

ABSTRAK

KAJIAN LINTAS SEKSIONAL RESISTANSI *Staphylococcus* sp. TERHADAP *PENICILLIN* PADA PASIEN KUCING DI KLINIK HEWAN KABUPATEN SLEMAN DAN KOTA YOGYAKARTA

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Staphylococcus sp. merupakan bakteri Gram positif dengan bentuk *coccus* dan memiliki diameter 0.8-1 μm yang sering diisolasi pada hewan maupun manusia. *Staphylococcus* sp. dianggap sebagai patogen penting yang menyebabkan infeksi penyakit pada hewan ataupun manusia. Infeksi bakteri seringkali dikaitkan dengan pengobatan antibiotik. Akan tetapi, penggunaan antibiotik yang tidak rasional dan tepat dapat menimbulkan terjadinya resistansi antibiotik. Penelitian ini bertujuan untuk mengetahui tingkat resistansi *Staphylococcus* sp. terhadap antibiotik *penicillin* serta faktor risiko keberadaan *Staphylococcus* sp. dan resistansi *Staphylococcus* sp. terhadap *penicillin* pada pasien kucing di klinik hewan Kabupaten Sleman dan Kota Yogyakarta.

Penelitian ini dilakukan menggunakan jenis kajian lintas seksional dengan mengambil sampel swab rektum pasien kucing di klinik hewan Kabupaten Sleman dan Kota Yogyakarta sebanyak 160 sampel. Informasi data pasien kucing dan *owner* diperoleh dari hasil wawancara kuisioner yang berisikan pertanyaan berhubungan dengan faktor risiko keberadaan *Staphylococcus* sp. serta resistansi antibiotik. Isolasi dan identifikasi *Staphylococcus* sp. menggunakan *Manitol Salt Agar* (MSA), pewarnaan Gram, uji katalase, uji koagulase, uji Voges-Proskauer, dan uji gula (manitol). Uji sensitivitas *Staphylococcus* sp. terhadap *penicillin* dilakukan dengan teknik Kirby-bauer menggunakan *Mueller Hinton Agar* (MHA) dan cakran antibiotik *penicillin*. Analisis data univariat secara statistik deskriptif dan bivariat menggunakan *chi-square*.

Hasil penelitian diperoleh sampel sebanyak 160 dan isolat *Staphylococcus* sp. sebanyak 31,9% (51 sampel). Tingkat resistansi *Staphylococcus* sp. terhadap *penicillin* sebesar 88,2% (45 sampel resistan dari 51 isolat). Hasil penelitian ditemukan asosiasi yang signifikan antara bentuk interaksi menggondong (X^2 : 6,029; P: 0,014; OR : 0,272) dan memandikan kucing (X^2 :5,740; P: 0,017; OR: 0,424) dengan keberadaan *Staphylococcus* sp. Faktor risiko mengenai data pemilik, interaksi pemilik dan hewan, informasi data hewan, manajemen pemeliharaan, riwayat kesehatan serta riwayat pemberian antibiotik tidak menunjukkan adanya asosiasi ($p > 0,05$) dengan terjadinya resistansi terhadap *penicillin*. Pemberian *penicillin* sebagai antibiotik sebagai pengobatan infeksi bakteri *Staphylococcus* sp. sebaiknya dihindari untuk mencegah ketidakefektifan dalam proses pengobatan.

Kata kunci: Kucing, klinik hewan, *penicillin*, resistansi, *Staphylococcus* sp.

ABSTRACT

CROSS-SECTIONAL STUDY OF *Staphylococcus* sp. RESISTANCE TO PENICILLIN IN FELINE PATIENTS AT VETERINARY CLINICS IN SLEMAN AND YOGYAKARTA

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Staphylococcus sp. is a Gram-positive bacterium with a coccus shape and a diameter of 0.8–1 μm , commonly isolated from both animals and humans. *Staphylococcus* sp. is considered an important pathogen that causes infectious diseases in animals and humans. Bacterial infections are often treated with antibiotics; however, irrational and improper use of antibiotics can lead to antibiotic resistance. This study aims to determine the resistance level of *Staphylococcus* sp. to penicillin and to identify risk factors associated with the presence of *Staphylococcus* sp. and its resistance to penicillin in feline patients at veterinary clinics in Sleman and Yogyakarta.

This research was conducted using a cross-sectional study design, with a total of 160 rectal swab samples collected from feline patients at veterinary clinics in Sleman and Yogyakarta. Data on feline patients and their owners were obtained through a questionnaire-based interview, which included questions related to risk factors for the presence of *Staphylococcus* sp. and antibiotic resistance. Isolation and identification of *Staphylococcus* sp. were carried out using Mannitol Salt Agar (MSA), Gram staining, catalase test, coagulase test, Voges-Proskauer test, and sugar fermentation (mannitol) test. The sensitivity test of *Staphylococcus* sp. to penicillin was conducted using the Kirby-Bauer method on Mueller Hinton Agar (MHA) with penicillin antibiotic discs. Univariate data were analyzed using descriptive statistics, while bivariate analysis was performed using the chi-square test.

From a total of 160 samples, 31.9% (51 samples) were identified as *Staphylococcus* sp. The resistance rate of *Staphylococcus* sp. to penicillin was 88.2% (45 resistant isolates out of 51). A significant association was found between certain types of owner-cat interaction, specifically carrying (X^2 : 6,029; P: 0,014; OR : 0,272) and bathing (X^2 : 5,740; P: 0,017; OR: 0,424) the cat, and the presence of *Staphylococcus* sp. However, factors such as owner data, owner-animal interaction, animal data, husbandry management, health history, and antibiotic administration history did not show any significant association ($p > 0.05$) with resistance to penicillin. The use of penicillin as an antibiotic treatment for *Staphylococcus* sp. infections should be avoided to prevent ineffectiveness in the treatment process.

Keywords : Cats, veterinary clinic, penicillin, resistance, *Staphylococcus* sp.