عنوان مقاله:

(Time Series Modeling and Forecasting of Drug-Related Deaths in Iran (۲۰۱۴-۲۰۱۶

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خلاصه مقاله:

Background: Investigating the temporal variations and forecasting the trends in drug-related deaths can help prevent health problems and develop intervention programs. The recent policy in Iran is strongly focused on deterring drug use and replacing illicit drugs with legal ones. This study aimed to investigate drug-related deaths in Iran in ۲۰۱۴-۲۰۱۶ and forecast the death toll by ۲۰۱۹.Methods: In this longitudinal study, Box-Jenkins time series analysis was used to forecast drug-related deaths. To this end, monthly counts of drug-related deaths were obtained from March ۲۰۱۴ to March ۲۰۱۷. After data processing, to obtain stationary time series and examine the stability assumption with the Dickey-Fuller test, the parameters of the Autoregressive Integrated Moving Averages (ARIMA) model were determined using autocorrelation function (ACF) and partial autocorrelation function (PACF) graphs. Based on Akaike statistics, ARIMA (۰, ۱, ۱) was selected as the best-fit model. Moreover, the Dickey-Fuller test was used to confirm the stationarity of the time series of transformed observations. The forecasts were made for the next ۳۶ months using the ARIMA (۰,۱,۲) model and the same confidence intervals were applied to all months. The final extracted data were analyzed using R software, Minitab, and SPSS-۲۳.Findings: According to the Iranian Ministry of Health and the Legal Medicine Organization, there were ۸۸۸۳ drug-related deaths in Iran from March ۲۰۱۴ to March ۲۰۱۷. According to the time series findings, this count had an upward trend and did not show any seasonal pattern. It was forecasted that the mean drug-related mortality rate in Iran would be ۲۴۵.۸ cases per month until ۲۰۱۹.Conclusion: This study showed a rising trend in drug-related mortality rates during the study period, and the modeling process for forecasting suggested this trend would continue until ۲۰۱۹ if proper interventions were not instituted

کلمات کلیدی:
Drug abuse, Forecasting, Poisoning, Time series, Trend

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