

Editor's Comment:

This manuscript is not written with epidemiological and scientific precision. The authors could not establish the basic epidemiological approaches for disease investigation which include: the nature of the agent, host and environment, time, place and persons at risk of a disease.

Besides, the authors were not painstaking in explaining their various acronyms such as SIR to enhance appreciation of their manuscript for our readership.

By far most important, the authors used very sloppy referencing approach which confounds the authenticity of their manuscript.

In reference 2, the title of their journal is completely missing

Reference 5 has problems, Reference 6 both the publisher and date of publications are missing. Ref 7 has problems, reference 17 is incomplete

Reference 19 has problems, Reference 23 is problematic. line 39 and line 52 have typographical errors

Authors' Feedback:

The known common of model for the spread of an infectious disease is the Susceptible-Infected-Recovered (*SIR*) model, which is based on the categorization of individuals in the classes of susceptible (those at risk of getting the infection), infected (those with the ulcer) and recovered (those cured of the ulcer).

In order to model the pathway of infection clearly, we propose a model which considers the role of *M. ulcerans* introduced to the water reservoirs by disturbed environment and stratify the population with age.

We consider the human population divided into three subgroups: the susceptible individuals who do not have Buruli ulcer but are at risk of getting it, infected individuals with the ulcer and the recovered, who would have been treated of the disease. Within each category, the age and population changes over time are taken into account. The number of people in each subgroup are expressed as $S = S(a, t)$, $I = I(a, t)$ and $R = R(a, t)$,

each variable is a function of age a and time t . In order to use a dimensional approach in this model, we formally apply units of weeks for the age of humans a and days for the simulation time t .

The susceptible individuals become infected through interacting with the environment with *M. ulcerans* at rate $\beta_H(a)B_H(t)/(k_H(a) + B_H(t))$ with *M. ulcerans* concentration measured with respect to infectious dose denoted by g . The human population suffers a natural per capita mortality rate $\mu_H(a)$. Individuals recover from BU at a rate $\theta(a)$ which depends on age. *M. ulcerans* bacteria experience a natural removal rate of δ_v due to death or predation.

7. References

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