Reviewer’s report

Title: The effectiveness of using a WeChat account to improve exclusive breastfeeding in Huzhu County Qinghai Province, China: protocol for a randomized control trial

Version: 1 Date: 12 Jul 2019

Reviewer: Jane Scott

Reviewer's report:

This is an interesting study which proposes to use digital technology (WeChat) to support breastfeeding mothers.

1. Page 3 line 9 please cite the WHO breastfeeding recommendation correctly which is 'to continue to breastfeed to 2 years or beyond' NOT 'breastfeed as long as feasible' which is subjective.

2. Page 3 paragraph 2. Please clearly define what you mean by 'exclusive breastfeeding rates'. For the most part you appear to be referring to the proportion of children under 6 months who are exclusively breastfed (EBF). However, this is not clear from the term exclusive breastfeeding rate. Also make sure that the 'rates' that you are reporting are for the same breastfeeding outcome. EBF is commonly reported as 1) 'the proportion of children under 6 months who are EBF' or 2) the proportion of children who are EBF TO or AT six months. These rates are not the same and they need to be differentiated.

   For instance reference 11 is reporting that 'only 25.2 percent of women (n= 38) reported they breastfed exclusively when the baby was 6 months old' i.e. % EBF AT 6 months. It is therefore likely that a larger percentage of children under 6 months were EBF. On the other hand references 10 and 12 are reporting the percentage of children under six months exclusively breastfed.

3. Page 6 recruitment and randomisation

   This is not a cluster-randomised trial with randomisation at the township level but involves randomisation of individuals. There is a possibility of contamination bias with women in an intervention group sharing information learned from WeChat with a friend in the same township who is in the control group. How do you propose to minimise the risk of contamination bias or at least measure this and adjust for this in your analysis?
4. Page 7 Feeding lecture classroom

There will be quite a variation in weeks' gestation with some women being recruited in the first week of trimester 2 (14 weeks) and others being recruited towards the end of trimester three (36 weeks). Will mothers be grouped according to weeks' gestation and messages sent out tailored to their stage of pregnancy or weeks postpartum? For instance, will all women receive information on weaning time at the same time which for some women could be while they are still pregnant, and not relevant at that time, but for others could be in the postpartum period and after the event! An important advantage of using digital technology is the ability to tailor and target messages and deliver infant age relevant information. It is unclear if this is a feature of the proposed messaging program.

5. Page 8 Baby growth chart

Page 8 line 34 How will immediate feedback be given in relation to baby's growth? Will there be an algorithm that uses the information that mothers enter to generate one of several standard messages or will the information be manually reviewed by an expert. If so how will the expert manage to provide 'immediate' or 'instant' feedback?

6. Page 9 Duration of EBF and any BF is to be recorded in months. Are these completed months? How would someone who exclusively breastfed to 14 weeks be recorded as 3 or 4 months duration?

Data collection

7. Page 9 line 55 I am not sure if the follow-up questionnaires referred to here on line 55 which are to be administered via telephone interview are the same at those referred to on the top of page 10 as being distributed to mothers through WeChat. Will telephone interviews be used to collect follow-up information from both intervention and control mothers, or just control mothers. This is not entirely clear.

8. Page 11 the possibility of contamination between intervention and control mothers in the same township should be acknowledged as a limitation.

9. Minor issues

Page 2 line 7 and elsewhere 'down trend' should read 'downward trend'

Page 2 line 20 should read 'will be excluded'
Page 4 line 23 should read 'the more actively' (not active)

Page 5 line 30 should read 'six townships' not counties

Page 8 table 1 'Specific guidance for women who had caesarean section' appears twice.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

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