



Descriptive Surveillance of brucellosis in small ruminants of district Jhang, Punjab, Pakistan

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Abstract:

Background: Brucellosis is a bacterial zoonotic disease having wide host range and global zoonotic importance. It has great public health importance in most of the countries, where livestock is a major source of food and income. High risk individuals include animal handlers that are on a great risk of getting infection because bacterial transmission occurs from all body fluids from an infected animal.

Objective: A randomized cross sectional survey was conducted to check the period prevalence of brucellosis in small ruminants in different areas of district Jhang.

Methods: Serum samples were collected along with questionnaire for this purpose. Different risk factors like age, sex, specie, feeding protocol, abortion history, type of herd, herd size, location were observed using questionnaire. A total of 280 serum samples (136 caprine and 144 ovine) were collected and subjected to Rose Bengal precipitation test for screening of brucellosis.

Results: Over all Prevalence was 5.5% after confirmation with Indirect ELISA. 21 samples out of 280 were positive after RBPT screening and 14 out of 21 were confirmed positive for brucellosis by indirect ELISA. According to p value after statistical analysis all the risk factors except feeding protocols, abortion and age in case of sheep had no significant results. According to odd ratio all the selected risk factors have association with disease prevalence. In Female (6.25%) there is more sero-positivity than male (1.39%). Sheep (8.09%) had more sero-positivity than goats (2.08%). Out of four Tehsils Jhang (14.81%) had more sero-positivity. Out of three age groups (<2 years, 3-4 years and >5 years) >5 years (6.78%) animals had more sero-positivity than <2 years (4.54%) and 3-4 years (4.51%). Herd size >50 animals (10.94%) had more sero-positivity than ≤10 (3.17%), 10-30 (1.61%) and 30-50 (10.34%). Mix animal species within herd had more chance of sero-positivity than pure herd. Grazing practice for feeding of animals (7.02%) had more sero-positivity than stall feeding (1.83%).

Conclusion: Brucellosis was endemic in the study design



area which is a great risk not only for animal's population but also for humans.

Biography:

Hafiz Zaid Mahmood is a Microbiologist by profession and works with different food industries in Quality Department in Pakistan. He holds a B.Sc.(Hons) in Microbiology and currently pursuing a Master of Science degree in Molecular Biology at the Department of Molecular Biology, Faculty of Science and Technology, Virtual University of Pakistan. Hafiz Zaid has more than 5 years of working experience and leading in QA/QC Department of different Food and Packaging industries. He has also participated and presented his research in an International workshop on "technological, biochemical, microbiological, sensorial and manufacturing aspects of Ground water and Mineral water" at University of Agriculture Faisalabad, 2106. He is Pursuing his career in food industry and is passionate about working in renowned research institutes.

Publication of speakers:

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