A STUDY ON MATHEMATICAL METHODS IN MEDICAL FIELDS

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OBJECTIVE

- To assess the nutritional status of Cauvery Delta Region people of Tamil Nadu and to study the knowledge of village women regarding the nutritional Health disorder Anaemia and Hypotension.
- To characterize how the transmission of the Epidemic Diseases Mumps and HIV (Human Immuno Deficiency Virus) infection spreads depends on various biological and social factors, which may be different within and between the different population groups.
- To assess the extent of deterioration, physicochemical characteristics of ground water were analyzed in the selected regions of Cauvery delta region and Palar region, Tamil Nadu to find the ground water vulnerability and pollution potential.

ABSTRACT

This Research is conducted in Cauvery Delta Region of Tamil Nadu, India, which focuses the good health care. With the use of Mathematical Models, we analyzed that the people faces high burden of Nutritional health disorders, Epidemic diseases, Ground water vulnerability, Safe drinking water, Sanitation, Education and Social security measures. In this research, we study the real world problems and to solve the problems with a suitable mathematical model and interpret those for finding the optimized solution with preventive measures have been discussed. Also, new results are presented with various mathematical models like Fuzzy Time Dependent Data Matrices, Sanchez's Diagnostic Models, Differential Equations, Multi-Objective Transportation Problem, Multivariate Statistical Analysis, Fuzzy Comprehensive Evaluation Method, DRASTIC and Multi Objective Fuzzy Pattern Recognition models are used.

SIGNIFICANCE

We obtain the maximum age group of women affected by Anaemia are found by using Fuzzy time dependent data matrices. We analyze the Sanchez's diagnostic models involving fuzzy matrices representing the medical knowledge between the symptoms and diseases and the model is applied to anaemia and hypotension and found that one third of Anaemic Patients are affected by Hypotension. In addition, multi-objective transportation approach has been used and suggests having healthy foods with the minimum cost of curing the health disorders. The SIR model is used in the modelling of Mumps and discussed how the sir model works. The model is also used by researchers and health officials to explain the increase and decrease in people needing medical care for a certain disease during an epidemic. We analyze the fuzzy cluster analysis model to study the HIV-AIDS epidemic are explained. Further, we examine the quality of ground water. The results revealed that the water is not safe for drinking but suitable for irrigation, aquatic life and in some other extend. A Multiple Linear Regression Model,

Multivariate Statistical Model, Fuzzy Comprehensive Evaluation Model, Fuzzy Multi Objective Pattern Recognition Model are involved to find out the ground water vulnerability.

CONCLUSION

This study consolidates the variety of Mathematical models using various mathematical methods of a real world problem in Cauvery Delta Region of Tamil Nadu. This research works as focuses its attention to Study the real world problems and to solve the problems with a suitable Mathematical Model for finding the optimized solution with preventive measures.

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