Reviewer’s report

Title: Frequent home visits by health extension workers improved utilization of basic health services in Ethiopia

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Reviewer: Adriane Dr Martin Hilber

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Is the question posed by the authors well defined?

Introduction states: “Health service utilization is a result of multiple factors such as health workers”. This statement is unclear although the reader can guess what is meant. If it is about health worker attitudes, for example, this needs to be stated. [Major Compulsory Revision]

In the introduction, you state that there are many factors influencing use of services but you don’t say what they are specifically, thus the case for HEP is not sufficiently made. It would be helpful to have a sentence or two about how HEP was designed to address specified needs. The barriers to use should also reflect Ethiopia specific issues and then how HEP will address these issues. [Major Compulsory Revision]

Are the methods appropriate and well described? [Major Compulsory Revision]

Was there age restrictions? What if there were more than one “mother” in the household? Please specify how the selection of the participant was done.

You state a pre-test was “done on 5% of the study participants” but as the pre-test was done in control sites, who were the study participants? Please clarify.

Were women interviewed at home?

Are the data sound? [Major Compulsory Revision]

There is a very very high response rate. This may need an explanation

You state under Enabling Factors that “Seventy six point three households were model households, and 68.3% of them were graduated in 2009 and 2010.” I do not understand what is referred to when you state “Graduated”. Please clarify in text.

Needs factors - English suggestions for this sentence -- In case of illness, 70.9% of the study participants visited HP soon after the illness starts began, and 27.3% of the study participants visited the HP if there is was no improvement (Table 4).

Under Multiple Logic Regression please change “occupants” to “occupations”; also in the next sentence the word “family” should be plural “families”
Missing parentheses in sentence on mothers who understand HEP.

While results and characteristics are basically well reported, the limited number of results reported (especially non-significant data) provided only a limited perspective on the issues perhaps a broader presentation of the data is needed

No baseline rates are given or reference point

Does the manuscript adhere to the relevant standards for reporting and data deposition?

The paper is well structured

Are the discussion and conclusions well balanced and adequately supported by the data? [Major Compulsory Revision]

In the discussion, the results are interpreted and supported by references however some of the references seem less relevant than others. The use of Nicaragua as a reference point for example seems a bit odd given the lack of comparability between the context and populations; Perhaps use references on health behaviour from the Asia region which I am sure is also available.

You state: “Though most study participants heard about the HEP mostly from HEWs and felt that they understand what the HEP is, most of them did not accurately mention the number of HEP packages which could be related to the large number of HEP packages which may be difficult to remember, and quality of teaching and demonstration performed. This requires giving more emphasis to demonstration besides teaching HEP packages by HEWs.” As the reader does not know what the HEP packages were, it is hard to appreciate the analysis. I suggest you describe the HEP packages in the methods and comment on those they remember and those that they don’t and then interpret perhaps why some are more memorable than others.

I do not understand what is meant by graduation in the sentence …"Frequency of HEWs household visits, and number of years after household graduation".

In the subsequent sentence change the word “impact” to effect as you are not measuring impact but rather effect of, or consequence.

You state: “Accordingly, most of the services provided in the health posts were immunization, family planning, diagnostic treatment while antenatal care, delivery and postnatal care services were least provided services.” I would like this information checked because it seems rather odd that antenatal care is included in one of the “least provided services”. This would be contrary to what is going on almost everywhere else in developing countries but perhaps this is unique to HPs in Indonesia. Please explain or correct.

In addition, this paragraph repeats the results but does not offer any explanation or interpretation of the findings. It is self-evident that people go to the health post
when they are sick. What would be interesting to know is whether the intervention affected patterns of attendance/visits i.e. women went more often for other types of services due to the new information they received.

You state: “This study was designed to assess the utilization of HEP by the community using a cross sectional study design as such it is a snapshot of utilization of HEP by the community at one point in time so that causal relationship between determinants of utilization and HEP utilization may not be ascertained.” A cross sectional study provides only a snapshot (one point in time) and thus can not ascertain a causal relationship but rather tendencies and associations (with limitations). Please correct this sentence.

Likewise in the conclusion you state that the HEW intervention was associated with utilisation of HEP. Could there have been other factors that influenced uptake?

Perhaps the reader would be more convinced if we knew more about past utilisation rates and barriers and how the intervention overcame some of those barriers. No baseline is given so the change is hard to appreciate.

Are limitations of the work clearly stated? [Major Compulsory Revision]
No limitations were stated however desirability bias of the respondents seems probable. Given the almost 100% response rate one is left wondering what motivated everyone to respond so favourably.

Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? [Minor Essential Revisions]
No reference is made to other work on the same subject in Ethiopia

Do the title and abstract accurately convey what has been found? [Minor Essential Revisions]
English needs checking, lack of articles in the text (e.g. the extent of [the] health extension). Also the term “model household” is stated yet the reader doesn’t know what this is. It needs to be defined in the intro of the abstract or not mentioned.

Is the writing acceptable? [Minor Essential Revisions]
The writing is acceptable but could stand a solid English language edit.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the
statistics.

Declaration of competing interests:

I declare that I have no competing interests associated with this work