



INTISARI

Prevalensi dan Faktor Risiko Babesiosis pada Sapi Potong di Kabupten Bantul

Babesiosis merupakan penyakit parasit darah yang menyebabkan anemia hemolitik, hemoglobinuria, penurunan produksi dan dapat menyebabkan kerugian ekonomi pada peternak. Penelitian ini bertujuan untuk mengukur prevalensi berdasarkan pemeriksaan apus darah dan molekuler serta menganalisis faktor risiko babesiosis di Kabupaten Bantul. Penelitian dilakukan menggunakan kajian lintas seksional dengan metode random sampling tahapan ganda yang dilakukan pada bulan Juli-September 2024. Sebanyak 175 sampel darah diambil dari vena jugularis pada 45 peternakan, dengan estimasi prevalensi 10,5% dan tingkat kepercayaan 95%. Sampel darah diperiksa secara mikroskopis menggunakan pewarnaan Giemsa 10% dan pengujian molekuler dengan *Polymerase Chain Reaction*. Data faktor risiko dikumpulkan melalui observasi dan wawancara pada peternak, kemudian dianalisis secara univariat, bivariat dan multivariat dengan SPSS. Hasil pemeriksaan apus darah menunjukkan 32 sampel positif *Babesia sp* (18,28%), dan 63 sampel positif terhadap pengujian PCR (36,00%). Hasil analisis bivariat menunjukkan faktor risiko yang berasosiasi signifikan ($p < 0,05$) dengan risiko rendah ($OR < 1$) adalah variabel sapi jenis PO ($p 0,043$; $OR = 0,435$) dan lokasi peternakan di kecamatan Dlingo ($p 0,002$; $OR 0,300$) sedangkan faktor yang mempunyai risiko tinggi adalah Pleret ($p 0,000$; $OR = 11,818$), pemasukan sapi baru ($p 0,007$; $OR = 7,186$) dan keberadaan vektor caplak ($p 0,018$; $OR = 4,490$). Model regresi logistik menunjukkan pemasukan sapi baru ($\beta + 1,972$; $OR 7,186$), keberadaan caplak ($\beta + 1,714$; $OR 5,552$), jumlah ternak ($\beta + 2,699$; $OR 14,870$) dan lokasi peternakan di Pleret ($\beta + 2,610$; $OR 13,602$) meningkatkan peluang infeksi sedangkan jenis sapi PO ($\beta - 1,154$; $OR 0,315$) menurunkan peluang infeksi babesiosis pada sapi potong di Kabupaten Bantul. Kesimpulan penelitian ini adalah prevalensi babesiosis pada tingkat ternak di Kabupaten Bantul pada pemeriksaan apus darah sebesar 18,28% dan pemeriksaan molekuler 36,00%, dengan faktor risiko yang berpengaruh adalah lokasi peternakan, jenis sapi, pemasukan sapi baru dan keberadaan vektor caplak.

Kata Kunci: babesiosis, faktor risiko, *Polymerase Chain Reaction*, prevalensi



ABSTRACT

Prevalence and Risk Factors of Babesiosis in Beef Cattle in Bantul Regency

Babesiosis is a blood parasite disease that causes hemolytic anemia, hemoglobinuria, decreased production, and can result in economic losses for farmers. This study aimed to measure the prevalence based on blood smear and molecular examinations and analyze the risk factors for babesiosis in Bantul Regency. The research was conducted using a cross-sectional study with a two-stage random sampling method carried out from July to September 2024. A total of 175 blood samples were collected from the jugular veins of cattle on 45 farms, with an estimated prevalence of 10.5% and a 95% confidence level. Blood samples were examined microscopically using 10% Giemsa staining and molecularly tested using Polymerase Chain Reaction (PCR). Risk factor data were collected through observation and interviews with farmers and analyzed using univariate, bivariate, and multivariate analysis with SPSS. The blood smear examination results showed 32 samples positive for *Babesia* sp. (18.28%), and 63 samples were PCR-positive (36.00%). Bivariate analysis revealed that risk factors significantly associated ($p < 0.05$) with a low risk ($OR < 1$) were PO cattle breed ($p = 0.043$; $OR = 0.435$) and farms located in Dlingo subdistrict ($p = 0.002$; $OR = 0.300$). Conversely, high-risk factors included farms located in Pleret ($p = 0.000$; $OR = 11.818$), the introduction of new cattle ($p = 0.007$; $OR = 7.186$), and the presence of tick vectors ($p = 0.018$; $OR = 4.490$). Logistic regression models indicated that introducing new cattle ($\beta + 1.972$; $OR = 7.186$), the presence of ticks ($\beta + 1.714$; $OR = 5.552$), the number of cattle ($\beta + 2.699$; $OR = 14.870$), and farms located in Pleret ($\beta + 2.610$; $OR = 13.602$) increased the risk of infection. Meanwhile, the PO cattle breed ($\beta - 1.154$; $OR = 0.315$) reduced the risk of babesiosis infection. In conclusion, the prevalence of babesiosis in cattle in Bantul Regency was 18.28% based on blood smear examination and 36.00% based on molecular testing. The influencing risk factors were farm location, cattle breed, the introduction of new cattle and the presence of tick vectors.

Keywords: Babesiosis, *Polymerase Chain Reaction*, prevalence, risk factors