

Analysis of toxic chemicals and veterinary drug residues in camel milk in Kenya

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Kenya and many other developing countries have not developed regulatory programs for monitoring veterinary drugs and chemical residues of many edible products. The purpose of this study was to conduct a preliminary survey on the presence of selected chemical and drug residues in camel milk in Kenya. A total of 22 chemicals of toxicological significance including metals, aflatoxin M₁, pesticides, trypanocides and anthelmintics were analyzed. Atomic absorption spectrophotometer (AAS), gas liquid chromatographic (GLC), high performance liquid chromatography (HPLC) and enzyme immunoassay (ELISA) techniques were used for analysis of metals, pesticides, veterinary drugs and aflatoxin M₁ respectively. Out of the 22 different chemical tested for, 10 were present in the milk samples. Drug residues were within the maximum residue limits (MRL) but metals and some pesticides were present at concentrations above MRL. Arsenic, lead, heptachlor epoxide, dieldrin, 2'4'DDT, 4'4'DDT 4'4'DDD, eldrin, deltamethrin and cypermethrin were found in the samples. A more comprehensive study is required in order to make a conclusion on the safety of camel milk to the consumers. There has been increased interest in camel milk which is currently being considered as having therapeutic and prophylactic benefits in some human diseases. If Kenyans have to increase production of milk for domestic consumption and export, analysis has to be continuously made to provide evidence of the safety and consumer protection.

Biography

James M. Mbaria is an associate Professor at the University of Nairobi, Faculty of Veterinary Medicine, Department of Public Health, Pharmacology & Toxicology. James M. Mbaria holds a Doctor of Philosophy (Ph.D.) in Veterinary Pharmacology and Toxicology awarded in 1999. He is also a holder of M.Sc. (in Pharmacology & Toxicology) and Bachelor of Veterinary Medicine degree. He is involved in university teaching and research and has supervised over 20 postgraduate students at master's and Ph.D. levels to completion. He has published numerous scientific articles in peer reviewed journal, books and conference proceedings.

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