

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Poor infant and young child feeding practices and sources of caregivers' feeding knowledge in rural Hebei Province, China: findings from a cross-sectional survey
<b>AUTHORS</b>	Wu, Qiong; Scherpbier, Robert; van Velthoven, Michelle; Chen, Li; Wang, Wei; Li, Ye; Zhang, Yanfeng; Car, Josip

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Suying Chang UNICEF China office
<b>REVIEW RETURNED</b>	04-Apr-2014

<b>GENERAL COMMENTS</b>	Page 9, line 39: "13 children per cluster were randomly selcted ...". How to deal with the target children whom are not at home during the survey period. Page 14, The author listed the main reason for not initiative breastfeeding such as cearean section... .While the high cearean section rate in China is not properly described in the discussion part. "Qaulity of care at health facilities" is not the main reason of cearean section.
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<b>REVIEWER</b>	Zhenyu Yang National Institute of Nutrition and Food Safety, Chinese Center for Disease Control and Prevention
<b>REVIEW RETURNED</b>	17-Apr-2014

<b>GENERAL COMMENTS</b>	<ol style="list-style-type: none"><li>1. No confidence interval was given for the reported prevalences. The proportion calculated in table 5 needs to be reconsidered, as the denominators did not reflect all eligible subjects.</li><li>2. References need to be checked. e.g. new lancet series could be used to replace reference #3.</li><li>3. Education information in the text did not match with the data in the table. Doctor's advice may not be considered as the main reason for not early initiating breastfeeding.</li><li>4. Although community-based breastfeeding promotion was associated with significant improvement in breastfeeding in other settings, few data was available in China. Less strong statement may be appropriate in the manuscript. Other recommendations have similar problem.</li></ol>
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	5. Factors associated with poor IYC feeding practice could be explored.
	6. Native speaker editing would be a plus.

### VERSION 1 – AUTHOR RESPONSE

Reviewer 1:

Reviewer Name Suying Chang

Institution and Country UNICEF China office

Please state any competing interests or state 'None declared': None declared.

Page 9, line 39: "13 children per cluster were randomly selected ...". How to deal with the target children whom are not at home during the survey period.

Response: We would like to thank the reviewer for the thoughtful comments. Actually, we used two possible ways to deal with the children who were not available at home during the survey period. First, we over-sampled 30% children to compensate for possible refusal and loss to follow-up (not available at home is the main reason). Although we sampled the 13 children in each cluster, actually we only interviewed ten of them (based on the order in which they came to the village clinic). Second, even though we over-sampled three children in each cluster, sometimes in the field, we still could not get the ten sampled children in some clusters. We then asked village doctors to help us find other children from the name list who lived nearest to the village clinics and were in the same age groups. We used those children as substitutes for the unavailable children. We have added this on page 9.

Page 14, The author listed the main reason for not initiative breastfeeding such as cesarean section....While the high cearean section rate in China is not properly described in the discussion part. "Qaulity of care at health facilities" is not the main reason of cearean section.

Response: We agree with the reviewer that it would be good to demonstrate the rate of cesarean section in China in the discussion part. We have added in page 19 that "It was reported that the current national rate of caesarean section in China was about 40%, which is the highest worldwide" [1, 2].

In our study, we did not explore the reasons for high rate of cesarean section; we meant that the poor quality of care at health facilities is the main reason for late initiation of breastfeeding.

Reviewer 2:

Reviewer Name Zhenyu Yang

Institution and Country National Institute of Nutrition and Food Safety, Chinese Center for Disease Control and Prevention

Please state any competing interests or state 'None declared': None declared!

1. No confidence interval was given for the reported prevalences. The proportion calculated in table 5 needs to be reconsidered, as the denominators did not reflect all eligible subjects.

Response: We would like to thank the reviewer for the useful comment. We have calculated the confidence interval of the reported prevalence and added this in table 2, 3, 4, 6 of the manuscript. Table 4 indicated that only around one-fourth of mothers ever received feeding information. When calculating the estimates for table 5, we excluded those mothers who did not receive any feeding information, because we would like to show the distribution of all delivery channels mentioned by mothers rather than prevalence of each delivery channel.

2. References need to be checked. e.g. new lancet series could be used to replace reference #3.

Response: We thank the reviewer for the useful suggestion; we have replaced the old reference with the new one and made changes in the first paragraph of the Background section in the manuscript.

