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Research Paper

Testing statistical models for forecasting malaria cases in India

■ **MANISH KR. SHARMA, PAWAN KR. SHARMA, BANTI KUMAR, SUNALI MAHAJAN AND ARCHANA**

See end of the paper for authors' affiliations

Correspondence to :

MANISH KR. SHARMA
Sher-e-Kashmir University
of Agricultural Sciences
and Technology of
Jammu, JAMMU (J&K)
INDIA
Email : manshstat@gmail.com

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ABSTRACT : Malaria is still a big problem for a country like India especially with a huge number of slums and poor people having substandard living habits. The present study was conducted on the basis of secondary data available for malaria cases for the period of 1995 to 2011 to find out the trend for number of malaria cases in India and to forecast such cases for future periods. A number of time series models were created from the available data using the SAS software like linear trend, random walk with drift, simple exponential smoothing, log linear and finally the ARIMA models. The most suitable model was found to be the Log linear model with minimum MSE, RMSE and MSPE of 114402.9, 144675.8 and 5.59744, respectively. The forecast for number of malaria cases in India shown a decrease trend from 1122324 cases in the year 2015 to 778868 in the year 2023.

KEY WORDS : Malaria, ARIMA, ACF, PACF, Log linear model, AIC, SBIC

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