

## **Assessment of microbiological quality, knowledge and practice on domestic bottled water brands in Malaysia**

### **ABSTRACT**

**Objective:** The study was conducted to assess microbiological quality of 11 domestic bottled water brands in Malaysia. This study also presented university students' perceptions on domestic bottled water brands.

**Method:** A cross-sectional study was conducted to determine the total coliform, *Escherichia coli* and *Pseudomonas aeruginosa* using membrane filtration method. Questionnaire survey was distributed to 215 university students of Universiti Putra Malaysia to determine level of knowledge and attitude towards microbial quality in bottled water.

**Result:** The findings showed that *Escherichia coli* and *Pseudomonas aeruginosa* colonies were not detected in any of 11 brands of bottled water. Total coliform colonies were detected in two domestic bottled water brands originated from Taiping (Perak) and Lenggeng (Negeri Sembilan). A total of 42.8% of respondents were identified to have a good score (more than 80%) of knowledge level on microbial quality in domestic bottled water. A total of 29.8% of respondents have a good level attitude (score more than 75%) and agreed that bottled water is cleaner than tap water without knowing that the bottled water can be contaminated with bacteria.

**Conclusion:** Our findings clearly raised the concerns regarding the microbiological quality of domestic bottled water brands and highlighted the danger posed to the public health. It is crucial to make sure the consumers are well informed and aware that the perception that bottled water is always safer than tap water can be misleading. Nevertheless, this study acts as a baseline on microbiological quality, knowledge and practice on domestic bottled water brands in Malaysia.

**Keyword:** Bottled water; Malaysia; Knowledge; Attitude; Microbiological quality