

Assessment of Microbiological Status of Branded and Street Vended Ice-Cream Offered for Public Consumption: A Comparative Study in Tangail Municipality, Bangladesh

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Abstract : Analysis of the microbial status and physicochemical parameters of some branded and street vended ice cream showed that total viable bacteria in branded ice cream ranged from 4.8×10^3 to 1.10×10^5 cfu/ml, and in street vended ice-cream ranged from 7.5×10^4 to 1.6×10^8 cfu/ml. Total coliform bacteria present up to 9.20×10^3 cfu/ml in branded ice cream and 5.3×10^3 to 9.6×10^6 cfu/ml observed in street vended ice cream. Total E. coli were found to be present within a range from 0 to 4.5×10^3 cfu/ml in branded and 4.1×10^2 to 7.5×10^4 cfu/ml in street ice cream. The ranges of Staphylococcus aureus count were 1.8×10^2 to 2.9×10^4 cfu/ml (branded) and 3.9×10^4 to 7.9×10^6 cfu/ml (street). The pH of both types of ice cream showed acidic to neutral conditions where the concentration of pH for branded ice cream was 5.5 to 6.9, as well as the value of pH in street ice cream, was 6.2 to 7.0. The range of Total soluble solids in several branded ice creams was 26 to 29%, and the value of TSS obtained in street-vended ice-creams ranged from 5 to 10%. The overall results of this research demonstrated that the microbial quality in all street ice creams exceeded the BSTI standard and exhibited lower quality than the industrially produced branded ice creams due to comparatively faulty manufacturing processes and poor hygiene practices. The presence of pathogenic microbes was also observed in branded ice creams which was quite alarming for public health. So it is suggested that the government authorized organization should conduct the proper monitoring system to ensure that both branded and street vended ice-creams are microbiologically safe to prevent public health hazards.

Keywords : food safety, microbiological analysis, physicochemical, ice-cream, E. coli, Staphylococcus aureus

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