

## INTISARI

Krisis persediaan darah banyak dialami negara-negara di dunia, terutama negara berkembang seperti Indonesia. Pelayanan penyediaan darah di Indonesia dilaksanakan oleh Unit Transfusi Darah (UTD) yang berjumlah 417 unit di seluruh Indonesia yang bernaung pada Palang Merah Indonesia (PMI). Ketersediaan darah dalam suatu negara secara ideal adalah 2,5% dari jumlah penduduk. Sayangnya, Indonesia hanya mampu memenuhi setengah dari target ketersediaan darah. Hal ini juga dipengaruhi faktor darah yang memiliki umur simpan pendek serta permintaan yang sangat dinamis. Penelitian ini bertujuan untuk menemukan metode peramalan permintaan darah di PMI Kota Yogyakarta, menemukan metode *inventory* dalam *warehouse management system* di PMI Kota Yogyakarta, serta memberikan solusi pengendalian *supply* saat bulan Ramadhan dan lebaran Idul Fitri. Metode penelitian yang digunakan untuk peramalan permintaan adalah *weighted moving average*, *exponential smoothing*, dan *seasonal index*. Hasil penelitian menunjukkan bahwa metode peramalan terbaik adalah *exponential smoothing* dengan  $\alpha$  0,8 dan metode *inventory* dalam *warehouse management system* adalah *periodic review policy*.

Kata kunci: PMI, Peramalan Permintaan, Exponential Smoothing, *Inventory*, Pengendalian *Supply*

## ABSTRACT

The blood supply crisis is faced by many countries in the world, especially developing countries such as Indonesia. Blood supply services in Indonesia are carried out by the Blood Transfusion Unit, which amounts to 417 units throughout Indonesia which are under Palang Merah Indonesia (PMI). The availability of blood in a country is ideally 2.5% of the population. Unfortunately, Indonesia is only able to meet half of the target of blood availability. This is also influenced by blood factor that has a short shelf life and very dynamic demand. This study aims to find a method for forecasting blood demand at PMI in Yogyakarta City, finding inventory methods in the warehouse management system at PMI in Yogyakarta City, as well as providing supply control solutions during the Ramadan month and Eid al-Fitr. The research methods used for forecasting demand are weighted moving average, exponential smoothing, and seasonal index. The results showed that the best forecasting method was exponential smoothing with  $\alpha$  0.8 and the inventory method in the warehouse management system is periodic review policy.

**Keywords:** PMI, Forecasting Demand, Exponential Smoothing, Inventory, Supply Control