

TINGKAT INFEKSI, ANALISIS FILOGENETIK, DAN RESISTENSI ANTIBIOTIK *SALMONELLA ENTERICA* PADA KUCING DAN ANJING DI DAERAH ISTIMEWA YOGYAKARTA

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INTISARI

Salmonellosis merupakan penyakit menular yang disebabkan *Salmonella spp.* yang bersifat zoonotik dan termasuk *food borne disease*. *Salmonella spp.* ditemukan pada kucing dan anjing sehingga berpotensi sebagai sumber penularan Salmonellosis pada manusia. Tujuan penelitian ini untuk melakukan survei terhadap tingkat infeksi, uji resistensi antibiotik, dan analisis filogenetik *Salmonella enterica* pada kucing dan anjing di Daerah Istimewa Yogyakarta (DIY). Penelitian ini menggunakan sampel sebanyak 250 swab rektum yang berasal dari 83 ekor anjing dan 167 ekor kucing. Isolasi dan identifikasi menggunakan media *Xylose Lysine Deoxycholate* (XLD), *Triple Sugar Iron agar* (TSIA), dan *Lysine Iron Agar* (LIA). Isolat yang diperoleh dikonfirmasi sebagai *Salmonella enterica* menggunakan metode *Polymerase Chain Reaction* (PCR) dengan primer *forward* (5'-GCTAAGTATGACATTCCGGT-3') dan *reverse* (5'-CCAAAGACTATCTGCGGAAT-3') dengan target gen *IroB*, hasil sekuensing diolah menggunakan *Basic Local Aligment Search Tool* (BLAST). Pengujian resistensi isolat *Salmonella enterica* terhadap *Penicillin*, *Ampicillin*, *Streptomycin*, *Neomycin*, *Tetracycline*, dan *Enrofloxacin* menggunakan metode *Kirby Bauer*. Analisis data secara statistik deskriptif, analisis filogenetik menggunakan *software* MEGA11.

Hasil PCR terdeteksi 30 isolat *Salmonella enterica* yang menginfeksi kucing 19 ekor dan anjing 11 ekor. Beberapa isolat dari kucing terkonfirmasi memiliki kekerabatan dengan serovar *Typhimurium*, *Weltevreden*, dan *Havana*, sedangkan isolat dari anjing memiliki kekerabatan dengan serovar *Weltevreden*. Isolat yang ditemukan resisten terhadap *Penicillin* sebanyak 29 isolat, *Enrofloxacin* sebanyak 13 isolat, *Neomycin* sebanyak 1 isolat, *Tetracycline* sebanyak 17 isolat, *Streptomycin* sebanyak 19 isolat, *Ampicillin* sebanyak 25 isolat. Ditemukan juga 10 isolat yang multiresisten hingga 5 jenis antibiotik. Tingkat infeksi *Salmonella enterica* pada pasien RSH/Klinik di DIY pada anjing sebesar 13,25% dan kucing sebesar 11,27%.

Kata kunci: Salmonellosis, resistensi antibiotik, filogenetik, PCR

INFECTION RATE, PHILOGENETIC ANALYSIS, AND ANTIBIOTIC RESISTANCE OF *SALMONELLA ENTERICA* IN CAT AND DOG IN THE SPECIAL REGION OF YOGYAKARTA

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ABSTRACT

Salmonellosis is an infectious disease that is zoonotic and includes food borne disease. *Salmonella spp.* can also be found in pets so that it can be a source of transmission of Salmonellosis to humans. The purpose of this study was to determine survey of infection rates, antibiotic resistance, and phylogenetic analysis of *Salmonella enterica* in dogs and cats in the Special Region of Yogyakarta (DIY). A total of 250 rectal swabs from 83 dogs and 167 cats were taken in this study. Isolation and identification using Xylose Lysine Deoxycholate (XLD), Triple Sugar Iron Agar (TSIA), and Lysine Iron Agar (LIA) media. The isolates were confirmed by *Polymerase Chain Reaction* (PCR) using a primer Forward primer (5'-GCTAAGTATGACATTCCGGT-3') and reverse (5'-CCAAAGACT ATCTGCGGAAT-3') with targeting the *IroB* gene and Sequencing results are processed using the Basic Local Alignment Search Tool (BLAST). The resistance test of *Penicillin*, *Ampicillin*, *Streptomycin*, *Neomycin*, *Tetracycline*, and *Enrofloxacin* was using *Kirby Bauer methode*. Data analysis was descriptive statistics based on anamnesis and questionnaires from pet owners as well as phylogenetic analysis using MEGA.11 software.

PCR results detected 30 isolates of *Salmonella enterica* which infected 19 cats and 11 dogs. Several isolates from cats were confirmed to be related to the *Typhimurium*, *Weltevreden*, and *Havana* serovars, while isolates from dogs were related to the *Weltevreden* serovar. Twenty nine isolates were found to be resistant to Penicillin, 13 isolates to Enrofloxacin, 1 isolate to Neomycin, 17 isolates to Tetracycline, 19 isolates to Streptomycin, 25 isolates to Ampicillin. It was also found that 10 isolates were multiresistant to 5 types of antibiotics. The infection rate of *Salmonella enterica* in the Special Region of Yogyakarta in dogs is 13.25% and cats is 11.27%.

Kata kunci: Salmonellosis, antibiotic resistance, phylogenetics, PCR