Occurrence and the level of contamination of aflatoxin M1 in raw, pasteurized, and ultra-heat treated buff alo milk consumed in Sohag and Assiut, upper Egypt

Eman M. Shaker1, Eman E. Elsharkawy2

Abstract:

Aim: This study evaluated the aflatoxin M1 (AFM1) in raw, pasteurized and ultra-heat treated (UHT) buffalo milk consumed in upper Egypt. Materials and Methods: Milk samples were collected from January to June 2013. The competitive enzyme-linked immunosorbent assay was applied. Results: All the tested samples were positive for AFM1, which were above the Egyptian regulations limits 0 ng/L. The raw milk showed 93% of samples were above the permitted limit set by the European Commission (EC), whereas 3.3% of samples exceeded US Food and Drug Administration (US FDA) tolerance limit. The pasteurized milk showed 100% and 13.5% of samples exceeded the EC, and US FDA, respectively. UHT milk Brand I and II showed 100% and 86.5% of samples were above EC, and 36.6% and 6.6% of samples exceeded US FDA, respectively. Conclusion: These results raise concerns about the milk consumed in Egypt and it must be monitored for AFM1 contamination.

Keywords:

Aflatoxin M1, buffalo milk, enzyme-linked immunosorbent assay

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