

MICROBIOLOGICAL SAFETY OF TAP AND ARTESIAN WELL WATERS

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The objective of this study is to determine the microbiological quality of tap water and artesian well water samples (n=120) collected from Bursa province over six-months period. TS EN ISO methods were used microbiological analyses of total aerobic bacteria (6222), coliform (9308-1), *E. coli* (9308-1), enterococci (7899-2) and *Salmonella* (6340). *S. aureus* and *Vibrio* were isolated methods described by NF Standard (90-421) and FDA (The US Food and Drug Administration) respectively. Vancomycin-resistant enterococci (VRE) analysed to method explained by Cortes et al. 30 (25%), 15 (12.5%) and 10 (8.3%) of the samples was observed to be contaminated with coliform bacteria, *E. coli* and enterococci, respectively. *S. aureus* was found in 22 (18.3%) of the water samples and only one sample was coagulase positive. Total aerobic bacteria counts were higher than legislation limit in 39 (32.5%) of the samples. VRE was isolated in two artesian well water samples from rural area. The contamination with *Salmonella* and *Vibrio* was not observed in any of water samples. The results of the present study showed that 41% of analysed water samples were not assured legislation requirements, and also the drinking and/or using for multiple purposes of the contaminated waters can create potential risks to public health.

Keywords: Water, pathogen bacteria, microbiological quality, contamination

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