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ON THE ESTIMATION OF RISK STATUS FOR DEVELOPING DEFORMITY LATER AMONG THE LEPROSY AFFECTED BY USING THE FUZZY DIFFERENTIAL EQUATIONS

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Abstract

The aim of this paper is to propose a model for the estimation of risk status for developing deformity later among the leprosy affected by using the fuzzy differential equation. The solution of fuzzy differential equation is approximated using initial value problem. The solution of fuzzy differential equation used to convert the parameter of membership function of fuzzy risk status into a continuous function. Further, the risk acceleration was determined with the use of fuzzy rule based system (FRBS), which depends upon the risk status and induction characteristics. The developed algorithm uses the information about the risk status and the risk acceleration that obtained from the medical expert and medical literature. Designing and using of trapezoidal membership function gives us an optimized result by taking an average value of status from more than one status.

Key Words : *Fuzzy differential equation, Fuzzy logic, Risk acceleration, Risk status.*