3. Education information in the text did not match with the data in the table. Doctor's advice may not be considered as the main reason for not early initiating breastfeeding.

Response: We would like to thank the reviewer for the thoughtful comments. In the text, we said that "Overall education of fathers and mothers was good; more than 80% of them completed at least 9 years of education". Here we combined the parents who completed 9 years (around 70%) and 12 years (around 10%) of education as showed in table 1.

The reviewer is absolutely right that doctors' advice may not be considered as the main reason for not early initiating breastfeeding, because it only accounts for less than 5%. We changed it to "The main reasons for not initiating breastfeeding early (Figure 1) were cesarean section, seeing the baby after delivery later than one hour, don't know early initiation and having no breast milk." Please also see page 14 in the manuscript.

4. Although community-based breastfeeding promotion was associated with significant improvement in breastfeeding in other settings, few data was available in China. Less strong statement may be appropriate in the manuscript. Other recommendations have similar problem.

Response: We agree with the reviewer that it would be appropriate to state the recommendations less strongly. In page 20, we removed the sentence "Although the community can be an effective channel to deliver IYCF recommendations", and added the sentence "Therefore, communities hold potential to effectively deliver IYCF recommendations in rural China." In page 21, we changed the sentence "This enables us to deliver feeding recommendations through mobiles or the internet." to " This implies a potential to deliver feeding recommendations through mobiles or Internet."

5. Factors associated with poor IYC feeding practice could be explored.

Response: We would like to thank the reviewer for the suggestion. In our manuscript, we listed both knowledge and practice of infant and young child feeding. As we can see from the data in Table 2, most mothers did not know the correct feeding knowledge which leads to poor feeding practice. Achieving behavior change is complex and a multi-faceted approach is recommended: among those with no knowledge on the issue of nutrition, basic information needs to be provided; among those with some knowledge, negotiations and encouragement are recommended; among those who are trying it out, praise and discussion of benefits should be implemented; and those mothers who continue with recommended practices should be supported [3-5]. The knowledge awareness of the target population is the first step to achieve behavioral change and their feeding knowledge is generally poor, therefore, it is important to deliver correct feeding knowledge to all the target caregivers rather than sub-group caregivers.

6. Native speaker editing would be a plus.

Response: All authors carefully read the manuscript and the English-speaking authors refined the English.

Looking forward to hearing from you soon.

With kindest regards,

Yanfeng Zhang  
On behalf of all authors

References:

1. Feng XL, Wang Y, An L, Ronsmans C. Cesarean section in the People's Republic of China: current perspectives. *Int J Womens Health*. 2014 Jan 9;6:59-74. e
2. Mi J, Liu F. Rate of caesarean section is alarming in China. *Lancet*. 2014 Apr 26;383(9927):1463-4
3. USAID (2011) Behavior change interventions and child nutritional status : Evidence from the promotion of improved complementary feeding practices. Washington: USAID.
4. Favin M GM (1999) Communications for Behavioral Change in Nutrition Projects: Nutrition Toolkit Module Number 9. Washington, DC.
5. Project L (2004) Behavior Change Communication for Improved Infant Feeding: Training of Trainers for Negotiating Sustainable Behavior Change. Washington, DC.

### VERSION 2 – REVIEW

<b>REVIEWER</b>	Suying Chang UNICEF China office
<b>REVIEW RETURNED</b>	18-Jun-2014

<b>GENERAL COMMENTS</b>	<p>Table 2, the authors give the knowledge and practices of care givers on key IYCF indicators. While the authors did not try to find out how to decrease the differences between knowledge(%) and partices(%) in this manuscript. The authors should list it in recommendations.</p> <p>The authors clearly decribed a full range of globally standard feeding indicators be used to assess feeding practices of caregivrs in one county. Hope the team can work the the stadard feeding indicators in more areas of the rural China and get the overall situation of whole China.</p>
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<b>REVIEWER</b>	Zhenyu Yang National Institute of Nutrition and Food Safety, China CDC
<b>REVIEW RETURNED</b>	26-Jun-2014

