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Semi Analytical Method for Solving Lymphatic Filariasis Epidemic Model

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Abstract

In this paper, we present a deterministic model on the transmission dynamics of Lymphatic Filariasis. Non-Standard Finite Difference Method (NSFDM) is employed to attempt the solution of the model. The validity of the NSFDM in solving the model is established by using the computer in-built classical fourth-order Runge-Kutta method. The comparism between Non-Standard Finite Difference Method solution and Runge-Kutta(RK4) were performed which were found to be efficient, accurate and rapidly convergence.

Keywords: Lymphatic Filariasis, Non-Standard Finite Difference , Runge-Kutta; Mathematical model