ABSTRACT

Forecasting is an important need in daily life aimed at handling and acts as a policy in the future. One of the forecasting is using time series models, which is a statistical method that models an observation which the data taken by time series of time. This study was performed to predict the number of new IUD acceptors achievement in Jombang by using ARIMA (Autoregressive Integrated Moving Average).

This research is non-reactive research which a type of research uses secondary data. The data used the achievement of a new IUD participants in Jombang from January 2010 to December 2014 which were recorded in Badan Pemberdayaan Perempuan dan Keluarga Berencana Kabupaten Jombang. The best forecasting model obtained is ARIMA (0,1,1), with the following model equation:

\[(1-B) X_t = (1 - 0,9746B) e_t\]

The number of achievement new IUD acceptors during the period of January 2015 until December 2016 which data has been obtained from ARIMA (0,1,1), are estimated at around 810 for 2015 and 663 for 2016 new participants to the value of MSE of 0.07818, which means the value of error is nearly 0, so the forecasting results obtained are fairly accurate.

These forecasting results are used to forecast the number of new IUD acceptors achievement in Jombang for two years and can be used as a consideration in the decision to efforts to reduce the number of births in Jombang with KB, as well as relates policy considerations to make use of KB.

Keywords: time series, ARIMA (Autoregressive Integrated Moving Average), Achieving new KB Participants IUD