

Project Title: Epidemiological and pathological study on tuberculosis in food animals and its association with human infection
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The prevalence of tuberculosis recorded in buffalo, cattle, sheep, goats and zoo animals was 8.3, 7.3, 0.8, 2.0 and 3.3 %, respectively. In buffaloes, it varied from as low as 8.5% to as high as 22% at Government Livestock farms (GLF) with an overall prevalence of 11.3%. While in around two cities studied it varied from 2.3-2.7% with an overall prevalence of 2.6%. In cattle, it varied from as low as 0.0% to as high as 9.2% at Government livestock farms, while it was 0.9 and 2.7% around Faisalabad and Okara, respectively. The mean age, live weight, number of calves produced, total milk produced per lactation and lactation length of buffaloes was 10.8, 542.9, 4.5, 2156.5 and 258.4, respectively at Government farms. It varied significantly in age groups, live weight groups and number of calves produced groups in buffaloes kept at GLF. The data also revealed significant difference between buffaloes of GLF and two cities. The data of cities of buffalo also revealed significant difference in age groups, milk production groups and status of buffalo groups. The data of cattle of GLF, revealed significant difference between farms and age groups. The mean age, live weight, number of calves produced, total milk produced per lactation and lactation length of buffaloes was 10.2, 377.8, 5.7, 1773.5 and 239.7, respectively at GLF. The data of cities of cattle revealed significant difference between live weight groups and age of cattle. The data of sheep of GLF revealed significant difference between GLFs, age groups and breeds of sheep, only 0.6% of sheep at Okara showed positive reaction to bovine PPD. The data of goats at GLFs showed prevalence of as low as 1.6% to as high as 3.4% with significant difference between age and live weight groups. However, not a single case could be recorded in goats tested around two cities. The haematological values showed significantly low values of RBC, WBC, Hb and monocytes in buffaloes. Total serum and plasma proteins and fractions showed significantly higher values in positive reactor buffaloes. The data of cattle showed significantly lower values of RBC, PCV and neutrophil count in positive reactor cattle. However, lymphocyte count was significantly higher in positive reactor cattle. Serum total proteins and albumin values were significantly lower in positive reactor cattle, while serum globulins were significantly higher in positive reactor cattle. The data on haematological parameters in sheep and goat showed non-significant difference in haematological values between positive and negative reactor sheep and goats, except that of basophil which were significantly higher in positive reactor goats. A total of 30 (15 positive and 15 doubtful) buffaloes, and 23 (15 positive and 08 doubtful) cattle tested with CCT test were tested with gamma interferon test kit. Out of these, 3 of the doubtful reactor buffaloes and 4 of the doubtful reactor cattle showed positive gamma interferon test result. While, 2 of the buffalo from doubtful reactor group showed positive reaction to avian PPD used in gamma interferon test. This suggests that 2 of the buffalo had disease other than caused by *M. bovis*. A total of 13 *M. bovis*, 3 *M. avium* and 9 atypical mycobacteria were isolated on slants of Stonebrinks medium. The *M. bovis* isolates were sensitive to all drugs tested except pyrazinamide. While all other isolated belonging to *M. avium* and atypical mycobacteria were found sensitive to four drugs tested for antibiotic sensitivity. Out of the 13 *M. bovis* isolates, 6 were isolated from milk samples, while 7 from nasal secretion samples. All the *M. avium* isolates were obtained from faecal samples along with those of atypical mycobacteria. Only in single case, atypical mycobacteria was isolated from

samples of flies. 15.9 percent of farm worker were found positive with rapid test which need further investigations of their contact role in getting or spread of infection. A total of 63 farm workers were tested with rapid test for tuberculosis at 10 Government Livestock Farms. Out of these 63, 10 (15.9%) workers were found positive at 6 farms, while at 4 farms no worker was found positive among the tested individuals.