

## Abstract

The most important part of a healthy and nutritious diet is fresh fruit, which is usually used without cooking or processing. Although acceptable hygienic techniques are used to wash and process fresh fruit, they do not completely eliminate the risk of microbial contamination. Therefore, fresh fruits can act as carriers of pathogenic bacteria to humans. In the present study, 109 strawberry samples were collected from Kahnooj city farms. The contamination rate of samples with heat coliform by the maximum possible number (MPN) method was investigated and resistance to five antibiotics: amoxicillin (30 micrograms), ampicillin (10 micrograms), sulfamethoxazole trimethoprim (25 micrograms), Gentamicin (310 µg), chlortetracycline (20 µg), chloramphenicol (30 µg), streptomycin (10 µg) were evaluated. In the present study, 109 samples were examined for MPN detection of thermal coliforms among strawberries in southeastern Kerman, Iran. Thirty of 109 samples (28.44%) contained 100 or more MPN / g thermoplastic coliforms. According to the above standard, more than a quarter of the strawberries in the study area are contaminated with thermal coliforms and are of public health concern. This seems to be a public health problem. The antimicrobial resistance of the isolates was evaluated and recovered from strawberries, which are contaminated with > 100 MPN thermal coliform per gram (n = 30). Antimicrobial resistance 100% (30.30) against ampicillin, 86.7% (30.26) against streptomycin, 33.3% (10.30) against chloramphenicol and 26.7% (30.30) 8) was resistant to both trimethoprim / sulfamethoxazole and chlorine tetracycline (X = 86.875, p = 0.00; 12 out of 30 isolates (40%) were resistant to several drugs (MDR) MDR isolates (n = 12) showed four different patterns of MDR, including streptomycin-chlortetracycline-ampicillin (n = 2; 16.7%), streptomycin-chloramphenicol-ampicillin (n = 2; 16.7%), streptomycin-trimethoprim / Sulfamethoxazole-chloramphenicol-ampicillin (n = 2; 16.7%), and streptomycin-trimethoprim / sulfamethoxazole-chlortetracycline-chloramphenicol-ampicillin (n = 6) (50%). The multiple antibiotic resistance index (MAR) ranged from 0.2 to 1 with 0.497, with the mean MAR index isolated at sixteen.

Keywords: Thermophilic coliform, Antibiotic resistance, MPN



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