

# Review of: "Assessing the knowledge, attitude, and practice (KAP) of parents and service providers' perceptions on invalid vaccine doses: A study in urban slums of Bangladesh"

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Potential competing interests: No potential competing interests to declare.

Review of "Assessing the knowledge, attitude, and practice (KAP) of parents and service providers' perceptions on invalid vaccine doses: A study in urban slums of Bangladesh"

## Abstract:

Second line: the second objective of the study should clearly indicate that this aim is to obtain the opinion of professionals.

## Introduction:

1-The phrase "However, various literature based on intervention results identified that vaccination dropout and the high prevalence of invalid doses are the main obstacles to achieving the desired target" needs references.

2-page 3: sentence 2 "To investigate why children are being provided invalid vaccine doses." should be written as a research question.

3- The first objective should indicate that it is intended to assess the level of KAP of parents residing in disadvantaged areas of the city of Dhaka.

## Methodology:

1- The first paragraph indicates that the information obtained will allow identifying the causes of the existence of invalid vaccine doses, but the study does not compare the KAP of a group of parents whose children have the vaccination schedule well done with that of a group whose children have invalid vaccine doses. As a result, the study could not identify the causes for the existence of invalid vaccine doses.

2- Operational definitions: it is important to use more technical language in some definitions - for example in the definition where you find "...dose of Penta...", "...dose of MR..."

3- Operational definitions: Fully vaccinated - I think you meant 15 months of age and not 12 months of age (keeping 12 months means you won't be able to fully evaluate the second dose of the MR vaccine). But I have another doubt: from

what I've read, in Bangladesh, at 15 months only one dose of the monovalent vaccine against measles (M) is given and not a second dose of the bivalent vaccine against measles and rubella (MR).

4-Data collection techniques: you should explain better how you selected the mothers who were interviewed (for example: how you selected mothers when several mothers with children aged 2-3 lived in the same dwelling); you should indicate the criteria for selecting key personnel for the qualitative study and why you chose 9 people.

5- It would be important to explain in another item how many questions and topics were addressed in the interviews (explain the data collection instruments).

6- Data Analysis Technique: the most used significance level is 5%. In the results you also consider 10% (see table 6) - this fact should be explained. Confidence intervals are not indicated in the results chapter -maybe you should also show the confidence intervals.

7- Ethical Considerations: Add the answers: was the questionnaire anonymous? Were there any benefits for participating? Were there penalties for refusing to participate? Has the study been approved by an ethics committee?

#### Results:

1-It would be interesting to know how many mothers were invited to participate in the study and how many refused.

2- It is not necessary to put in all the tables "Source: Field Survey, 2020."as we know that they correspond to the results of the study.

3- Table 1:

a) There is a slight difference between percentage and proportion - I think you show the absolute value/frequency and the percentage;

b) The mode column does not bring any addition to the information, so it should be removed;

c) As explained in the methodology, you did not question the children's father - what is the interest of this information about the father?

d) when presenting age in age groups it seems that the oldest woman would be 60 years old; if the inclusion criterion is "mothers with children aged 2-3 years", we might think that you interviewed women aged 58-60, as it is biologically difficult to get pregnant at this age; it would be interesting to present minimum and maximum age, mean, standard deviation, 25th, 50th, 75th percentiles;

e) The average number of children is not explained - does it correspond to all children regardless of age?

f) Was media exposure recorded as yes or no? is there anyone who has never listened to the radio or watched television? or did you ask if they had heard or read about the topic of vaccination? This variable is not clear in the methodology chapter.

#### 4- Table 2:

- a) The title of the table does not correspond to its content;
- b) it is not clear if there are composite variables, resulting from the analysis of several questions simultaneously, or if it was just asked if they considered that they had adequate or inadequate knowledge, for example - it would be good to explain in the methodology chapter;
- c) The variables "condition of child's vaccine card" and "vaccination card is available" do not have 456 respondents; the category "available" does not have the same values in the two variables, and it is not clear why.

#### 5- Table 3:

- a) It is not clear which questions were asked - explain in the methodology;
- b) The caption is missing (types of vaccines and the meaning of the symbol “ – “).

6 - Please use technical terms - "polio vaccine" is not the technical term.

#### 7- Table 5:

- a) It would be good to write in the introduction the definition of vaccination coverage;
- b) apparently there are no questions in the questionnaire (nor data) about "invalid vaccine doses" - this is not clear either in the table or in the text... and in the title of the paper you indicate that it is a study “on invalid vaccine doses”... then it is necessary to indicate the weight of this problem in the studied population.

8- Page 9 - In the text you write "mothers who are regularly exposed to the media" - from the data presented it is only inferred whether they were exposed or not to the information given by the media. To conclude that there was regular exposure, you would have to define the variable and use a Likert scale response

#### 9- Table 6:

- a) It is not clear which knowledge and which practice are considered here, nor to what these variables correspond;
- b) The study of the relationship with socio-demographic variables corresponds to another objective of the study that is not mentioned either in the introduction or in the abstract.

#### Discussion:

1-“They all know that the first vaccine is given to a child in the left hand,...” - the presented data do not support this statement;

2- Use technical terms (example: Hib vaccine, polio vaccine, are not the technical terms to write in a scientific paper);

#### Conclusion:

- a) improve the conclusions according to the comments made so far;
- b) "Even most parents do not know which types of disease or number of diseases are prevented through this vaccination program" - if you consider this aspect important, you should explain why;
- c) "...it may contribute to designing appropriate interventions for reducing the rate of invalid doses of vaccination schedule in this country..." - be careful because the results obtained cannot be extrapolated to the country, they only refer to the group that participated in the study.