ABSTRAK

Air minum dan air higiene sanitasi rumah tangga yang terkontaminasi bakteri Gram negatif batang non-*coliform* berpotensi menjadi sumber penyebaran penyakit serta reservoir resistensi antibiotik. Informasi mengenai pola kepekaan bakteri tersebut terhadap berbagai golongan antibiotik masih terbatas, khususnya pada sumber air rumah tangga di Kota Cimahi. Penelitian ini bertujuan untuk mengetahui pola kepekaan antibiotik bakteri Gram negatif batang non-*coliform* yang diisolasi dari air minum dan air higiene sanitasi rumah tangga di Kota Cimahi. Penelitian menggunakan desain deskriptif laboratorik dengan pendekatan kuantitatif. Sampel terdiri atas 23 isolat bakteri Gram negatif batang non-*coliform* koleksi laboratorium yang berasal dari 90 sampel air minum dan 90 sampel air higiene sanitasi rumah tangga. Isolat dire-identifikasi melalui media selektif, pewarnaan Gram, dan uji biokimia, kemudian dilakukan uji kepekaan antibiotik menggunakan metode difusi cakram Kirby–Bauer. Interpretasi hasil mengacu pada standar Clinical and Laboratory Standards Institute (CLSI). Hasil re-identifikasi menunjukkan 16 isolat teridentifikasi sebagai *Pseudomonas aeruginosa*, 6 isolat sebagai *Salmonella typhi*, dan 1 isolat sebagai *Vibrio cholerae*. *Salmonella typhi* menunjukkan sensitivitas 100% terhadap cefotaxime, trimethoprim-sulfamethoxazole, dan chloramphenicol, namun ditemukan resistensi tertinggi terhadap amoxicillin (50%). *Pseudomonas aeruginosa* menunjukkan sensitivitas tertinggi terhadap amikacin, sedangkan resistensi tertinggi ditemukan pada ceftazidime. Seluruh isolat *Vibrio cholerae* menunjukkan sensitivitas terhadap seluruh antibiotik yang diuji. Hasil penelitian menunjukkan bahwa sebagian besar isolat masih sensitif terhadap antibiotik, namun telah ditemukan isolat resisten dan intermediet yang mengindikasikan adanya perkembangan resistensi antibiotik pada bakteri lingkungan.

Kata kunci: bakteri Gram negatif batang non-*coliform*, air minum, air higiene sanitasi rumah tangga, resistensi antibiotik, Kirby–Bauer.

ABSTRACT

Household drinking water and hygiene-sanitation water contaminated with non-coliform Gram-negative rod bacteria can potentially serve as sources of disease transmission and reservoirs for antibiotic resistance. Information regarding the antibiotic susceptibility patterns of these bacteria remains limited, particularly concerning household water sources in Cimahi City. This study aimed to determine the antibiotic susceptibility patterns of non-coliform Gram-negative rod bacteria isolated from household drinking water and hygiene-sanitation water in Cimahi City. A descriptive laboratory study design with a quantitative approach was employed. The samples consisted of 23 laboratory-collected isolates of non-coliform Gram-negative rod bacteria derived from 90 drinking water samples and 90 household hygiene-sanitation water samples. The isolates were re-identified using selective media, Gram staining, and biochemical tests, followed by antibiotic susceptibility testing via the Kirby–Bauer disk diffusion method. Results were interpreted according to Clinical and Laboratory Standards Institute (CLSI) standards. Re-identification results showed that 16 isolates were identified as Pseudomonas aeruginosa, 6 as Salmonella typhi, and 1 as Vibrio cholerae. Salmonella typhi exhibited 100% sensitivity to cefotaxime, trimethoprim-sulfamethoxazole, and chloramphenicol, but showed the highest resistance to amoxicillin (50%). Pseudomonas aeruginosa showed the highest sensitivity to amikacin, while the highest resistance was observed against ceftazidime. The Vibrio cholerae isolate demonstrated sensitivity to all tested antibiotics. The study results indicate that while the majority of isolates remained sensitive to antibiotics, resistant and intermediate isolates were detected, suggesting the development of antibiotic resistance in environmental bacteria.

Keywords: *non-coliform Gram-negative rod bacteria, drinking water, household hygiene-sanitation water, antibiotic resistance, Kirby–Bauer.*