Perencanaan pengendalian persediaan perbekalan farmasi menggunakan EOQ (Economic Order Quantity) dan ROP (Reorder Point) di Instalasi Radiodiagnostik Rumah Sakit Kanker Dharmais = Planning inventory control for pharmaceutical supplies using EOQ (Economic Order Quantity) and ROP (Reorder Point) in Radiodiagnostic Department of Dharmais Cancer Hospital

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Abstrak

Instalasi Radiodiagnostik RS Kanker Dharmais pada tahun 2019 memiliki persediaan perbekalan farmasi yang berlebih lalu menjadi kedaluwarsa. Hal ini menyebabkan peningkatan pada biaya penyimpanan persediaan, biaya pengelolaan limbah rumah sakit, serta limbah berpotensi mencemari lingkungan sekitar. Oleh karena itu, studi perencanaan pengendalian persediaan melalui sistem EOQ (Economic Order Quantity) dan ROP (Reorder Point) di Instalasi Radiodiagnostik RS Kanker Dharmais dilakukan untuk menentukan jumlah pemesanan yang ekonomis, jumlah persediaan minimum, dan jumlah persediaan cadangan. Penelitian dilakukan secara deskriptif observasional dengan pendekatan retrospektif, di mana data yang digunakan dalam penelitian adalah dokumen produksi di fasilitas pembuatan PET radiofarmaka, berupa harga beli perbekalan farmasi yang termasuk biaya pemesanan dan biaya penyimpanan, jumlah pemakaian persediaan dalam setahun, serta waktu yang diperlukan dari saat memesan barang hingga sampai. Perhitungan EOQ pada penelitian menghasilkan jumlah pemesanan perbekalan farmasi yang ekonomis dengan variasi mulai dari 1-17 box, 1-5 botol, dan 1 tabung gas. Pemesanan dilakukan kembali ketika persediaan telah mencapai jumlah minimumnya (reorder point), dengan variasi mulai dari 1-91 piece(s), 1/10 - 1 4/5 botol, dan 2-14 bar. Kemudian, untuk mengantisipasi stockout maka dibutuhkan safety stock dengan jumlah bervariasi mulai dari 1-10 box, 1 botol, dan 1 tabung gas. Berdasarkan perencanaan yang dilakukan, pengendalian persediaan perbekalan farmasi melalui sistem EOQ dan ROP di Instalasi Radiodiagnostik RS Kanker Dharmais menghasilkan jumlah pemesanan yang ekonomis, pada waktu yang tepat, serta mencegah terjadinya overstock (kelebihan persediaan) maupun stockout (kekosongan persediaan).

.....Radiodiagnostic Department of Dharmais Cancer Hospital in 2019, had an excess supply which eventually became expired. This case increased inventory storage costs, the hospital waste management cost, as well as the waste potentially pollute the surrounding environment. Therefore, the study of planning inventory control was carried out through the EOQ (Economic Order Quantity) and ROP (Reorder Point) systems at the Radiodiagnostic Department of Dharmais Cancer Hospital to determine the number of economic orders, minimum inventory quantities, and the number of safety stocks. The study was conducted descriptively observational with a retrospective approach, where the data used in the study were production documents at the radiopharmaceutical PET manufacturing facility, consisting the purchase price of the supplies which included ordering cost and holding cost, annual usage for the inventory item, also lead time for a new order. The EOQ calculation in this study resulted in an economical amount of pharmaceutical supplies with variations ranging from 1-17 boxes, 1-5 bottles, and 1 gas cylinder. Orders were remade when the amount of inventory had reached the reorder point (ROP), with variations ranging from 1-91 piece(s),

1/10 - 1 4/5 bottles, and 2-14 bars. Then, to anticipate stockout, safety stocks were needed with varying amounts ranging from 1-10 boxes, 1 bottle, and 1 gas cylinder. Based on the planning, inventory control for pharmaceutical supplies through EOQ and ROP systems in the Radiodiagnostic Department of Dharmais Cancer Hospital generated an economical number of orders, at the right time, also prevented overstock and stockout.