Carta aos autores

Climate change and leptospirosis

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Sir, the recent article on climate variables, living conditions and the health of the population and leptospirosis is very interesting[1]. Oliveira et al. concluded that "oscillation of the number of cases is not only determined by rainfall, since other factors influence this dynamic, such as sanitation, in addition to environmental and social factors[1]." This work can well demonstrate that complex underlying factors should be focused when ones deal with an infection. Focusing on environmental factors, Oliveira et al. found that "there is a direct correlation between the incidence of leptospirosis and rainfall[1]." I would like to share experience on this topic. In Thailand, Chadsuthi et al. performed a modeling research and found that "actoring in rainfall (with an 8 months lag) yields the best model for the northern region while the model, which factors in rainfall (with a 10 months lag) and temperature (with an 8 months lag) was the best for the northeastern region[2]." This result can support the previous publication for the environmental factors underlying leptospirosis in Thailand[3]. It should also be noted that the environmental factors can be more predictable for the disease in rural areas where there are not too much socioeconomical effects as in the big cities.

References

1. Oliveira TV, Marinho DP, Costa Neto C, Kligerman DC. Climate variables, living conditions and the health of the population: leptospirosis in the city of Rio de Janeiro from 1996 to 2009. *Cien Saude Colet* 2012; 17(6):1569-1576.
2. Chadsuthi S, Modchang C, Lenbury Y, Iamsirithaworn S, Triampo W. Modeling seasonal leptospirosis transmission and its association with rainfall and temperature in Thailand using time-series and ARIMAX analyses. *Asian Pac J Trop Med* 2012; 5(7):539-546.
3. Wiwanitkit V. *Focus on Climate Change and Health*. New York: Nova Publishers; 2009.

Resposta dos autores

Dear Professor Wiwanitkit,

We appreciate your evaluation and comments about our article. We had access to the article that you mentioned and we observed that the model that was utilized is very interesting and reflects pretty specific results regarding the relation climate-leptospirosis. In our project we use a more general technique of evaluation. The technique mentioned by *Chadsuthi et al* gives us subsidies for future and mutual projects.

In our study we analyzed the climate events and its correlation with the leptospirosis incidence that occurred in the city of Rio de Janeiro – Brazil, in a period of 10 years. Our results resemble to those found by *Chadsuthi et al* in Thailand.

Several authors make a direct correlation between the rainfall and the temperature to the increase of cases of leptospirosis, which is nonetheless an observed association, however there are other factors that contribute in a effective way to the increase of the disease incidence, as stated in our article. With the purpose of enlarge the results stated in our article, we are giving continuity to the research using risk factors to the disease as: climatological, socioeconomic, life conditions etc.