Author’s response to reviews

Title: Comprehensive economic evaluation of thermotherapy for the treatment of cutaneous leishmaniasis in Colombia

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Author’s response to reviews:

Medellín 25th October 2017

Natalie Pafitis
BMC Public Health

Dear Dr Pafitis,

With this message we allow to submit you the complete realization of all the suggested changes to the article “Comprehensive economic evaluation of thermotherapy for the treatment of cutaneous leishmaniasis in Colombia” (PUBH-D-17-00854).

Editor Comments

Comment 1: Please format your abstract as per the guidelines:
Answer: the change was made. We changed the term Introduction by Background; the objective was added to the background.

Comment 2: Please read the guidelines and revise your 'Consent to publish' section accordingly. If your manuscript does not contain data from any individual person, please state “Not applicable” in this section.

Answer: the change was made, we added “Not applicable” and remove the current statement.

Comment 3: Please state 'Not applicable' within your 'Acknowledgements' section and remove the current statement.

Answer: the change was made, we added “Not applicable” and remove the current statement.

Comment 4: Please state within your 'Ethics approval and consent to participate' section whether the data used for your study is openly available or whether you received permission (and from who) to access this.

Answer: We have added the following sentence “The data used for this study are from a secondary source (official SIVIGILA records and a phase III controlled clinical trial conducted in Colombia) openly available”.

Comment 5: You should have your manuscript reviewed by someone who is fluent in English. If you would like professional help in revising this manuscript, you can use any reputable English language editing service. We can recommend our affiliates Nature Research Editing Service and American Journal Experts for help with English usage. Please note that use of an editing service is neither a requirement nor a guarantee of publication. Free assistance is available from our English language tutorial and our Writing resources. These cover common mistakes that occur when writing in English.

Answer: The manuscript was translated and edited by American Journal Experts. The Certificate Verification Key is F013-BA3D-D5D7-2146-4A28 (we attach it as supplementary material).
Reviewer reports - Guilherme Loureiro Werneck

Comment 1: As the authors state, cost-effectiveness analyses have not been used that much in cutaneous leishmaniasis, so need to explain a bit further the measures you used. For instance, "effectiveness" is not defined in the text, although it seems to be used as the total of DALYs averted or total of patients cured. Please include this definition in the text.

Answer: In the second part of Methods (Components of the PICO T-R question), in the Outcome section, we have added the next expression:

“Outcomes or definition of effectiveness: The primary outcome or measure of effectiveness was DALYs averted, and the secondary measure of effectiveness was the number of patients cured”.

Comment 2: One of the critical points in cost-effectiveness analysis is assessing the costs. Here, costs were defined very roughly without a more detailed description of each component. For instance, authors assume a cost of US$14.04 for each thermotherapy (apart from health personnel). How did you get this value? In other recent publication of the same group it was estimated as US$22.55. Did you assume that it covers the price of buying the machine and the depreciation with time? These are just examples of information and assumptions that are lacking and should be provided in more detailed in the text.

Answer: In the methods section we explained the Resources and the three steps to estimate the costs, the details of which are shown in Table 1. The differences with our previous publication are explained for the population and exchange rate of the currency (American dollar). Populations in the both studies are different, in this study we analyzed 8,113 incident cases of cutaneous leishmaniasis diagnosed in Colombia during 2015; in our previous study population was a total of 255 patients, and population of eight studies included in the meta-analysis of controlled clinical trials assessing the effectiveness of thermotherapy in the treatment of cutaneous leishmaniasis. In this study, the exchange rate of the dollar was 1 US Dollar = 3,051 Colombian pesos (average value for 2016). In the other publication, the costs were converted to US dollars, estimated from the exchange rate projected for 2013 of $1 = $1900 COP.

Comment 3: Line 52, Page 9: authors say that models assumptions "represent the characteristics of the majority of patients in the country". Can you please give us a rough estimate of the percentage of patients that meet that assumptions?
Answer: this issue was clarified. The new version indicated that the situation described in the assumptions represents “about 95% and 80% of the cases from Colombian Army's leishmaniasis program and civilian population, respectively”.

Comment 4: I think Table 3 is a bit confusing, at least for those not initiated in cost-effectiveness analysis. Please verify and explain the values of effectiveness and for "patients cured" and DALYs and check if these numbers are consistent with those in Table 2. If not and even so these are correct, please make sure to explain how these Tables connect with each other. The way it is showed it seems that you pay more for each patient cured with termotherapy, is it correct?

Answer: After table 2 we added: “Thermotherapy generated 140.75 DALY averted and Glucantime 119.99”; for to do the connection between the table 2 and the table 3.

Before table 3 we added the next text:

“The costs were US$ 290,187 for Thermotherapy and US$ 508,797 for Glucantime, which imply an incremental cost of treatment of US$ 218,610 with antimonial. In terms of effectiveness, Thermotherapy generated 140.75 DALY averted and it cured 4,124 patients, reflecting an incremental efficiency, when it was compared with the Glucantime (20.76 DALY averted and 1,892 patients cured). The cost-effectiveness of termotherapy was US$ 2,062 per DALY averted and US$ 70,4 per patient cured. For Glucantime, it was $ 4,241 per DALY averted and US$ 84,6 per patient cured”.

This text shows that with Glucantime we pay more (US$ 84,6) for each patient cured (with Thermotherapy was US$ 70,4)

Minor points

Comment a- Authors say that they considered 8,113 cases (line 55, page 5), but the numbers from Table 2 sum up to 8,086 for termotherapy and 8,112 for Glucantime, please explain.

Answer: the change was made.
Comment b- Definition of DALY (line 38, page 6) seems incomplete because here it only considers premature death, a better definition would something like "One DALY corresponds to one year of healthy life lost due to ill-health, disability or premature death."

Answer: the change was made. The new version said: “One DALY corresponds to one year of healthy life lost due to ill-health, disability or premature death, measuring the disease burden for specific causes”.

Comment c- Table 3: is IC = 218,610 instead of 218,935? And IC/IE -10,530 instead of -10,534? Please check.

Answer: the change was made, in final version said IC=218,610 and IC/IE -10,530

We hope to have given a satisfactory response to the recommendations.

Please do not hesitate to contact us for any additional request.

Best regards.

Sincerely,

The authors