PEER REVIEW HISTORY

BMJ Paediatrics Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Utilization of Growth Monitoring and Promotion Service and Associated Factors among Mothers of Children Aged 0-23 Months Old in Mettu Town, South West Ethiopia
AUTHORS	Tufa, Yohanis Mitiku, Abeza Shemsu, Shuayib Bidira, Kebebe

VERSION 1 – REVIEW

REVIEWER	Reviewer name: Abraham Lomboro Institution and Country: Jimma University, United Kingdom of Great Britain and Northern Ireland Competing interests: None
REVIEW RETURNED	20-Jul-2022

| GENERAL COMMENTS | Utilization of Growth Monitoring and Promotion Service and Associated Factors among, Mothers of Children Aged 0-23 Months Old in Mettu Town, South West Ethiopia (bmjpo-2022-001588)
General Comments
The authors conducted this study to investigate utilization of Growth Monitoring and Promotion (GMP) services and its associated factors among mothers of children aged 0-23 months old in Mettu town, South West Ethiopia. They found out that proportion of utilization of GMP services was 25.2% in the study population. Utilization of GMP was significantly associated with age of index child 0-11months, early-PNC, middle tertile wealth status, lower tertile wealth status, utilization of family health card, and time to reach health facility.
The study addresses a very important topic and the results are quite interesting. However, the authors can improve on the presentation of results and discussion. Some revisions are also required in the methods as suggested in the detailed comments below. All authors need to read and contribute to the manuscript. Furthermore, the authors should double check the whole manuscript as there are some grammatical mistakes and expressions
Methods
The authors mentioned that those mothers with children aged 0-23 months of age who fully met the inclusion criteria were the study population. But they didn't mention those inclusion criteria.
The authors didn't used single population proportion formula for sample size determination while their first objective was to identify the proportion of utilization of GMP services among mothers with children aged 0-23 months old. It is not clear whether the sample size was calculated for both objectives and the maximum one was taken as the final sample size or not. Again in table 1 there is no column which indicates the non-response rate is considered in sample size calculation.
Results
In socio-demographic and economic characteristics of the household section, the first paragraph says "…372 mother-child pairs were included yielding a response rate of 95.2%". If all of the sample were included in the study, why the response rate is 95.2%? Again in table 2 the authors indicated that n=354. What about those 18 |

study participants? Are they non-respondents'?

Discussion

The writing of the discussion touches nearly all the findings of the study, however, is quite monotonous, handling each factor with a paragraph highlighting what was found in this study, then in other studies, and reason for current observation. This is all good; however, there is a need for a deeper and diverse connection between these concepts. The authors didn't compare and contrast the current finding with previous studies finding exhaustively. For some predictors the study design and sampling technique they used was mention as a possible reason for the observed difference. But the authors didn't mention how these conditions affect the current finding such as what type of study designs and sampling techniques the previous studies used. Furthermore, the authors didn't indicate the public health implications of the current findings.

Conclusion and recommendation

The main purpose of the search is to provide evidence that help to make evidence-based decision in public health. But the authors give little emphasis for recommendation of the finding for public health practice.

Minor Comments

The abbreviation should be spell out when they appear for the first time. For example: AOR in abstract section and GDP in fourth paragraph last sentence under introduction section.

In the abstract section change the method to methods. The last sentence in methods under abstract say, "…multivariate logistic regression…", but the authors mentioned that they have used multivariable analysis. So, write the one that you used throughout the manuscript. In the result under the abstract section, one of the associated factors was family health card. What does this mean? Is it to mean utilization of family health card? Similarly, what does time to reach health facility mean?

There should be space after punctuation marks, some words and before references, as for example, "facility.Hence" under conclusion and recommendation abstract section, and "nutritional status[1]" in introduction section.

There should be a heading that indicating the methods section. The methods section started with subheading 2.1 study area and period. First paragraph in sample size determination section in the sentence "considering the assumptions (80%) power of the study, 95% confidence level, 1:1 ratio)" one of the bracket is not necessary. Change the last sentence under sample size determination "none response rate" to "non-response rate"

Second paragraph, first sentence under data collection procedures and tools "…interviewer-administered semi-structured questionnaire …" is the repetition of the first sentence in first paragraph of this section.

First paragraph, first sentence under data quality control section says "… was not part the actual data collection area". Is it to say was not part of the actual data collection area?

Last sentence in second paragraph under data quality control is the repetition of what already mention in last sentence in data collection procedures and tools section.

Results

Change "3 RESULT" to Results.

Second sentence in first paragraph under socio-demographic and economic characteristics of the households say "Regarding the age of respond…" is it to say "Regarding the age of respondents…"

Similarly, the last sentence in this paragraph which says "In-terms of wealth status of," is not indicating the status of whom (participants or respondents). Again, the sentence say, "Regarding the age of respond, majority of them were in the age category below 30years". Please indicate the number and percentage for below 30 years age category.

