Evaluasi unit pengolahan limbah cair rumah sakit terkait keberadaan bakteri resisten antibiotik di RSUPN DR. Cipto Mangunkusumo = Evaluation of hospital wastewater treatment plant related to the existance of antibiotic resistance bacteria at RSUPN DR. Cipto Mangunkusumo

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Abstrak

Kejadian resistensi antibiotik meningkat di seluruh dunia. Unit pengolahan limbah rumah sakit dapat menjadi sumber penularan serta tempat berkembang biak maupun munculnya bakteri resisten antibiotik. Penelitian ini dilakukan untuk mengetahui jumlah bakteri resisten antibiotik yang direpresentasikan dengan Escherichia coli (E. coli) pada influen dan effluen unit pengolahan limbah rumah sakit IPAL Terpadu 2 RSUPN Dr. Cipto Mangunkusumo (RSCM). Sebagian besar air limbah terdiri dari buangan feses dan urin pasien rawat inap di Gedung A RSCM. Antibiotika yang diuji untuk resistensi adalah Meropenem, Cefixime, dan Ciprofloxacin melalui metode disk diffusion test. Hasil yang didapatkan menunjukkan E. coli resistensi terhadap Ciprofloxacin, Cefixime, dan Meropenem masing-masing sebesar 50,96%, 47,63%, dan 14,18%. Efisiensi terbesar dalam mengurangi jumlah mikroorganisme pada unit pengolahan di IPAL Terpadu 2 RSCM adalah pada unit disinfeksi, yaitu sebesar 97,14%.
<hr>The incidence of antibiotic resistance is increasing worldwide. Hospital wastewater treatment plant can become a source for transmission as well as place for breeding and development of antibiotic resistance bacteria. The study was conducted to determine the number of antibiotic-resistant bacteria that is represented by Escherichia coli (E. coli) in the influent and effluent hospital wastewater treatment plant in Wastewater Treatment Plant 2 of RSUPN Dr. Cipto Mangunkusumo. The wastewater mostly consisted of faeces and urine from hospitalized patients in Building A RSCM. The antibiotics to be tested for resistance are Meropenem, Cefixime, and Ciprofloxacin using disk diffusion test method. The results showed E. coli resistance to Ciprofloxacin, Cefixime, and Meropenem are respectively 50,96%, 47,63%, and 14,18%. The highest eficiency in decreasing the number of microorganism in IPAL Terpadu 2 RSCM is achieved by the disinfection unit, that is 97,14%.