

Meta-analysis of risk factors for *Leptospira* spp infection in dogs

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A meta-analysis was performed to assess the association between *Leptospira* spp infection in dogs and risk factors of animals characteristics described in different studies. A literature search was conducted using electronic databases, scientific journals and internet based search engines to find publications in english, spanish and portuguese with unrestricted publication year. After abstract and quality screening, 9 publications describing risk factors for positivity of *Leptospira* spp infection were used and 3 risk factors were selected to perform 3 meta-analysis because this were described in more than two publications. In each meta-analysis, to determinate the pooled OR it was evaluated the presence of heterogeneity based on the significance of heterogeneity statistics for using the fixed effects or random effects model. Publication bias was not detected only in the meta-analysis of male dogs. In the meta-analysis of 'male dogs' it was included 5 studies in which no heterogeneity was detected, so the fixed effects model was used and the pooled OR noted that to be a male dog was a risk factor to *Leptospira* spp infection (OR=1.7; 95% CI=1.4-2.1). In the meta-analysis of 'mixed-breed dogs', it was established the presence of heterogeneity in the 5 studies included and the random effects model was used. To be a mixed-breed dog was a risk factor to *Leptospira* spp infection, but not significant (OR=1.2; 95% CI=0.8-1.9). The meta-analysis of 'urban dogs' included 3 studies in which heterogeneity was detected and the random effect model was used. To be a urban dog was a risk factor to *Leptospira* spp infection, but the association was not significant (OR=1.7; 95% IC=0.8-3.7). *Leptospira* spp infection in dogs have risk factors that coincide in different studies, therefore the results of this study can be used for strengthening some control measures.