

INTISARI

Perencanaan kebutuhan obat dapat dilakukan melalui peramalan untuk memprediksi jenis dan jumlah yang tepat. Metode *Single Exponential Smoothing* (SES) terbukti menghasilkan prediksi yang lebih akurat dibandingkan metode lain, sehingga mendukung efisiensi pengelolaan persediaan obat. Karakteristik penggunaan setiap obat berbeda-beda sehingga perlu di kelompokkan berdasarkan pola konsumsi yang dibagi menjadi empat yaitu *smooth*, *intermittent*, *lumpy*, dan *erratic*. Tujuan dilakukan penelitian ini untuk mengetahui tingkat akurasi metode SES pada masing-masing pola konsumsi yang dievaluasi menggunakan indikator MAD, MSE, dan MAPE.

Penelitian bersifat deskriptif *non-experimental* dengan pengambilan data secara retrospektif di RSUD Bali Mandara. Sampel penelitian yang digunakan berjumlah 469 obat pada Januari 2023-Desember 2023. Data penggunaan obat diklasifikasikan berdasarkan pola konsumsi dengan parameter CV^2 dan ADI. Peramalan dengan metode SES dilakukan menggunakan aplikasi *Eviews 12* dan hasil peramalan dievaluasi berdasarkan indikator akurasi menggunakan *Microsoft Excel*.

Hasil pengelompokan pola konsumsi adalah terdapat 335 obat yang termasuk pola konsumsi *smooth*, 3 obat *intermittent*, 50 obat *lumpy*, dan 81 obat *erratic*. Hasil peramalan dengan metode SES memberikan hasil yang lebih baik pada pola konsumsi *smooth* (71,43%) sampel termasuk peramalan yang akurat, baik dan wajar). Interpretasi nilai MAPE yaitu lebih banyak obat yang memiliki peramalan sangat akurat (MAPE <10%) pada pola konsumsi *smooth* ($smooth > intermittent, lumpy, erratic = 9 > 0$); lebih banyak obat yang memiliki peramalan yang baik (MAPE 10%-20%) pada pola konsumsi *smooth* ($smooth > erratic > intermittent > lumpy = 72 > 1 > 0 > 0$); lebih banyak obat yang memiliki peramalan yang wajar (MAPE 20-50%) pada pola konsumsi *smooth* ($smooth > lumpy > erratic > intermittent = 170 > 13 > 7 > 3$). Kesimpulan dari penelitian ini adalah obat yang termasuk kategori pola konsumsi *smooth* menghasilkan peramalan yang lebih akurat dibandingkan dengan pola konsumsi lainnya (*intermittent, lumpy, dan erratic*).

Kata Kunci: Peramalan Farmasi, *Single Exponential Smoothing*, Rumah Sakit

ABSTRACT

Drug needs planning was done through forecasting to predict the right type and amount. The Single Exponential Smoothing (SES) method produced more accurate predictions than other methods, thus supporting the efficiency of drug inventory management. The characteristics of the use of each drug were different, so they needed to be grouped based on consumption patterns, which were divided into smooth, intermittent, lumpy, and erratic. This study aimed to determine the accuracy level of the SES method for each consumption pattern, which was evaluated using the MAD, MSE, and MAPE indicators.

The study was descriptive and non-experimental, with retrospective data collection at Bali Mandara Hospital. The research sample amounted to 469 drugs from January 2023 to December 2023. Drug usage data were classified based on consumption patterns with CV^2 and ADI parameters. Forecasting with the SES method was carried out using the Eviews 12 application, and the forecasting results were evaluated based on accuracy indicators using Microsoft Excel.

The results of the consumption pattern grouping were that 335 drugs belonged to the smooth consumption pattern, 3 were intermittent drugs, 50 were lumpy drugs, and 81 were erratic drugs. Forecasting results with the SES method provided better results in smooth consumption patterns (71.43% of samples included accurate, excellent, and reasonable forecasting). The interpretation of the MAPE value was that more drugs had very accurate forecasting (MAPE <10%) in the smooth consumption pattern (smooth>intermittent, lumpy, erratic=9>0); more drugs had good forecasting (MAPE 10%-20%) on smooth consumption patterns (smooth>erratic>intermittent>lumpy=72>1>0>0); more medicines had reasonable forecasting (MAPE 20-50%) on smooth consumption patterns (smooth>lumpy>erratic>intermittent=170>13>7>3). This study concluded that drugs categorized as smooth consumption patterns produced more accurate forecasts than other consumption patterns (intermittent, lumpy, and erratic).

Keywords: Pharmaceutical Forecasting, Single Exponential Smoothing, Hospital