Abstract

TNI Angkatan Laut Dr. Ramelan Hospital is a government hospital with class A qualification. It has various medical facilities. The number of medical patients in 2008 was 24,094, who generated high amount of solid waste. Observation on solid hazardous waste management in this hospital concluded that the solid waste had not been well managed. The Government Decree No. 18/1999 states that every generator of hazardous waste must manage their waste, started from the source to the disposal site. This research evaluated solid hazardous waste management in TNI AL Dr. Ramelan Hospital.

Data on hazardous waste generation and composition were collected from laboratory, intensive care unit, pathology unit, operation unit, pharmacy, and patient rooms within 8 consecutive days. These data were collected in order to determine an appropriate management system. Results of this study showed that the hazardous waste consisted of infectious (22.09 kg/day), contaminated sharps (17.79 kg/day), pathological (13.44 kg/day), cytotoxic (6.02 kg/day), pharmaceutical (4.22 kg/day), and chemical (6.71 kg/day) waste components.
The recommended management system is as the following: (i) the hazardous waste should be placed in 30 L container, which is made from HDPE, and equipped with spring opener, (ii) the container should also be equipped with color and symbol according to the Minister of Health Decree No. 1204/2004. (iii) hazardous waste should be collected separately from non-medical waste, using a collection cart of 400L capacity. (iv) the cart is made from metal, red painted, and equipped with a symbol of hazardous waste mixture. The collection efficiency is 3 trips/shift, with working duration of 8 hours/day. (v) the hazardous waste is treated using DBC 1,5 incinerator type, with 1200°C temperature for destroying cytotoxic waste. The estimated total cost of this management option is Rp. 721,708,800, whereas the estimated operation cost is Rp.8,736,996,00/month.

Keywords: hazardous waste, management, TNI AL Dr Ramelan Hospital