Reviewer's report

Title: Feeding Practices, Dietary Intakes and Anthropometric Status of Lactating Women in Samre Woreda, South Eastern Zone of Tigray, Ethiopia

Version: 2 Date: 12 August 2012

Reviewer: Lars Thore Fadnes

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The article is generally relatively well written, the research question is relevant and well stated. The methods seem to be generally appropriately chosen and are generally well described and the data sound to be appropriately collected. The manuscript is well structured and adheres to standard reporting. The title is descriptive for the work. This is also true for the abstract, however some statements e.g. in the conclusion could be improved (see below).

However, it could be stated some more uncertainty in the limitation section, e.g. due to the cross-sectional design. The discussion does in some occasions make conclusions which do not seem to be justified based on neither the data or referenced sources (indicated below). Similarly, the introduction contains several statements which are insufficiently referenced (and in some cases contrasts sources known to the reviewer).

Major Compulsory Revisions

It seems like you have included 400 lactating mothers in your data. If this is true, it is hard to see how valid estimates of the duration of breastfeeding can be calculated. If they are all currently breastfeeding, rather write “age of breastfeeding child”.

Based on the low levels of vitamin C and vitamin A compared to the other micronutrients, it could be worth to mention in the conclusion that increased consumption of fruits and vegetables rich in vitamin A and C could be recommended.

You write that “They have a limited intake of animal source foods, fruits and vegetables. Intake of micronutrients less than the recommended values increase women’s risk of micronutrient deficiencies”. There are however numerous studies indicating better health outcomes (in terms of mortality, cardiovascular diseases and cancers) among those with limited intake of food from animal sources. [1-9]. Please write the discussion to also take these perspectives into account. E.g. when reporting the number of participants eating “animal products, milk and milk products”, please remove the interpretative word “only”.

Minor Essential Revisions

“Frequent pregnancies followed by lactation increase the health risk of mothers resulting in a high maternal mortality.” Frequent pregnancies is regarded as a risk
factor of maternal mortality, but are there currently existing data to support that lactation can cause high maternal mortality? If not, split the two arguments and rather present the second part as a potential hypothesis.

In your conclusion, it is stated that “The feeding practices, dietary intakes and nutritional status of the lactating women were short of the national and international recommendations. Therefore, sustained health and nutrition education is recommended.” Is it necessarily only lack of knowledge which is responsible for the observed practices – what about insufficient access or resources? As you state in another section “The study area is characterized by household food insecurity.”

I recommend changing the term “developing world” with “low-income settings” as “developing world” reflects a world view from around the 1950s that has changed and now often does not fit the current world. Is North Korea “developing” or is it “developed”? Many would say neither, but it is still a low-income country. (For more thorough explanation, see arguments of Hans Rosling)

You write that “Women are more likely to suffer from nutritional deficiency than men for several reasons, including women’s reproductive biology, low social status, poverty and lack of education.” Such statements are often given, although several studies indicate that women have a higher BMI than men (e.g. a review in WHO Bulletin: Socioeconomic status and obesity in adult populations of developing countries: a review. Monteiro CA, Moura EC, Conde WL, Popkin BM. Bull World Health Organ. 2004 http://www.ncbi.nlm.nih.gov/pubmed/15654409). Based on your data, it seems like overweight is not currently a big issue in this group. Still, no data are presented for men to indicate that they are better off in terms of nutritional status. I recommend excluding the comparison with men. Please also find relevant evidence supporting references for the statements which are kept.

Similarly, the statement “The quality of breast milk is only affected in extreme cases of deprivation” contrasts several sources I have read. Please give reference for the statement.

“Triplicate measurements”. Were they measured thrice in different days? Please specify.

Please also present the BMI in a histogram or similar graph (as this gives more information than a table).

In the logistic regression, why are the odds ratios for antenatal visits vs. malnutrition change so markedly different between the crude and the adjusted regression models? Is it adjusting for a specific factor that causes the change? Please discuss this.

You write that “below three fourth’s (71.2%) of the study participants do not take any additional meal during their lactation time”. Do you have any indications whether they tended to increase the size of the meals (even though this is probably difficult to validate due to the cross-sectional design)?
Please specify all food groups which are used for the dietary diversity score. Is it necessarily problematic to not eat food from all the food groups?

Referring to the statement: “The low intake of dietary protein revealed in the current study might be the result of low intake of animal source foods by the study subjects.” The intake was not far below the recommended intake and legumes including beans, lentils, soy products etc in combination with grains are also good sources of protein. Increasing intake of lentils, beans, soy products etc could thus also increase the protein intake. Please modify the statements.

“The much lower intake of animal source foods might explain the lower intake of vitamin A in the lactating women.” In fact, most of the best sources of vitamin A are vegetables and fruits and animal sources generally (except liver) contain much less. Please correct this statement. Similarly, for the statement regarding zinc, there are several non-animal sources which should be added (such as ground nuts/peanuts, pumpkin seeds).

It is stated that “The majority of the study subjects were consuming cereal based foods (99.2%) and legumes (74.2%), which are known to contain significant amount of phytate that reduces the bioavailability of the zinc, iron and calcium absorption (26).” The phytate content can be reduced through e.g. cooking, soaking in an acid medium, lactic acid fermentation, and sprouting. Thus, it seems reasonable to recommend such strategies to reduce the phytate content and to increase uptake of e.g. zinc in the conclusion.

Please discuss further challenges with the cross-sectional design (as associations such as breastfeeding duration and weight cannot be regarded as causal etc).

Discretionary Revisions

In table 6, it seems like the numbers in the parentheses are percentages. This would be clearer if indicated in the table head. I also recommend a space between the numbers and percentages to avoid confusion.

What is meant with “Those whose marriage years was between 11-20 years”?
Those who married at the age of 11 to 20 years, or those who had been married for between 11 and 20 years?

Please explain the word kebeles for readers unfamiliar with the word.

References:


**Quality of written English:** Acceptable

**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