<b>GENERAL COMMENTS</b>	<p>The manuscript was improved significantly with the revisions. There are some comments for further consideration.</p> <p>1. Page 6 line 30-36: "National Chinese data from 2008 showed that only 27.6% of Chinese children were exclusively breastfed up to 6 months, only 43.3% of children aged 6 to 9 months were introduced to solid or semi-solid foods" might be revised to "National Chinese data from 2008 showed that only 27.6% of Chinese children were exclusively breastfed under 6 months, only 43.3% of children aged 6 to 8? months were introduced to solid or semi-solid foods"</p> <p>2. Page 6 line 30-36: "At the same time, the rate of underweight was 8.0%, and the rate of stunting was 20.3%. In addition, 14.2% of children were anaemic, and this rate was the highest among children aged 6-11 months (31.9%)", in which age range of these prevalence needs to be specified.</p> <p>3. Page 9 line 45-52: In sample size calculation, 10% reduction in anemia or 20% increase in feeding knowledge could not be enough without stating the baseline prevalence of anemia or the feeding knowledge. The sample size of 800 is for one group?</p>
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	<p>4. Page 10 line 18-20: How to select the 10 children from the 13 children chosen already?</p> <p>5. Page 11 line 46: Why mean and range of age were reported instead of median and range?</p> <p>6. Table 2: May the same denominator be used for “knowing continued breastfeeding until two years” and “children breastfed until 2 years”, as there are big time lag between 1st year and 2nd year?</p> <p>7. Table 2: Which foods were considered as “iron-rich” or “iron fortified” in the survey?</p> <p>8. Table 5: Was there a huge non-response rate for feeding knowledge questions?</p> <p>9. Conclusion: “Other channels, such as community resources, popular media, internet and mobile phones, hold large great potentials and should also be explored in future studies to maximize the effectiveness of IYCF programs.” may not be closely linked to results.</p>
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### VERSION 2 – AUTHOR RESPONSE

Reviewer 1:

Reviewer Name Suying Chang

Institution and Country UNICEF China office

Please state any competing interests or state ‘None declared’: None declared.

Table 2, the authors give the knowledge and practices of care givers on key IYCF indicators. While the authors did not try to find out how to describe the differences between knowledge (%) and practices (%) in this manuscript. The authors should list it in recommendations.

Response: We agree with the reviewer that it would be appropriate to describe the differences between knowledge and practices in the manuscript. We added the following in the results:

“As shown in Table 2, both the knowledge of caregivers about feeding recommendations and the feeding practices were generally suboptimal. Around one third of mothers knew to initiate breastfeeding within 1 hour of birth, while only about one fifth of mothers followed the recommendation. Moreover, the practice of exclusive breastfeeding for 6 months was even worse. Although only less than 10% of mothers knew to continue breastfeeding up to the age of two and giving children meat at the age of 6-8 months, only 38.2% and 32.5% of children were breastfed for two years and were given iron-rich or iron-fortified foods, respectively.”

We also added the following in the discussion:

“Feeding counseling was the component of antenatal care in the late phase of antenatal care, which involves the village doctor, township hospital doctor and county-level hospital doctor. In addition, we found that the knowledge and practice of early initiation of breastfeeding was 32.5% and 22.4% respectively. Hospital delivery is a requirement in China. Therefore it is the duty of the hospitals to ensure that deliveries take place in hospital.”

“The rate of knowledge and practice of 6-month exclusive breastfeeding was 37.3% and 9.7% respectively. Thus, there is a gap in breastfeeding and exclusive breastfeeding practices. In our study site, most village doctors were male. Other resources from the community have the potential to provide the support for exclusive breastfeeding.”

The authors clearly described a full range of globally standard feeding indicators be used to assess

feeding practices of caregivers in one county. Hope the team can work the standard feeding indicators in more areas of the rural China and get the overall situation of whole China.

Response: We would like to thank the reviewer for the thoughtful comments. Actually, we have used these standard feeding indicators in three rural counties in Qinghai province. In the future, our team will continue using these indicators in more areas of rural China.

Reviewer: 2

Reviewer Name Zhenyu Yang

Institution and Country National Institute of Nutrition and Food Safety, China CDC

Please state any competing interests or state 'None declared': None declared.

The manuscript was improved significantly with the revisions. There are some comments for further consideration.

1. Page 6 line 30-36: "National Chinese data from 2008 showed that only 27.6% of Chinese children were exclusively breastfed up to 6 months, only 43.3% of children aged 6 to 9 months were introduced to solid or semi-solid foods" might be revised to "National Chinese data from 2008 showed that only 27.6% of Chinese children were exclusively breastfed under 6 months, only 43.3% of children aged 6 to 8? months were introduced to solid or semi-solid foods" .

