

**MICROBIOLOGICAL QUALITY OF DIFFERENT
TYPES OF DRINKING WATER OF AN
ORGANIZATION IN KUALA LUMPUR**

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ABSTRACT

The microbiological quality of six types of drinking water in an organization found in Kuala Lumpur was determined using total coliform, *Escherichia coli* and Heterotrophic Plate Count (HPC). In this study, presumptive test and confirmatory test were used to detect the presence of total coliform using the media Lauryl Tryptose Sulfate (LST) broth and Brilliant Green Lactose Bile (BGLB) broth. Total coliform counts detected in reverse osmosis, filtered water, boiled water, unfiltered tap water, drinking water from food stalls and mineral water were 0.933 ± 0.351 MPN/g, 0.372 ± 0.124 MPN/g, 0.3 ± 0.000 MPN/g, 0.567 ± 0.462 MPN/g, 4.75 ± 6.490 MPN/g and 0.460 ± 226 MPN/g respectively. *Escherichia coli* were detected in reverse osmosis (1 out of 3 samples) and drinking water from food stalls (1 out of 3 samples) which indicated that these two types of drinking water maybe contaminated by fecal material. The total coliform counts except for boiled water in this study had exceeded the limitation of US EPA Primary Drinking Water Regulations that no sample should be detected coliform per month for samples less than 40 or not more than 5.0 percent total coliform positive in a month and the presence of *E.coli* indicated the system is in maximum contaminant level violation. It failed to meet Drinking Water Standard 2009 of Malaysia that zero count of total coliform and *E.coli* should be detected in treated water. Drinking water quality in this organization was deteriorated and monitoring and testing for the presence of total coliform and *E.coli* is needed. Plate Count Agar (PCA) was used in determining the heterotrophic bacteria in these six types of water. Heterotrophic plate counts detected in reverse osmosis, filtered water, drinking water, mineral water, unfiltered tap water and boiled water were 2.329 ± 0.916 logcfuml⁻¹, 1.464 ± 0.476 logcfuml⁻¹, 1.420 ± 1.349 logcfuml⁻¹, 1.330 ± 0.233 logcfuml⁻¹, 1.061 ± 1.626 logcfuml⁻¹ and 0.00 ± 0.000 logcfuml⁻¹ respectively. Among these six types of drinking water, none of them exceeded the limitations of 500 cfu ml⁻¹ / 2.7 log cfu ml⁻¹ of Primary Drinking Water Regulation and Drinking Water Standard 2009.

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