DETEKSI BAKTERI *Escherichia coli* dan *Salmonella sp.* YANG MENGKONTAMINASI JAJANAN DI SDN KAYURINGIN JAYA III DAN TINJAUANNYA MENURUT PANDANGAN ISLAM

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ABSTRAK

Latar Belakang: Cara penyajian makanan yang kurang higienis memungkinkan adanya kontaminasi bakteri yaitu *Escherichia coli* dan *Salmonella sp.* (Pracoyo *et al*, 2006). Berdasarkan Pangan Jajanan Anak Sekolah (PJAS) sebanyak 4.808 sampel jajanan sekolah 149 (3,10%) sampel tercemar *Escherichia coli* dan 13 (0,27%) sampel tercemar *Salmonella sp.* (BPOM, 2011). Islam telah menjelaskan untuk memakan makanan yang halal dan thoyyibah agar terhindar dari penyakit.
Tujuan: Tujuan penelitian adalah untuk mendeteksi adanya bakteri *Escherichia coli* dan *Salmonella sp.* pada jajanan di sekolah ditinjau dari Kedokteran dan Islam.
Metode: Penelitian ini merupakan penelitian eksperimental yang bersifat *deskriptif*. Jumlah sampel yang diambil adalah 12 dan diperiksa dengan metode Total Plate Counter (TPC) kultur dan identifikasi bakteri dengan pewarnaan Gram dan uji biokimia.
Hasil: Kultur Bakteri dengan Metode TPC didapatkan 4 dari 12 sampel yang diuji memiliki jumlah koloni yang melebihi ambang batas ($1{,}4 \times 10^6$, $2{,}4 \times 10^6$, $5{,}08 \times 10^8$, $5{,}69 \times 10^8$). Berdasarkan Isolasi Bakteri dalam Media Spesifik pada media Endo Agar dan SSA (*Salmonella Shigella Agar)* dan Pewarnaan Gram, didapatkan sampel 6 mengandung *E. coli* dengan koloni yang berwarna kilap logam dan berwarna merah muda, dan juga mengandung *Salmonella sp*. dengan koloni tidak berwarna atau jernih. Berdasarkan pewarnaan Gram bakteri berbentuk batang panjang, berwarna merah dan bersifat Negatif Gram diduga bakteri *Salmonella sp.* dan bakteri dengan bentuk kokobasil (batang pendek), berwarna merah, dan bersifat Negatif Gram yang diduga bakteri *E. coli*. Berdasarkan uji biokimia hasil yang didapat 6 dari 7 koloni adalah positif pada uji gula-gula, sitrat, dan gerak, TSIA (+/+g) dan (+) sesuai dengan karakteristik bakteri *E. coli*, sedangkan pada koloni NAP (*Nutrient Agar Plate)* didapatkan hasil negatif pada uji gula-gula, MR, indol, VP dan positif pada gerak, TSIA (+) sesuai dengan karakteristik bakteri *Salmonella sp.*
Kesimpulan: Dari 12 sampel jajanan terdapat 4 sampel yang terkontaminasi, namun hanya 1 sampel yang diduga terdapat bakteri E. coli dan Salmonella sp. Menurut Islam menjaga pola makan serta makan- makanan halal dan thoyyiban sangat dianjurkan agar tidak terinfeksi bakteri *E. coli* dan *Salmonella sp.* yang dapat menyebabkan diare.

KATA KUNCI Kontaminasi, Escherichia coli, Salmonella sp.

BACTERIA DETECTION of Escherichia coli and Salmonella sp. THAT CONTAMINATES SNACKS IN SDN KAYURINGIN JAYA III In Terms Of Medicine And Islam

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ABSTRACT

Background: Unhygienic food presentation methods allow bacterial contamination, specifically *Escherichia coli* and *Salmonella sp*. (Pracoyo et al, 2006). Based on Pangan Jajanan Anak Sekolah (PJAS) as many as 4,808 samples of school snacks were 149 (3.10%) samples were contaminated with *Escherichia coli* and 13 (0.27%) samples were contaminated with *Salmonella sp.* (BPOM, 2011). Islam has explained to eat halal food and thoyyibah to avoid disease.
Purposes: The purpose of this study was to detect the presence of *Escherichia coli* and *Salmonella sp.* in snacks at school in terms of medicine and Islam.
Methode: The research design is descriptive. The number of samples taken was 12 and determined by Total Plate Counter (TPC) followed by bacterial culture and identification of bacteria by Gram staining and biochemical tests.
Result: Bacteria culture with the TPC Method obtained 4 of the 12 samples tested had a number of colonies that exceeded the threshold ($1{,}4 \times 10^6$, $2{,}4 \times 10^6$, $5{,}08 \times 10^8$, $5{,}69 \times 10^8$). Based on the Isolation of Bacteria in Specific Media on Endo Agar and SSA (*Salmonella Shigella Agar)* media and Gram Staining, obtained in sample 6 contained *Escherichia coli* with a colony that was metallic in color and pink, and also contained *Salmonella sp.* with colorless or clear colonies. Based on the Gram staining of long-stemmed, red colored and Gram-negative bacteria suspected *Salmonella sp.* and bacteria in the form of cocobacilli (short stems), which are red, and are Gram negative, suspected to be *E. coli*. Based on biochemical so that the results obtained from 6 of the 7 colonies were positive in the sugars, citrate, and motion tests, TSIA (+ / + g) and (+) according to the characteristics of *Escherichia coli* bacteria, whereas in NAP (*Nutrient Agar Plate)* colony obtained negative results on the tests of sugars, MR, indole, VP and positive on motion, TSIA (+) according to the characteristics of *Salmonella sp***.**
Conclusion: From 12 snacks samples, 4 samples were contaminated, but only 1 sample was suspected to have *E. coli* and *Salmonella sp.* on food. According to Islam maintaining a healthy diet and eating halal and thayyiban foods is highly recommended so as not to be infected with *E. coli* and *Salmonella sp*. which can cause diarrhea.

KEYWORDS Contamination, Escherichia coli, Salmonella sp.