Reviewer's report

Title: Forecasting incidence of hand foot and mouth disease using BP neural networks in Jiangsu province, China

Version: 0 Date: 26 Mar 2019

Reviewer: Arunkumar Govindakarnavar

Reviewer's report:

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Authors have developed a back propagation neural networks (BP model) to predict the future trend of HFMD in Jiangsu province, China. However, the paper doesn't present any significant outcome.

Specific comments

1. Abstract is not clearly expressing the idea. Sentences need to be reframed

2. Introduction

Paper describes only EVA71 and CVA16 as an etiology of HFMD. What are the other enteroviruses which cause HFMD in China? (line 53,54 and 55)

Considerable attention shall be given worldwide prevalence and incidence of HFMD (line 5859)

How to effectively prevent and control HFMD has become a major challenge in the field of public health (line 60-61)-incomplete sentence

Recently, some researchers are interested in forecasting the incidence of HFMD, using the linear time series models such as auto-regressive integrated moving average(ARIMA) (line 68-69)-vague idea, it shall be specific.

3. Materials and Methods

ARIMA model- how can it be used for forecasting incidence of HFMD? Concept is not well understood (line 104)
Model evaluation

The data between 2009 and 2014 were used as training set to fit models, and data between 2015 and 2016 were used as testing set to evaluate the forecasting accuracy of different models (line 126, 127, 128) - how did you select training set and testing set? Any criteria applied? If you do not take enough data for testing set, how can you take it forward for analysis?

4. Statistics analysis

R version 3.5.0 was employed to explore the temporal characters of HFMD and conduct the spearman analysis between HFMD incidence and meteorological factors. BP neural models were constructed in Python version 3.7.0 and ARIMA model was fitted in SPSS version 20.0 (line 137-140) - Why did you chose multiple software for different model construction?

5. Results

Residual ACF and PACF of model ARIMA. (Line 194) - not understood to the reader
ARI, MAI and seasonal ARI (table line 196) - expand the abbreviations

6. Discussion

Line 218-222 - idea is not clear, meaning is missing

Line 267-273 - Limitations of the study must be re written - generalized way of explanation not concentrating of this study.

No significant outcome presented.

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.

Unable to assess

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 recommend additional statistical review

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

Needs some language corrections before being published

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