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*Forecast of Cutaneous Leishmaniasis Incidence using Temperature*

Cutaneous leishmaniasis (CL) represents a serious public health problem in Algeria. A total number of 149,706 of CL were diagnosed between 2000 and 2011. The number of cases peaked in 2005 and 2010 with 25,511 and 21,049 cases respectively. Biskra ranks first among the endemic provinces of the country and records every year a high incidence of CL with 3,5149 cases diagnosed between 2000 and 2011 with peaks in 2005 and 2010; 8594 and 6169 cases respectively.

As leishmaniasis is a climate-sensitive disease, we therefore undertook this study in the aim to assess the impact of climate variables on leishmaniasis and to test applicability of a built model in the control and prevention of the disease in Biskra province. The modeling was performed through time series analysis and regression analysis. The study period consisted of a twelve year period from January 2000 to December 2011 with two different monthly data sets: epidemiological and meteorological. We performed a statistical model based on a generalized linear model with Poisson regression considering the number of CL cases as dependent variable and climatic conditions of temperature, relative humidity, evaporation, and rainfall as independent variables. It has been shown that the temperature and temporal effect are the main factors that determine the number of CL cases. The forecasting model can be used to predict CL cases, given appropriate climatological information. An increase of one Celsius degree in the temperature will lead to an increase of 18 percent in the number of CL cases.