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J Bioanal Biomed 2016, 8:5(Suppl)
http://dx.doi.org/10.4172/1948-593X.C1.024

Occurrence of *Listeria monocytogenes* and *Listeria spp.* in milk and soft cheese, antimicrobial susceptibility profiles and associated risk factors in Debre Birhan, Ethiopia

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Listeria monocytogenes emergence as a food borne pathogen dates from 1980, with the occurrence of many outbreaks and sporadic cases of listeriosis associated with the consumption of contaminated foods (Bula et al., 1989; Faber and Peterkin, 1998). Accordingly, the aim of the present study was to determine the occurrence and distribution of *L. monocytogenes* and other Listeria species. From samples were obtained from Farm, Collection center and Open Market, respectively. To determine the antibiotic susceptibility profiles, identify the risk factors associated with contamination of cow raw milk and soft cheese with Listeria spp. and one health challenge. In the period December 2012 to April 2013, a total of 338 food samples consisting of raw milk and soft cheese samples were collected from milk collection center, farm and one open market which are located in Derebe Birhan, Ethiopia. All the available samples were collected by using sterile plastic bags. The samples were kept in an icebox and immediately transported to the ENHRI Addis Ababa. Also questioner survey has been carried out. Isolation and identification of *L. monocytogenes* were carried out according to official standard ISO procedure (ISO, 2004). Listeria pre-enrich- ment Fraser broth transferred to Fraser broth, cultured on OXFORD agar and PALCAM, isolates transferred to tryptic soy agar and identified Gram's staining, catalase reaction with 3% H2O2, oxidase test, motility test , fermentation of sugars, CAMP tests and antimicrobial test has been done. Descriptive statistics was used to summarize data and analytical methods like chi-square and regression analysis were used to determine association. A total of 338 samples consisting of milk samples from 10 dairy farms, 260 bulk raw milk samples and 68 soft cheeses were collected; in addition, about 50 questioners were collected. According to the response, from the total respondent (36%) of them used water to wash their hand before they milk, (58%) of them used soap and water and (6%) of them didn't wash their hand. About (76%) of respondent, respond they didn't drink raw milk and (24%) of them said that they will drink raw milk. Failure to clean udder of the cow more likely linked to contamination by the bacteria (OR-12; P<0.00). This finding shows that the environment, human and animal feces are responsible for the contamination of L.monocytogenes. Out of the total of 338 samples examined, 99 (29.3%) were found to be positive for Listeria. Listeria species were isolated in 32.3% (84/260), 0.3% (3/10) and 17.6% (12/68) of raw bulk milk, farm raw milk and soft cheeses samples respectively. *L. monocytogenes* was detected in 6.5% from the total sample. It was isolated mainly from bulk raw milk (8.1%) and followed by farm raw milk samples (10%). It indicate that the food were a good media for the growth of *Listeria Spp.* In addition to *L. monocytogenes*, other Listeria species were identified. The antimicrobial profile of *L. monocytogenes* was sensitive to most drugs except cloxacillin which showed the highest resistance rate (100%). From this finding human being are responsible for the occurrence of drug resistance by excreting in the environment and animals also graze became resistant to most of the drugs. It was shown that *L. monocytogenes* is prevalent in Debre Birhan so it needs creating public awareness through education, need for improved food safety through the implementation of hygienic measures at all levels from production to consumption, both Veterinarian and Human doctors should work together.

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