

Heavy metal residues in camel milk from Kenya: Health implications

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Arsenic and Lead are naturally occurring elements whose toxicity in humans has been documented throughout history. These metals are widely present in our environment due to their natural occurrence and human activities that have introduced them into the general environment such as the use of borehole water and leaded gasoline. Because arsenic and lead may be present in environments where food crops are grown and animals used for food are raised, various foods such as milk may contain unavoidable but small amounts of arsenic and lead that do not pose a significant risk to human health. However, in certain circumstances they may contain high levels that may lead to contamination of milk with levels that may pose a risk to human health. Camel milk samples (n=15) were collected from Nanyuki, Kenya for arsenic and lead analysis. The heavy metals were determined using atomic absorption spectrophotometry following protein precipitation by use of trichloroacetic acid. All the samples analyzed had arsenic levels that ranged from 0.007 ppm to 0.099 ppm. These levels were found to be lower than the Food and Drug Administration (FDA) recommended maximum level of 0.1 parts per million (0.1 ppm), while 14 out of 15 samples (93%) had lead levels ranging from 0.072 ppm to 0.449 ppm and were observed to be above the codex standard (193-1995) recommended maximum level of 0.02 ppm. The above results indicate that the sampled camel milk may not be safe for human consumption.

Biography

Joseph Mwanzia Nguta has completed his PhD at the age of 35 years from Nairobi University and postdoctoral studies from the same University Faculty of Veterinary Medicine. He is a lecturer at the Department of Public Health, Pharmacology and toxicology, University of Nairobi, Kenya. He has published more than 15 papers in reputed journals and serving as a reviewer of repute.

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