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**Prevalensi dan Variasi Gen ctx-m Pada Escherichia coli Penghasil Extended Spectrum Beta Lactamase
pada Ayam Broiler di Rumah Potong Unggas dan Pasar Tradisional Kota Bukittinggi**
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Prevalensi dan Variasi Gen *ctx-m* Pada *Escherichia coli* Penghasil Extended Spectrum Beta Lactamase pada Ayam Broiler di Rumah Potong Unggas dan Pasar Tradisional Kota Bukittinggi

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19/452980/PKH/00724

INTISARI

Penggunaan antibiotik yang tidak tepat pada hewan produksi dapat menyebabkan bakteri menjadi resisten. Penurunan kualitas pengobatan tidak hanya berpengaruh pada hewan namun juga manusia. *Escherichia coli* merupakan salah satu bakteri penghasil *Extended Spectrum Beta Lactamase* (ESBL) yang dapat diisolasi dari ayam. *Extended Spectrum Beta Lactamase adalah* kelompok enzim yang dapat memecah antibiotik golongan ke 3 sepalosproin, monobaktam dan penisillin. Penelitian ini bertujuan mendeteksi keberadaan *E. Coli* penghasil ESBL serta mengetahui prevalensi dan variasi gen *ctx-m* asal ayam broiler Rumah Potong Unggas (RPU) dan pasar tradisional di Kota Bukittinggi. Pengambilan sampel dilakukan di Rumah Potong Unggas UD Pratama dan Pasar di kota Bukitinggi. Jumlah sampel yang diambil sebanyak 76 sampel. Swab kloaka yang diambil dari RPU dan pasar di 3 kecamatan di kota Bukittinggi. Metode isolasi dan identifikasi *Escherichia coli* menggunakan media *MacConkey* dilanjutkan dengan pewarnaan Gram, uji IMVIC dan TSIA. Pengujian konfirmasi *E. coli* penghasil ESBL dengan metode agar difusi menurut *Kirby-Bauer*, sedangkan deteksi variasi gen *ctx-m* 1, 2, dan 9 menggunakan PCR. Analisis data dilakukan secara deskriptif. Hasil menunjukkan 25,8 % (8/31) sampel *E. coli* penghasil ESBL ditemukan pada pasar tradisional dan RPU di Bukittinggi, ditemukan 2,6 % (2/76) teridentifikasi memiliki gen *ctx-m* 2 penghasil ESBL. Berdasarkan hasil penelitian bahwa prevalensi *Escherichia coli* penghasil ESBL di kota Bukitinggi ialah 25,8 % dan ditemukan gen *ctx-m* 2 pada ayam broiler di kota Bukitinggi.

Kata kunci: antibiotik, *Escherichia coli, Extended Spectrum Beta Laktamase*

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The Prevalence and Variation of the *ctx-m* Gene in Escherichia Coli Producing Extended Spectrum Beta Lactamase in Broiler Chicken at Poultry Slaughterhouses and Traditional Markets in Bukittinggi City

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ABSTRACT

The improper use of antibiotics in livestock can lead to bacteria becoming resistant. The decline in the quality of treatment not only affects animals but also humans. Escherichia coli is one of the bacteria that produces Extended Spectrum Beta-Lactamase (ESBL) and can be isolated from chickens. Extended Spectrum Beta-Lactamase is a group of enzymes that can break down antibiotics in the third generation cephalosporin, monobactam, and penicillin groups. This research aims to detect the presence of ESBL-producing E. coli and determine the prevalence and variations of ctx-m genes in broiler chickens from the Rumah Potong Unggas (RPU) and traditional markets in the city of Bukittinggi. Sample collection was conducted at the UD Pratama Poultry Slaughterhouse and markets in the city of Bukittinggi. A total of 76 samples were collected. Cloacal swabs were taken from RPU and markets in 3 districts in the city of Bukittinggi. The isolation and identification of Escherichia coli were performed using MacConkey media followed by Gram staining, IMVIC tests, and TSIA tests. Confirmation testing of ESBL-producing E. coli was done using the Kirby-Bauer disk diffusion method, while the detection of ctx-m 1, 2, and 9 gene variations was performed using PCR. Data analysis was carried out descriptively. The results showed that 25.8% (8/31) of ESBL-producing E. coli samples were found in traditional markets and RPU in Bukittinggi, and 2.6% (2/76) were identified to have the ctx-m 2 gene, which produces ESBL. Based on the research results, the prevalence of ESBL-producing Escherichia coli in the city of Bukittinggi is 25.8%, and the ctx-m 2 gene was found in some of the broiler chickens sampled in Bukittinggi.

Keywords: antibiotics, *Escherichia coli* , *Extended Spectrum Beta Lactamase*