ABSTRACT

The aim of this study was to map the camel milk value chain and establish the predisposing factors for increase in microbial counts in milk along the chain. Isiolo County was chosen for the study. Data collection was done through key informant interviews, structured interview schedules, observation and microbial analysis of milk samples. During milk sampling, milk temperature, environmental temperature, time and volume of milk from which the sample was taken were recorded. Along the value chain, microbial counts in milk increased significantly from $\log_{10}$ 4.91 ± 1.04 CFU/ml at production to $\log_{10}$ 7.52 ± 1.32 CFU/ml at Nairobi market for total viable counts and $\log_{10}$ 3.68 ± 1.28 CFU/ml at production to $\log_{10}$ 6.42 ± 1.13 CFU/ml at the Nairobi market for coliform counts. At production, milking persons neither washed their hands nor cleaned the camels' udder before milking, and plastic, non-food grade containers were the only form of receptacles used for milk along the chain. The relationship between microbial counts and time taken to transport milk along the chain was significant while the volume of milk in the receptacle had no effect on microbial counts. The milk was held at a temperature of between 28 and 32.5 °C before delivery to secondary collection centres from 10:15 am to 6:30 pm for cooling. Training on milk quality for milk handlers at the collection centre had no effect on microbial counts. Affordable access to low-cost food grade plastic containers as well as cooling milk in the individual receptacles within two hours of milking, without bulking and refilling again into the receptacles for transportation, as is the practice, would reduce microbial counts. Similarly, training on milk quality should start at production where milk contamination is initiated. Finally, milk value addition would improve milk shelf-life enabling access to distant markets. This would greatly improve the livelihoods of the pastoral camel milk producers.