

## **ABSTRACT**

### **CONTAMINATION OF *Escherichia coli* BACTERIA ON SWIMMING POOL WATER IN BANDAR LAMPUNG CITY**

By

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Pool's water is water used for sports, recreation and the quality meet health requirements both physical, chemical, and microbiological. Based on study *Centers for Disease Control* (CDC) found as many 161 samples of swimming pool have been contaminated bacteria. The purpose of thi study is to detect the presence of *Escherichia coli* bacteria in pool's water in Bandar Lampung city.

This was a descriptive observation. Sample consists of the pool's water. The study was conducted in December 2017 in Bandar Lampung. The sample was immediately taken to Microbiology Laboratory of Faculty of Medicine, University of Lampung. This study used total sampling method with 11 pool water samples. Sample were assayed by MPN, bacteria isolated on EMB agar, used gram staining and biochemical test.

This study showed 3 pool water samples stated positive for *E. coli* (37%) and 8 other samples contain *Coliform* another type, *Citrobacter freundii* (63%). Result of this study was the pool's water quality didn't meet the criteria (according to Peraturan Menteri Kesehatan RI No. 416/Menkes/Per/IX/1990) on water quality requirements.

There is contamination of *Coliform* bacteria in 11 pool's water samples in Bandar Lampung.

Keywords: *Coliform*, microbiology contamination, swimming pool

## **ABSTRAK**

### **KONTAMINASI BAKTERI *Escherichia coli* PADA AIR KOLAM RENANG DI KOTA BANDAR LAMPUNG**

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Air kolam renang digunakan untuk olahraga, berekreasi dan kualitas nya memenuhi syarat baik fisik, kimia, dan mikrobiologis. Berdasarkan penelitian *Centers for Disease Control* (CDC) ditemukan sejumlah 161 kolam renang telah terkontaminasi bakteri. Tujuan penelitian ini adalah untuk mendeteksi adanya bakteri *Escherichia coli* pada sampel air kolam renang di kota Bandar Lampung. Jenis penelitian bersifat Deskriptif Observatif. Sampel penelitian meliputi air kolam renang. Penelitian dilakukan pada bulan Desember 2017 di kota Bandar Lampung. Sampel dibawa ke Laboratorium Mikrobiologi Fakultas Kedokteran Universitas Lampung. Penelitian menggunakan metode *total sampling* dengan jumlah sampel 11 air kolam renang. Sampel di uji dengan metode MPN, diinokulasikan pada EMB agar, dilakukan pewarnaan gram dan uji biokimia. Penelitian menunjukkan 3 sampel air kolam renang dinyatakan positif mengandung *E. coli* (37%) dan 8 sampel lainnya mengandung *Coliform* jenis lain, yaitu *Citrobacter freundii* (63%). Hasil penelitian terhadap air kolam renang ini ternyata belum memenuhi persyaratan Peraturan Menteri Kesehatan RI No. 416/Menkes/Per/IX/1990 tentang syarat-syarat dan pengawasan kualitas air. Adanya kontaminasi bakteri *Coliform* pada 11 sampel air kolam renang di kota Bandar Lampung.

Kata Kunci: *Coliform*, kolam renang, kontaminasi bakteri