

# MATHEMATICAL MODELLING ON MEDICAL SCIENCES

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## OBJECTIVES

To study about various mathematical models in Medical diagnosis, Analysis of diseases, Spreading of epidemic diseases, Maximum age group of people affected by the disease, population with or without disease and their stability.

## ABSTRACT

Estimation of maximum age group of children having acute diarrhoea using fuzzy matrices like ATD and RTD matrices found. Analysis of TB/HIV among people was developed using fuzzy cognitive map, Prediction of diseases using symptoms was established with the help of Fuzzy Cognitive maps amount of antibiotic Norflexacin in the blood stream is estimate during dynamical model. Spreading of epidemic disease(measles) among people was analyzed by using SIR model. A linear programming problem framed for diet planning to prevent diseases. Using artificial Neural Networks model various diseases are diagnosed and the explanation about the model ANN is given.

## CONCLUSION

Children having 2-3 years age group are most affected by acute diarrhoea was found by Fuzzy matrices. People below poverty line become easy victims of addictive habits (smoking consumption of alcohol) living in congested place visits CSWs, not knowing about how the disease (HIV/TB) spread, concluded as affected people by fuzzy cognitive maps. A person suffers with the symptom, fever with loss of appetite and fever with vomiting or loose motion leading to the sickness of gastro and jaundice. Women ( $\geq 30$  years ) enough to consume 3 idly with sambar and one banana fruit as morning food to fulfill the calories and nutrients was desired using LPP. People with or without diabetic is analysed using differential equation model. Rheumatic fever and its risk factor established in ANN model.