

## International Poster 7

### Risk Factors for Human Brucellosis in an Urban Setting — Bishkek, Kyrgyz Republic, 2011

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**BACKGROUND:** Human brucellosis is a serious disease that can result in disabling complications. Between 2006 and 2010, the annual number of reported cases in Bishkek in Kyrgyzstan increased from 57 to 188 (rate 21/100,000). We conducted a prospective population-based case-control study to identify risk factors for brucellosis.

**METHODS:** Case-patients were city residents age (10) years who were acutely ill in 2011 with positive Wright and Huddleson tests. Case-patients (n=118) were identified through surveillance. Density sampling was used to select controls (n=145) from population lists of those aged 10 years; controls had no history of brucellosis. Exposures to animals or animal products within a month of case diagnosis and control selection and disease knowledge were ascertained using a structured questionnaire. Assuming no relation between the study exposures and the controls' sampling time, we used logistic regression to study disease-exposure associations.

**RESULTS:** Of the 118 case-patients, 70 (59%) had homemade dairy products from street vendors and 47 (40%) from bazaars, 69 (58%) had goat meat, only 13 (11%) had direct exposure to farm animals, and 9 (8%) knew possible brucellosis sources. In multivariate analysis, risk factors for brucellosis were: having goat meat (OR=12.7, 95% CI 3.7-43.3), and home-made dairy products from vendors (OR=7.1, 95% CI 2.5-20.1) or bazaars (OR=3.9, 95% CI 1.7-9.1). Subjects' knowledge of infection sources was protective (OR=0.3, 95% CI 0.14-0.63).

**CONCLUSIONS:** Goat meat and home-made dairy products are likely sources of human brucellosis, a possible indication that brucellosis is spreading among farm animals and that dairy products are in-sufficiently pasteurized. Adequate veterinary services; health education to thoroughly cook meat; and avoidance of buying home-made dairy products, will lessen the incidence of brucellosis in Bishkek.

**KEYWORDS:** dairy, brucellosis, Kyrgyzstan, goat meat