Reviewer’s report

Title: Barriers to and Competency with the Use of Metered Dose Inhaler and Its Impact on Disease Control among Adult Asthmatic Patients in Ethiopia

Version: 0 Date: 17 Nov 2019

Reviewer: Andrea Melani

Reviewer's report:

Papers from developing countries are always welcoming. This work shows some flaws, but I think that authors can improve it to gain publication.

Into the introduction section authors could briefly explain the name of available devices for orally inhaled products in Ethiopia. If DPIs are available why did authors select only asthmatics using MDIs. Please discuss this point

Method. I understand that authors enrolled all consecutive subjects referring to the chest clinics as outpatients for a visit. Please confirm this point into the text or explain in a better manner.

Authors should explain whether were subjects only experienced with MDIs enrolled.

Please review the sample size determination with the help of a statistician.

Authors studied barriers to adherence using a questionnaire with five domains. Please explain in a better manner how do you select this questionnaire. Please add it as a supplementary file if it is not previously published. Authors used the ACT to evaluate the control of asthma

Authors evaluated the adherence using a independent variables comorbidities (which ones? did they used the Charlson score or others?), disease length (from diagnosis?) and follow-up (time period between visits?). Incoming (money) will be another interesting variable influencing adherence. is it possible to insert this information?
I agree that inhaler misuse is a common variety of unintentional non-adherence, typical of OIP (please see some references, such as Nikander11, Melani15), but not the only form. I also agree that poor adherence is associated with poor asthma control and poor inhaler technique. Contrivance is a behaviour in which a subject knows how to use an inhaler effectively, but chooses to utilize a different ineffectual technique. Noteworthy, repeated instruction on inhaler technique increased adherence in asthmatics by self-reports (Takemura10) and reduced the frequency emergency room visits due to exacerbations (Takemura12) and control (Coelho12). Although there is no "gold standard" on how to measure adherence, a variety of patient-administered questionnaires have been developed to estimate adherence, such as the four-item Morisky self-report score (Morisky86) and its varieties (Morisky08, Foster12), the MARS (Horne99, Cohen09, Mora), and so on. Did authors use these questionnaires to evaluate adherence? If not, they should modify the text and explain that they have only studied inhaler technique in experienced asthmatics and evaluated its relationship with disease control and other independent variables affecting inhaler use.

There is no standardized method to evaluate MDI use (as well as use of inhalers). Please discuss the questionnaire that you have used with its limit. Shake the device is not an error using a solution but only MDIs formulated as suspensions. The superiority of open mouth technique is questionable and not a critical or essential error.. Hand-lung coordination is a key-point using MDI and is not cited into the text.

Please review these points

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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