Analisi Pengendalian Persediaan Stok Farmasi untuk Mengurangi Kejadian Stock Out dan Stagnant Stock di Instalasi Farmasi RSUP Persahabatan

Rasendah

Abstrak

Pengendalian persediaan obat merupakan komponen penting dalam manajemen logistik farmasi rumah sakit karena berpengaruh langsung terhadap kesinambungan pelayanan, keselamatan pasien, serta efisiensi penggunaan anggaran. RSUP Persahabatan sebagai rumah sakit rujukan nasional mengelola jumlah item obat yang besar dengan kebutuhan klinis yang beragam. Dalam pelaksanaannya, Instalasi Farmasi masih menghadapi permasalahan berupa tingginya kejadian kekosongan obat (stock out) dan adanya penumpukan obat (stagnant stock), termasuk pada obat dengan nilai investasi tinggi. Kondisi tersebut menunjukkan bahwa sistem pengendalian persediaan yang berjalan belum sepenuhnya efektif dan adaptif terhadap dinamika kebutuhan pelayanan. Penelitian ini bertujuan untuk menganalisis efektivitas pengendalian persediaan stok farmasi dalam mengurangi kejadian stock out dan stagnant stock di Instalasi Farmasi RSUP Persahabatan dengan menggunakan pendekatan Operational Research. Penelitian menggunakan desain mixed methods dengan pendekatan sequential explanatory. Data kuantitatif diperoleh dari seluruh item obat yang tercatat dalam sistem persediaan selama periode Mei–Oktober 2025 sebanyak 2.291 item. Analisis dilakukan menggunakan metode ABC–VEN untuk menentukan prioritas obat, serta model Economic Order Quantity (EOQ) dan Reorder Point (ROP) sebagai alat bantu pengambilan keputusan dalam pengendalian persediaan. Data kualitatif diperoleh melalui wawancara mendalam dengan informan kunci untuk mengidentifikasi faktor internal dan eksternal yang memengaruhi pengendalian stok. Hasil penelitian menunjukkan bahwa dari total 2.291 item obat yang dikelola, terdapat 131 item obat Pareto A dengan nilai investasi bulan Oktober 2025 sebesar Rp6.788.411.815. Pada kelompok Pareto A masih ditemukan 211 item obat stagnant sebesar Rp444.994.656 (6,56%) serta kejadian stock out sebesar 20,4%. Perhitungan EOQ dan ROP menunjukkan adanya variasi antar item obat, sehingga pengendalian persediaan tidak dapat diterapkan secara seragam. Simulasi berbasis what-if analysis menunjukkan bahwa penerapan pengendalian persediaan terintegrasi berbasis ABC–VEN, EOQ, dan ROP berpotensi meningkatkan efektivitas pengendalian stok, efisiensi anggaran farmasi, serta kesinambungan pelayanan kesehatan di rumah sakit <hr /> Drug inventory control is an essential component of hospital pharmaceutical logistics management because it directly affects service continuity, patient safety, and the efficiency of budget utilization. RSUP Persahabatan, as a national referral hospital, manages a large number of drug items with diverse clinical needs. In its implementation, the Pharmacy Installation still faces problems in the form of a high incidence of drug shortages (stock out) and the accumulation of drugs (stagnant stock), including drugs with high investment value. This condition indicates that the existing inventory control system has not been fully effective and adaptive to the dynamics of service needs. This study aims to analyze the effectiveness of pharmaceutical inventory control in reducing the incidence of stock out and stagnant stock in the Pharmacy Installation of RSUP Persahabatan using an Operational Research approach. The study employed a mixed methods design with a sequential explanatory approach. Quantitative data were obtained

from all drug items recorded in the inventory system during the period of May–October 2025, totaling 2,291 items. The analysis was conducted using the ABC–VEN method to determine drug priorities, as well as the Economic Order Quantity (EOQ) and Reorder Point (ROP) models as decision-support tools in inventory control. Qualitative data were obtained through in-depth interviews with key informants to identify internal and external factors influencing inventory control. The results show that of the 2,291 drug items managed, 131 items were classified as Pareto A, with an investment value of IDR 6,788,411,815 in October 2025. Within the Pareto A group, 211 stagnant items were identified with a total value of IDR 444,994,656 (6.56%), and stock-out events were observed in 20.4% of the items. The EOQ and ROP calculations revealed considerable variation among drug items, indicating that inventory control cannot be applied uniformly. A scenario-based what-if analysis suggests that the implementation of integrated inventory control using ABC–VEN, EOQ, and ROP has the potential to improve stock control effectiveness, pharmaceutical budget efficiency, and the continuity of healthcare services in the hospital.