

Cost Comparison of Ward-Based and Centralized Co-amoxiclav Injection Preparation at Sirimavo Bandaranaike Specialized Children's Hospital (June - December 2023)

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Parenteral medicine preparations are formulations administered via injection. Ward based preparation of parenteral medicines often leads to drug wastage, increasing costs and environmental burden. Centralized preparation units enhance safety and efficiency while minimizing waste and associated efficiency. This study aimed to analyze the medicine wastage of and associated costs of ward-based vs centralized reconstitution of co-amoxiclav powder for injection. Data were collected from the records maintained at the wards of Sirimavo Bandaranaike Specialized Children's Hospital, Sri Lanka between June and December 2023. Data included dose, frequency and the number of vials used per bed head ticket (BHT). Ward-based wastage was calculated by comparing required and actual use. Centralized preparation wastage and cost were estimated theoretically based on dose requirements. Vial cost was obtained from the Medical Supplies Division price list. Over the six months period, total co-amoxiclav wastage due to ward-based reconstitution was 2654174 mg. The associated cost was LKR.1,925,751.20, whereas the theoretically estimated cost for centralized medicine reconstitution was LKR.774,097.50. Centralized preparation could have saved LKR.1,151,653.70 during this period. Centralized medicine preparation significantly reduces medicine wastage and associated costs. This study highlights the operational and economic advantages of implementing centralized medicine reconstitution units in hospital settings.

Keywords: Co-Amoxiclav, cost comparison, parenteral preparation, centralized, Sirimavo Bandaranayake specialized children's hospital