

effect of treatment on the dynamics of the infection. The existence and stability of a disease-free equilibrium state of modified model was also established and was found to be locally asymptotically stable. The basic reproduction number R_0 that governs the disease transmission was computed by the next generation operator method.

Numerical experiments using published data and the data collected from General Sani Abacha Specialist hospital damaturu, show that treatment can be effective in reducing the number of infected people as well as the number of carriers. The sensitivity analysis of the model parameters, using R_0 also indicates that the number of carriers have high impact on the dynamics of the disease.

RECOMMENDATION

The analytical and numerical studies revealed that there is a possibility of controlling/eradication of typhoid fever, provided that the basic reproduction number R_0 is less than one. It was also found that, *and* π are very most important parameters in the transmission of the disease. I therefore recommend as follows:-

1. There should be proper disposal of the faeces and urine especially the people using bushes hill as toilets and rivers in town as urinals to prevent the spread of the disease.
2. Domestic water should be boiled or chlorinated before drinking to kill the bacteria.
3. Fruits should be washed with clean water before being eaten.
4. Food handlers should be clean, and should be subjected to regular medical check-ups.
5. More research be carried out to identify carriers and find appropriate ways of handling them so as to reduce their role in the dynamics of the infection.

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