

Determination of Chemical Contaminants in UHT Milk Consumed in Sharjah, UAE

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Abstract : To assess public health hazards associated with the occurrence of Antibiotics and AFM1 residues in UHT milk, a survey was carried out in Sharjah, UAE. In the present study, a total of 42 UHT milk samples analyzed were from different commercial brands manufactured in industrial dairy units in the UAE and from foreign producers. Milk samples were collected for four months (January to April 2020). The occurrence and concentration range of Antibiotics (Streptomycin and Gentamycin) and AFM1 in the samples were investigated by applying the ELISA method. According to the methodology used in this study, in total, 2 (5%) out of 42(95%) samples tested positive on the presence of AFM1. While, 1(2.4%) out of 41(97.6%) positive samples were found to contain Streptomycin and Gentamycin, respectively. The positive incidence of AFM1 in the UHT milk samples ranged from 58.8 to 1074 $\mu\text{g/L}$, for Streptomycin from up to 1004 $\mu\text{g/L}$, and Gentamycin up to 6909 $\mu\text{g/L}$. There were no positive samples found in locally produced UHT milk. AFM1 and antibiotic levels in positive samples UHT milk samples exceeded the maximum tolerable limits as set by the European Union - EC guidelines/standards. These levels in the samples show a presence of contaminants that might constitute a human health risk in Sharjah. The results of this study imply that more emphasis should be given to the routine inspection of milk and dairy products in the Sharjah region.

Keywords : milk, contaminant residues, ELISA, public health, Sharjah

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