

ANALYSIS OF MICROBIOLOGICAL QUALITY OF POWDERED MILK AND PASTEURIZED MILK IN COLOMBO AND GAMPAHA DISTRICTS - A CASE STUDY

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The study was performed to identify microbial quality of full cream milk powder (FCMP) and Pasteurized milk (PM) in Colombo and Gampaha districts. Five samples from each four brands of FCMP (Imported-A, B Local-C, D) and three brands of PM (E, F, G) were purchased from local market. Total coliform count (TCC) was determined as Most probable number (MPN) and Indol, Methyl red, Voges-Proskauer reactive compounds and Citrate utilizing (IMViC) tests were performed to group the present coliform bacteria. Coliform organisms were detected in one sample of imported brand (B) and all brands of PM. Coliforms were not enumerated in remaining samples of FCMP brands. In B TCC is 1/g which is within the acceptable level. One sample of E was positive for the TCC test and count was detected as 36/100 ml which is within the acceptable level. Present bacteria may be *Citrobacter* sp. In E four samples free from coliform. Three samples of F contaminated with coliform and count was <3-240 per 100 ml and other two samples of F free from coliform. Presence of *E.coli* was recorded in two samples in same batch of F. Third sample in another batch may be contaminated with *Citrobacter* sp. All the tested samples of G contaminated with coliform. TCC recorded as >1100 per 100 ml. *E. coli* was recorded in four samples of G in same batch and *Enterobacter* sp or *Klebsiella* sp may be present in one sample of another batch. Microbial quality of all tested FCMP and PM brand E is within the acceptable level however microbial quality of tested batches of F and G PM brands were poor in hygienic standards. Therefore there is a need to improve the microbial quality of the milk products without harming the nutritional value and to ensure the food safety of Sri Lankans.

Keywords: Coliform, *E. coli*, Pasteurized milk, Powder milk, Sri Lanka