

Camel milk is still the most important nutritional source for pastoralists in many countries in the world, especially in rural areas in Asia and Africa, because it contains almost all essential nutrients which are required under arid climate. However, camel milk has numerous minor components which have special bioactive properties. These are present at significant concentrations and are extremely important and beneficial for human diet and health. Therefore, camel milk is most consumed as fresh or naturally fermented product and hence unpasteurized. But raw camel milk can be contaminated at any point in the milk production process and it can lose its quality and safety. The purpose of the present study was to determine the sources of contamination of raw camel milk with microorganisms. Bacterial contamination of raw camel milk can occur from four main sources; within the udder, outside the udder, from the surface of equipment used for milk handling, and from storage and transport. Milk drawn from a healthy udder contains very low numbers of microorganisms and it will contain less than 10×10^2 colony forming units of total bacteria per ml (cfu/ml). A camel with mastitis or subclinical mastitis has the potential to shed large numbers of microorganisms into her milk. Several studies have investigated that quarters from infected camels have the potential to shed in excess of 10×10^6 cfu/ml in the produced milk. In the traditional husbandry systems, poor management and unhygienic milking lead to mastitis in camels. Furthermore, milking machine can transmit pathogenic microorganisms when the right milking machine is not used. The exterior of the camel's udder and teats can contribute microorganisms that are naturally associated with the skin of the animal as well as microorganisms that are derived from the environment in which the camel is housed and milked. However, more importance is the contribution of microorganisms from teats soiled with manure, mud, feed. Thorough cleaning of the teats before milking is effective in reducing the numbers of bacteria in milk contributed from soiled teats. It is also the degree of cleanliness of the machine milking influences the total raw milk bacteria count. Furthermore, under tropical and subtropical conditions, lack of cooling and higher temperature, raw camel milk can be contaminated after being milked by storage and transport, especially many farmers store their milk in plastic unhygienic containers and using a contaminated water. In such situations, lack of hygienic measures, the bacteria are able to grow rapidly and reached the total bacteria counts of 10×10^7 cfu/ml. The types of bacteria that grow and become significant will depend on the initial contamination of the milk. In conclusion, camel health, environment, milking procedures, equipment sanitation and storage and transport conditions can influence the level of microbial contamination of raw camel milk.