Reviewer’s report

**Title:** Different responses of weather factors on hand, foot, and mouth disease in three different climate areas of Gansu, China

**Version:** 0  **Date:** 31 Jul 2017

**Reviewer:** Claude Sabeta

**Reviewer's report:**

The authors assessed different weather factors on hand, foot and mouth disease (HFMD) in three climatic areas of Gansu (China). In this study, the authors used different statistical applications to determine the relationships between weather factors and HFMD, and see the possibility of establishing early warning signals for HFMD. The analyses demonstrated inverse relationships between increase in relative humidity and disease, and that average temperature and relative were the two main important determinants. So these data could be in early warning support systems.

Minor issues:

i. Title - response should be responses,

ii. Background - relationship should read relationships, also include a space between death and [1], similarly line 40 - between sunshine and [12-15]. Towards the end of the background - feature (line 50) should read features.

Line 37 - replace "to develop effective control of HFMD spreading" with "to limit spread of HFMD".

Line 46 - replace "at" with "following a lag of"

iii. Methods:

Line 69 - replace to with the,

Line 71 - clinically should read clinical,

Line 95 - see space between trees and .Description,

Line 130 - rewrite particularly "not lagged",
iv. Discussion:

Line 187 - response should read responses,
Line 195 - rectify - Suzhou( Jaingsu,
Line 201 - peak should be in the plural - peaks,
Line 201 check the format of references throughout the whole document. [14,21-32] And
Line 206 - should read peaked in November,
Line 220, presents should read present,
Line 238 - insert be between could and attributed,

Conclusions:

Line 266 - move earlier to after weeks,
Line 272, replace researched with investigated,
Reference no. 11- provide a citation with the doi number; lines 405-407 - title is all in caps - be consistent.

Figures:

Figure 1 - insert province after Gansu.
Figure: There appears to be no difference between HFMD counts and HFMD incidence? Can the authors comment on this?

Major:

Line 30 - what are the mortalities recorded from HFMD infection? I could not see this information in the paper.
Line 254 - the authors outlined some limitations of the study. How do these limitations affect the overall conclusions of the study?
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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

Yes

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

Yes

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

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?
If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal