عنوان مقاله:

Antibiotic Resistance Pattern and Prevalence of tetA, tetB, tetR, OXA-۱۰ and OXA-۴۸ Resistance Genes among Escherichia coli Isolates from Toilets in Mashhad Azad University (Iran) in ۲۰۲۰

محل انتشار:

فصلنامه میکروب شناسی پزشکی ایران, دوره 17, شماره 2 (سال: 1401)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

Background and Aim: Escherichia coli is the normal flora of the human and animal intestine that sometimes causes pathogenesis within the intestine and urinary tract. The current study investigates resistance genes in Escherichia coli isolated from the toilets at the Islamic Azad University of Mashhad, Iran, and to perform genome sequencing in tetracycline-resistant strains. Materials and Methods: This cross-sectional evaluation was carried out on ۲۰۰ samples collected over three months. Samples were cultured and isolated using eosin methylene blue agar medium (EMB). E. coli Samples were identified and used to evaluate the resistance genes by polymerase chain reaction (PCR). The E. coli isolates were used for an Antibiogram test to identify resistant strains. For the statistical analysis of antibiotics pattern, SPSS-۲۲ and the Kolmogorov-Smirnov test were used. Results: Out of ۲۰۰ samples, ۴۱ isolates were identified as E. coli with the highest resistance rate to cefotaxime (۷۴.۶۰%) and the highest sensitivity rate to gentamicin (۵۸.۷۴%). Among the ۲۰ isolates, ۳۰%, ۲۰%, ۲۵% carried blaTEM-۱, blaOXA-۱۰ and blaOXA-۴۸ genes, respectively. Among ۳۸ tetracycline-resistant isolates, three isolates (۷.۸۹%) had tetA gene, and two (۵.۲۶%) had the tetR gene. Conclusion: In this experiment, most of the isolates were identified as E. coli and were resistant to antibiotics. To control the spread of E. coli infectious disease and arbitrary use of antibiotics, it is recommended to conduct some educational programs and social activities with the aim of increasing health awareness.

کلمات کلیدی:

Escherichia coli, resistance genes, tetracycline-resistant isolates, antibiotics,
اشریشیا کلی, مقاومت آنتی بیوتیکی, تتراسایکلین, توالت