chi-square=4.45, p=0.04” has been added in the appropriate place in Table 4.

The part of the sentence stating that the p value was greater than 0.01 has been deleted (now, p 10, 2nd para).

Discretionary revisions

Other information was collected on feeding intention, attitudes towards breastfeeding, caesarean section. C. section was not assoc with mastitis. Intention was asked at different times in women recruited in the Family Birth Centre (antenatal) and Frances Perry House (postnatal), so can’t be directly compared. We have looked at intention in the women in ABFAB and found no association with mastitis.

Information was asked about help received for any difficulties with breastfeeding, but not routine lactation counselling. As stated above RWH is a Baby Friendly hospital with many IBLCS on staff and Frances Perry also provides high levels of help with breastfeeding. There are marked differences in length of stay – 24 hours for Family Birth Centre, 3 days for public patients and 4 or 5 days for private patients in Frances Perry House – but this was not thought to be a factor as FBC and FPH women both had higher rates of mastitis than public patients.

Information was not collected about routine breastfeeding practices, eg number of feeds, feeds overnight. This information may have been useful. (We have added this to a paragraph about limitations in Discussion – see response to second reviewer below).

Order of paragraphs in Result section. The paragraph on p 7 beginning “…a Kaplan-Meier …” about timing of mastitis has been moved before the previous paragraph. The earlier paragraphs are describing when mastitis occurred, so it makes sense to describe these overall, and then have the survival curve comparing timing in the different groups. The numbering of Figures 3 and 4 has now been reversed.

?Remove Table 3. I have left it at the moment, as it provides some additional information that is not in Figure 2, but can remove it if the Editor wishes.

Longer duration of breastfeeding is not the reason for increased mastitis has been glossed over in abstract and discussion. At present a sentence in the Discussion states “Duration of breastfeeding was not associated with mastitis on univariate analysis, and was therefore not entered into the model”. We have reworded this: “Although our hypothesis was that longer duration of breastfeeding may be associated with mastitis, we found no association between breastfeeding duration and mastitis, therefore duration was not entered into the model”.

The following sentence has been added to the Abstract:
“We found no association between breastfeeding duration and mastitis.”

Also, we have added all the variables tested at the univariate level to the Methods, and moved the sentence “Independent variables were derived from the literature as well from clinical experience and discussions with colleagues” from the Results to the Methods. New sentence in Methods “These included demographic variables (maternal age, education, marital status, private health insurance, family income, paid
work/study), maternal characteristics (planned place of birth, smoking status), breastfeeding characteristics (cracked nipple, duration of nipple pain, maternal candida infection, oversupply of milk, duration of breastfeeding).

**Reviewer: Suzanne Campbell**

*Minor revisions*

1. Detail about information collected at recruitment and 6 month interview (e.g. copy of interview schedule).

More information is available in the other publications about ABFAB (Forster, McLachlan et al. 2003; Forster, McLachlan et al. 2004; Forster, McLachlan et al. 2006) – the last one listed has been published since this paper was first submitted, and has been added to the Method section. The mastitis question is included in the Method section.

2. Recall bias 6 months postpartum. We agree that this was a limitation to the study. We have added the following paragraph to the Discussion:

“There are a number of limitations to this study. It would have been preferable to collect information about mastitis on several time points, however we had to rely on one interview at six months postpartum as this was the study design of the RCT. More information could have been collected about breastfeeding patterns: data on how often women fed and the length of intervals between feeds over night could have been useful.”

3. Should nipple thrush be excluded from multivariate analysis? In our clinical experience, nipple thrush is more likely to occur following mastitis and antibiotic treatment than prior to mastitis. This is our rationale for not including it in the multivariate analysis which examined potential predisposing factors for mastitis. When we asked women what they thought might have led to the episode (data not included in this paper), no one gave nipple thrush as a response. Caesarean section was not found to be associated with mastitis in this study.

Discretionary revisions

1. Parentheses removed from “(as defined by this study)”.

2. “Approximately” added before “three-quarters”.

**References**