First paragraph, first sentence under socio-demographic and economic characteristics of the households: says, the mean age (month) of the children was 11.25±6.433SD…" Please remove the

plus/minus (±) signs before any presentation of standard deviation in the entire manuscript. Keep the presentation simple; mean (SD). In the same paragraph the fourth paragraph say, More than half of the respondents 181 (58.1%), were attended secondary and above education. The percentage (58.1%) is not correct and similar with that mentioned in the table. In table one, the sum of sex is greater by from the total study participants (n=354). Mean (SD) for age was not indicated in the table.

Change the "utiolization" to utilization in last sentence under factors associated with GMP service utilization section.

Discussion

Some of the paragraphs are composed of only two sentences. How many sentences are required to write a paragraph?

Section 4.1 says, strengths and limitations, but the strength of the study was not described. Even if the limitations are described, how these limitations (response bias and not assessing the qualitative aspect of the study) will affect the result of the study was not mentioned. Moreover, the strategies the authors used to reduce them were not mentioned.

Ethical approval and consent to participate

Last sentence under ethical approval and consent to participate says, The study was conducted in accordance with the Helsinki Declaration. But it is better to describe those declarations the authors applied in the study. For example; how they achieved the confidentiality issue. Moreover, result indicates that only one-fourth of the study participants were utilizing GMP services. Surprising the authors didn't mention any actions that they provided for those mothers who didn't utilizing the GMP service, which is not ethical sound.

REVIEWER	Reviewer name: Jitu Beka Institution and Country: Bule Hora University, United Kingdom of Great Britain and Northern Ireland Competing interests: None
REVIEW RETURNED	23-Jul-2022

GENERAL COMMENTS	The paper is generally well written and structured. However, the paper has significant plagiarism under the introduction section. Hence, I suggested you to restate the idea in your own words.

REVIEWER	Reviewer name: Mr. Wakuma Akafu Institution and Country Jimma University, Ethiopia Competing interests: None
REVIEW RETURNED	18-Jul-2022
GENERAL COMMENTS	Detail comments is attached.

REVIEWER	Reviewer name: Dr. Peter Flom Institution and Country: Peter Flom Consulting, United States Competing interests: None
REVIEW RETURNED	19-Jul-2022
GENERAL COMMENTS	I confine my remarks to statistical aspects of this paper. I do comment on some English usage that relates to statistics. General: Some continuous independent variables were categorized. This is a bad idea. Doing so increases both type 1 and type 2 error and introduces a kind of "magical thinking" - that

something special happens at the cutpoints. Variables such as child age. maternal age, time to nearest health facility, wealth status, and other continuous variables should be left as is, and splines can be used to investigate nonlinearity.

In the abstract, line 46. the CI seems wrong as do some other CI. This is also true in the results section. How were these calculated? Usually, the CI around a proportion is roughly symmetric (this may change slightly due to sampling methods, but it's hard to see how 24.1 to 33.0 could be gotten for a proportion of 25.2.

p. 3 lines 51-53 This is redundant and odd. The "source" and "study" population are the same. The sample is who you got to respond.

p. 4 line 6 I think you mean "two" not "double".

p. 5 and 6 Please give operational definitions of each individual variable, where it is not obvious.

p. 6 lines 25-27 This would be better done with factor analysis, since the goal is to get at a latent factor. This probably won't affect things, especially as only a single factor was extracted.

lines 30-31 This is known as bivariate screening and cannot be recommended. All the output will be wrong. Standard errors will be too small, p values too low, and parameter estimates biased away from 1. See *Regression Modeling Strategies* by Frank Harrell for details, examples, and proofs. It is much better to use substantive knowledge, but if an automated method must be used, LASSO is not bad.

p. 11 See my comments on the abstract re the odd CI. Also, why were CI given for some proportions but not others?

Figure 2: Don't use pie charts. They are a poor method. See the work of William Cleveland or my paper "Graphics for univariate data: Pie is delicious but not nutritious" for details.

p. 13 See above about odd CI

Peter Flom

VERSION 1 – AUTHOR RESPONSE

First of all, I would like to thank all the reviewers for their comments and suggestions. The

majority of the comments were accepted and addressed in the documents. Some of them, which

may need further explanations, were mentioned as the following with their response:

Reviewer Comments Response

Comments from Reviewer: 1

1. Why are you interested to this topic? What makes this study different from other previous studies?

2. Abstract: Method section: Line 41, is that multivariate or multivariable logistic analysis is used?

3. Introduction part

4. Methods and material

-Inclusion criteria

-Why double population proportion formula? why not single population proportion formula

- Desegregate to each six kebele. But why all six kebele? You may get calculated sample size from 1 or 2 kebeles?

- Previously, similar studies were done in different parts of our country on this title. GMP is a major public health issue that needs public and community attention. Even though the findings from the different studies indicated a very small proportion of GMP service utilization, there are no new strategies that are designed to increase the GMP service. Hence, the findings of this study will be used in conjunction with other studies to assist stakeholders in developing appropriate strategies to promote and increase GMP service utilization.