Response: We would like to thank the reviewer for the thoughtful comments. The data we used was from "An Analysis Report of National Health Services Survey in China". It only reported the indicator of "children aged 6 to 9 months were introduced to solid or semi-solid foods". There was no indicator of "children aged 6 to 8 months were introduced to solid or semi-solid foods".

2. Page 6 line 30-36: "At the same time, the rate of underweight was 8.0%, and the rate of stunting was 20.3%. In addition, 14.2% of children were anaemic, and this rate was the highest among children aged 6-11 months (31.9%)", in which age range of these prevalence needs to be specified.

Response: We agree with the reviewer that it would be appropriate to state the specific age group for the prevalence. We have revised the manuscript as following:

"At the same time, the rates of underweight, stunting and anemia among under five year old children were 8.0%, 20.3% and 14.2%, respectively. It is noticeable that almost one third (31.9%) of children aged 6-11 months were anemic, which was the highest among under- five children."

3. Page 9 line 45-52: In sample size calculation, 10% reduction in anemia or 20% increase in feeding knowledge could not be enough without stating the baseline prevalence of anemia or the feeding knowledge. The sample size of 800 is for one group?

Response: We would like to thank the reviewer for the thoughtful comments. In the sample size calculation, we expected that the anemia prevalence would decrease from 30% to 20%, with power of 80%, design effect of 2 and 5% as the significance level, we calculated that a sample size of 800 children under 2 years old for each group would be sufficient. For feeding knowledge indicators, we expected that the proportion of knowing duration of exclusive breastfeeding, knowing duration of breastfeeding, and knowing time of first introducing complementary foods would increase from 41% to 80%, 6% to 80%, and 59% to 80%, respectively. We calculated that samples of 241, 206 and 342 would be enough for each proportion. Therefore, we used the size 800 for each group as our final sample size.

4. Page 10 line 18-20: How to select the 10 children from the 13 children chosen already?

Response: We interviewed 10 caregivers out of 13 sampled children in each cluster based on the order in which they came to the village clinic; that is to say the first 10 caregivers.

5. Page 11 line 46: Why mean and range of age were reported instead of median and range?  
Response: We agree with the reviewer that it would be appropriate to report the median of age instead of mean of age. We have revised it in the manuscript.

6. Table 2: May the same denominator be used for “knowing continued breastfeeding until two years” and “children breastfed until 2 years”, as there are big time lag between 1st year and 2nd year?  
Response: The denominator of “knowing continued breastfeeding until two years” was all the mothers surveyed, while the denominator of “children breastfed until two year” was children who were 20-23 months old. Thus they were different.

7. Table 2: Which foods were considered as “iron-rich” or “iron fortified” in the survey?  
Response: We would like to thank the reviewer for the useful comments. We added the following: “Suitable iron-rich or iron-fortified foods include meat, fish, poultry and liver/organ meat, commercially fortified foods specially designed for infants and young children which contain iron, or foods fortified in the home with a micronutrient powder containing iron or a lipid-based nutrient supplement containing iron.”

8. Table 5: Was there a huge non-response rate for feeding knowledge questions?  
Response: We would like to thank the reviewer for the thoughtful comments. Although we surveyed a total of 1601 caregivers, we only collected data on feeding knowledge from the interviewees who were mothers. For breastfeeding knowledge, we asked mothers whose children aged 0-23 months (n=1443), while for complementary feeding knowledge, we asked mothers whose children aged 6-23 months (n=1187). The non-response rate for breastfeeding knowledge and complementary feeding knowledge were 10.9% and 28.7%, respectively.

9. Conclusion: “Other channels, such as community resources, popular media, internet and mobile phones, hold large great potentials and should also be explored in future studies to maximize the effectiveness of IYCF programs.” may not be closely linked to results.  
Response: We would like to thank the reviewer for the thoughtful comments. Actually, it is a perspective on the future, not a conclusion from the survey. We changed the sentence in the following way: “Other channels, such as community resources, popular media, internet and mobile phones, hold large great potentials and could also be explored in future studies to maximize the effectiveness of IYCF programs.”

Looking forward to hearing from you soon.