

ABSTRAK

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STUDI KOMPARASI METODE SEDIMENTASI FORMOL-ETHER DENGAN
METODE FLOTASI NaCl JENUH DALAM MENDETEKSI TELUR *SOIL
TRANSMITTED HELMINTHS*

Xvii + 53 halaman + 5 tabel + 15 lampiran

Infeksi *Soil Transmitted Helminths* (STH) merupakan salah satu masalah kesehatan masyarakat yang masih banyak ditemukan di negara berkembang, termasuk Indonesia. Diagnosis infeksi STH umumnya dilakukan melalui pemeriksaan mikroskopis feses menggunakan berbagai metode konsentrasi. Penelitian ini bertujuan untuk membandingkan sensitivitas dan spesifisitas metode sedimentasi formol-ether dengan metode flotasi NaCl jenuh dalam mendeteksi telur *Soil Transmitted Helminths*. Penelitian ini menggunakan desain eksperimen laboratorium dengan pendekatan komparatif. Sampel penelitian berupa 30 sampel feses yang diduga terinfeksi telur STH dan diperiksa menggunakan dua metode, yaitu sedimentasi formol-ether dan flotasi NaCl jenuh. Data dianalisis menggunakan perhitungan sensitivitas, spesifisitas, serta uji ROC (*Receiver Operating Characteristic*).

Hasil penelitian menunjukkan bahwa metode sedimentasi formol-ether memperoleh sensitivitas sebesar 84,6% dengan spesifisitas 100%, sedangkan metode flotasi NaCl jenuh memperoleh sensitivitas sebesar 76,9% dengan spesifisitas 100%. Metode sedimentasi formol-ether menunjukkan kemampuan diagnostik yang lebih baik dalam mendeteksi telur STH dibandingkan metode flotasi NaCl jenuh. Hal ini disebabkan formalin mampu mempertahankan morfologi telur cacing, sedangkan ether membantu memisahkan debris sehingga telur lebih mudah diamati secara mikroskopis. Sementara itu, larutan NaCl jenuh pada metode flotasi dapat menyebabkan perubahan bentuk telur akibat sifat hipertoniknya sehingga menurunkan sensitivitas pemeriksaan.

Berdasarkan hasil penelitian ini dapat disimpulkan bahwa metode sedimentasi formol-ether lebih efektif dan lebih sensitif dibandingkan metode flotasi NaCl jenuh. Dan menunjukkan hasil penelitian ini terdapat perbedaan yang signifikan secara statistik antara metode sedimentasi formol-ether dengan metode flotasi NaCl jenuh dalam mendeteksi adanya telur cacing *Soil Transmitted Helminths*.

Kata kunci: *Soil Transmitted Helminths*, sedimentasi formol-ether, flotasi NaCl jenuh, sensitivitas, spesifisitas.

Referensi : 33 Jurnal, 7 Buku.

ABSTRACT

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COMPARATIVE STUDY OF THE FORMOL-ETHER SEDIMENTATION METHOD AND SATURATED NaCl FLOTATION METHOD IN DETECTING SOIL-TRANSMITTED HELMINTH EGGS

Xvii + 53 pages + 5 tables + 15 appendices

Soil Transmitted Helminths (STH) infection remains a major public health problem commonly found in developing countries, including Indonesia. Diagnosis of STH infection is generally performed through microscopic stool examination using various concentration methods. This study aimed to compare the sensitivity and specificity of the formol-ether sedimentation method and saturated NaCl flotation method in detecting Soil Transmitted Helminths eggs. This research used a laboratory experimental design with a comparative approach. The samples consisted of 30 stool specimens suspected of containing STH eggs and were examined using two methods, namely formol-ether sedimentation and saturated NaCl flotation. Data were analyzed using sensitivity and specificity calculations, as well as ROC (Receiver Operating Characteristic) analysis.

The results showed that the formol-ether sedimentation method had a sensitivity of 84.6% and specificity of 100%, while the saturated NaCl flotation method showed a sensitivity of 76.9% and specificity of 100%. The formol-ether sedimentation method demonstrated better diagnostic performance in detecting STH eggs compared to the saturated NaCl flotation method. This is because formalin preserves the morphology of helminth eggs, while ether helps separate debris, making microscopic observation easier. Meanwhile, the hypertonic nature of saturated NaCl solution in the flotation method may alter egg morphology, thereby reducing the sensitivity of examination.

Based on the results of this study, it can be concluded that the formol-ether sedimentation method is more effective and sensitive than the saturated NaCl flotation method. The study also showed a statistically significant difference between the formol-ether sedimentation method and the saturated NaCl flotation method in detecting Soil Transmitted Helminths eggs.

Keywords: Soil Transmitted Helminths, formol-ether sedimentation, saturated NaCl flotation, sensitivity, specificity.

References: 33 journals, 7 books.