Author’s response to reviews

Title: Prevalence and associated factors influencing stunting in children aged 2-5 years in the Gaza Strip-Palestine: a cross-sectional study

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Author’s response to reviews:

• First, the introduction and discussion are simply long paragraphs that do not adequately outline the need for this research, the missing gaps in literature that it will fill, and the main hypotheses.

  ➢ Introduction talking about stunting as a significant public health problem worldwide, and also in Palestine as previous study in 2006 showed that prevalence of stunting was 15.3% in the Gaza Strip

Page 3 line 5&7: About consanguinity and its adverse impact on child health, then the prevalence of consanguineous marriage in Palestine was high.

Therefore in Page 3 line 10: We hypothesized that child stunting would be associated with consanguinity when taking into consideration maternal health and socioeconomic factors.

• The discussion is wandering and doesn't focus on exploring why the results exist and how they fit with existing literature.

  ➢ From data analysis there were two associated factors associated with stunting. Page 11, line 7 We added a paragraph to support the results of this study especially consanguinity.

• Second, the issue of consanguinity is confusing. What does is mean to be a "blood relative"? Were they siblings, cousins, cousins once or twice removed? The degree of consanguinity is of utmost importance in defining before such broad conclusions can be made.

  ➢ Page 7, line 14 In data collection we asked if there was blood relationship between mother and father, focusing on: first cousin: it means that the closest ancestor, and first cousin once removed: It means that the person is married to the children of his/her cousins, or no blood relationship.
•The writing needs major editing.

➢ It was done.

Reviewer 2/ Comments

•The small sample size of the survey and a fairly small number of considered risk factors is a limitation of the study. It is also not clear whether the random choice of only 3 study areas (refugee camp, urban area, and rural area) results in a representative sample of the Gaza Strip-Palestine.

➢ The sample of this study was selected randomly from three different sociodemographic areas in the Gaza Strip. Thus, the results of this study can be generalized to the whole population.

➢ In page 11, line we added however we are aware our sample is small. Additional studies with larger sample sizes are needed to develop programs that could effectively assess stunting among children.

➢ This study is part of my PhD study, we used the same data. So in recommendation Page 12, line 15: More studies are needed to explore further the influence of genetic characteristics and environmental factors on childhood nutrition status in the Gaza Strip.

•The final conclusion that it is important "…to raise awareness of the importance of the prevention and control of nutritional problems to combat stunting among children…” is not supported by the presented results. None of the associated risk factors identified in the survey were nutrition related.

➢ Here we meant to control of nutritional problem is malnutrition especially stunting as it is the main health problem in this study.

•Page 3, line 22 seems to be a wrong citation for that sentence. Also, stunting is not considered irreversible as catch up growth is possible.

➢ Inadequate nutrition in the first 1,000 days ……which is irreversible. The authors used this information from Malnutrition - UNICEF data. data.unicef.org/nutrition/malnutrition

• More information is required regarding the data collection of feeding practices. From the result section, it seems that this was limited to a recall of breastfeeding practices.

-Table 1: 'breastfeeding' needs to be defined. What time period was considered?

➢ However recall bias and misreporting of information regarding feeding practices in retrospect by mothers may be affecting collected data. In this question we just asked mother if her child received breast milk or did not receive breast milk at all.

➢ Here we focused on Exclusive breastfeeding as it is considered a risk factor for stunting.
Editor comments

• Please clarify whether it was written informed consent that was obtained from the participants of the study. Please ensure that a statement is added in the paper to clarify the means of consent obtained.

➢ In page 8 line 1: The informed written consent was obtained from the participants prior to their participation. The informed consent clarified the purpose of the study, study confidentiality, and the voluntary right of participation in the study, as well as provided the guarantee that no participant suffered any harm as a result of her participation in the study.

• Please ensure that your paper is copyedited to improve clarity and understanding. Please note that we require the language in paper to be improved before we can proceed.

➢ It was done.

• Please add a Declaration section with all the sub-headings as detailed on the following link. Should there be sub-headings

➢ It was added Page 13, line 6

Reviewer #3/ Comments

• This manuscript needs a considerable amount of editing. The English language and grammar need a lot of work with too many details for a scientific review process.

➢ It was done.

• The finding of the association of stunting with parental consanguinity has no lead up in the abstract until the results are presented. Some statement of the rationale for even looking at this variable should be given in the introduction to the study.

➢ In Page 4, line 5 (introduction) two paragraphs about consanguinity.

➢ Page 4, line 10 we added the study hypothesis.

➢ Page 11, line 3-10 (discussion) about consanguinity

• Introduction: Again, there is not enough background given for choosing consanguinity as a variable - just one study is cited and it is stated that this has not been fully explored within the UNICEF framework.

➢ However, consanguinity has not been explored fully within the UNICEF framework. Previous study in Palestine showed a high prevalence of consanguineous marriage.

➢ Page 4, line 10 Therefore, we hypothesized that child stunting would be associated with consanguinity.
• Methods: There is no rationale for the sample size of 334.

➢ As mentioned in Page line: The single proportion formula was used to calculate the sample size

The single proportion formula

\[ n = \frac{Z^2 \times P(1-P)}{d^2} \] (data not shown)

P is the expected prevalence or proportion of 32.0%

d is the precision (d = 0.05)

\[ n = (1.96)^2 \times 0.32(1-0.32)/(0.05)^2 = 334 \]

• It is not indicated how many research assistants were involved in the data collection and no details of their training or inter and intra rater reliability.

➢ Page 5, line 21: Anthropometric measurements were taken by two trained research assistants following standard recommended procedures of the World Health Organization

• Page 6, lines 19-20 - it is not clear what consistency across indicators was checked and tested means?

➢ Here consistency when authors transferred anthropometric data into Z-scores using the program WHO ANTHRO (version 3.2.2, January 2011). Then entered these data to SPSS.

• Data analysis: Were the weights related to the multistage cluster sampling applied in the data analysis?

➢ Here, in sampling method: The number of households in each cluster was weighted in proportion to the total population of children aged 2-5 years in each area. That means the percentage of preschool children was estimated to 19.2% of the total population in each area (data not shown). Finally, a total of 220, 140 and 40 households were selected.

• It is not clear from the way the data analysis is written up that the UNICEF model characteristics are included in the data analysis?

➢ Data analysis was carried on the available data in the study.

• Results: A lot of the text could be deleted as it is mostly a repetition of data in Tables 1.

➢ It was done

• Discussion: The discussion could be much more comprehensive that it is and that includes the limitations.
It was done, discussion included the limitations Page 11, line 19.

• Table 3: It seems odd that the p-value, presumably for the difference in proportions of stunting among the geographical areas is not significant, given the wide range of proportions?

• The range of stunting proportions is wide but there was no significant association. Here the purpose of this table to show the prevalence of stunting in the three areas.

• Table 4: There is no footnote to accompany the Mother's height variables.

• It was done: Mother’s height >1.60 m is the reference, 1.55-1.60m is mother height 1, and <1.55m is mother’s height 2.