- The comment accepted , it was a typing

error, edition has made to the document

-The comment accepted, modification has

made to the document.

-Inclusion criteria: Mothers with children

aged 0-23 months old who have lived in

Mettu town for at least 6 months.

- Sample size for the first objective was

calculated by using a single proportion

formula by taking a proportion of GMP

utilization of 30.7% (from a study

conducted in Yilmana Denisa Woreda,

Northern Ethiopia), a level of confidence of

95%, and margin of error of 5%, then n=

367 ,after 10% non-response was added, it

gave 360 . After calculating for the second

objective (factors associated with Utilization

of GMP service), the biggest sample size

was taken was from the second objective

(372).

-Since there were only 2828 children aged

0-23 months old in the town (six kebeles)

- Data collection procedures and tools:validity

(construct, content and face validity) and reliability

of your tool?

- Modification done after pretest of the questioners?

- Operational Definition

- Data processing and analysis: assumptions of

PCA?

5. Result

-Check it your participants 372? 355? 354?

- Table 5: Can you read information displayed on

growth No 13: Even those who do not have formal

education were 32.....how could it be?

-When we say GMP services are utilized?

6. Discussion

-References

and also all the kebeles are easy to reach, we

decided to include all kebeles . Doing this

will gives us more representative sample.

-Data collection tools were developed from

the previous studies:

-Before using the tools, it was checked by

peers (staffs) to check the face and content

validity of the tool.

-Explained in the document

- Some operational definition were added in

the document

- All the assumption of PCA were checked

before running the wealthy index, no need

of listing or explaining all the assumption in

the manuscript.

- It was a typing error, participants were

354, and edition has made to the manuscript.

- Participants with no formal education can

understand the deviation of the plot on the GMP chart when an explanation is given by health workers. Some of these participants can even write and read without having a formal education (some of them have learnt basic education at kebele, church, etc.,that enables them to write and read in the local language).

- GMP Utilization: If mother participated in the GMP services at least once for 0 month old child, at least two times for 1-3 months old child, at least five times for 4-11 months and at least four times per year for 12-23 months old child. In addition, it should be plotted or recorded on the child growth chart

- Comments were accepted , modification made to the manuscript

- comments were accepted and modified accordingly

Comments from Reviewer :2

1. Some continuous independent variables were categorized. Variables such as child age. maternal age, time to nearest health facility, wealth status, and other continuous variables should be left as is…..

2. In the abstract, line 46. the CI seems wrong as do some other CI….

3. p. 3 lines 51-53 This is redundant and odd. The "source" and "study" population are the same……

4. p. 4 line 6 I think you mean "two" not "double"…..

5. p. 5 and 6 Please give operational definitions of each individual variable, where it is not obvious

6. p. 6 lines 25-27 This would be better done with factor analysis, since the goal is to get at a latent factor….

7. lines 30-31 This is known as bivariate screening and cannot be recommended. All the output will be wrong…..

8. Figure 2: Don't use pie charts. They are a poor

- In our current work, we have categorized these variables because they have many options. For example, listing the ages of infants from 0 to 23 months necessitates a plethora of tables that may be difficult to comprehend.

-We categorized these variables based on previous articles. By this time, since the work of this study is over, we can admit this comment for our next work

-It was a typing error, it is not 24.1-33.0, and the real one is 20.24-29.33, edited in the document.

- All mothers who have children aged 0–23

months old and live in Mettu town were the source population, whereas mothers who have children aged 0–23 and were selected by simple random sampling from the sampling frame were the study population.

-It is to mean double

-Comment accepted some operational definitions were incorporated.

- 22 items were used to measure wealthy status. Since our items are more than 12, we used PCA than factor analysis. In addition, correlation among variables will be reduced more if we use PCA than factor analysis.

- In this study, simple binary logistic regression was performed to identify candidate variables with a p-value less than 0.25 for multivariable logistic regression. --- Since the work of this study is over, we will accept it as a comment for the rest of our work.

- Edition has made to the document based method…… on the comment.

Comments from Reviewer:3

1.Methods

-Inclusion criteria didn't mentioned

- The authors didn't used single population proportion formula for sample size determination

2.Result

In socio-demographic and economic characteristics

of the household section, the first paragraph says

"...372 mother-child pairs were included

3.Discussion

The writing of the discussion touches nearly all the

findings of the study, however, is quite

monotonous…..

4. Conclusion and recommendation

…..little emphasis for recommendation of the

finding for public health practice?

5.Minor comments

- Responded (please see in the response for

the first reviewer)

- Responded (please see in the response for

first reviewer)

-It was a typing error, 354 mothers with 0-

23 months old children were included.

Correction has made to the document.

-All suggestions were accepted as comments

and modifications have been made to the

documents.

-Recommendation of GMP service

utilization was made based on the findings.

- All minor comments in the result,

discussion and methodology part were

addressed in the document.

Comments from Reviewer :4

1. …..the paper has significant plagiarism under the

introduction section.

-Revision has been made to the document