

Molecular detection of *Brucella* spp in goat and sheep milk samples from apparently healthy and infected animals

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Short title: Molecular detection of Brucella in milk samples

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Summary

The purpose of this technical research communication was to describe the PCR assay diagnostic tool for the molecular detection of *Brucella* DNA in sheep and goats unpasteurized milk samples in the southeast of Iran. Brucellosis is a globally distributed zoonotic diseases caused by *Brucella*, a bacterium that is simply transmitted among domesticated animals. PCR assay is authentic, inexpensive, sensitive and more specific for *Brucella* DNA detection in milk samples.

Eight hundred raw milk samples from 722 apparently healthy animals and 78 infected animals with history of abortion were collected during the period between April 2015 to June 2016. All samples were subjected to DNA extraction and amplification of IS711element was performed to study the existence of *Brucella* DNA.

PCR assay could amplify *Brucella* DNA in 10.85% goats and 5.45% sheep milk samples (CI=95). Among samples with abortion history the incidence rate of disease was 67.94% but among those without abortion history, it was 2.21%. The most frequent rates of brucellosis were seen in the summer and the lowest rate occurred in the winter.

The results indicated a significantly higher prevalence ($P<0.05$) of disease in samples with abortion history and the results also indicated that the goats had higher prevalence of brucellosis as in comparison with sheep. There was a significant statistical difference between the seasons.