

ABSTRACT

THE RELATIONSHIP BETWEEN THE PHYSICAL QUALITY OF HOUSEHOLD DRINKING WATER AND THE INCIDENCE OF INTESTINAL PROTOZOAN INFECTION AMONG PUBLIC ELEMENTARY SCHOOL STUDENTS IN CIPADANG VILLAGE, GEDONG TATAAN SUBDISTRICT, PESAWARAN REGENCY

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Background: Drinking water quality is an important environmental factor in maintaining public health. Drinking water that does not meet physical quality standards may serve as a medium for the transmission of various diseases, including intestinal protozoan infections. It remain a significant public health problem in developing countries, especially among elementary school children who are more vulnerable to environmental exposure and inadequate sanitation. In rural areas, limited access to safe drinking water continues to pose a health risk. This study aimed to analyze the relationship between the physical quality of household drinking water and the incidence of intestinal protozoan infections among elementary school students.

Methods: This study employed an analytical observational design with a cross-sectional approach. The sample consisted of 40 households and elementary school students selected using purposive sampling. The data were analyzed using univariate and bivariate analyses, with the Fisher's Exact test applied to determine the association between drinking water quality and intestinal protozoan infection.

Results: The results showed that half of physical quality parameters of household drinking water were significantly associated with the incidence of intestinal protozoan infection. Water temperature has value of ($p = 0.022$), odor ($p = 0.074$), color ($p = 0.092$), turbidity ($p = 0.038$), and total dissolved solid ($p = 0.023$), shows a partially significant association with the incidence of intestinal protozoan infections among elementary school students.

Conclusions: : There is a significant relationship between the physical quality of household drinking water and the incidence of intestinal protozoan infection among elementary school students in Cipadang Village, Gedong Tataan Subdistrict, Pesawaran Regency.

Keywords: Physical Quality of Drinking Water, Intestinal Protozoa, Parasitic Infection, Elementary School Students, Environmental Sanitation

ABSTRAK

HUBUNGAN ANTARA KUALITAS FISIK AIR MINUM RUMAH TANGGA WARGA DENGAN KEJADIAN INFEKSI PROTOZOA USUS PADA SISWA SEKOLAH DASAR NEGERI DESA CIPADANG, KECAMATAN GEDONG TATAAN, KABUPATEN PESAWARAN

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Latar Belakang: Kualitas air minum merupakan faktor lingkungan yang berperan penting dalam menjaga kesehatan masyarakat. Air minum dengan kualitas fisik yang tidak memenuhi standar berpotensi menjadi media penularan berbagai penyakit, termasuk infeksi protozoa usus. Infeksi protozoa masih menjadi masalah kesehatan masyarakat di negara berkembang, terutama pada anak usia sekolah dasar yang rentan terhadap paparan lingkungan dan sanitasi yang kurang baik. Di wilayah pedesaan, keterbatasan akses terhadap air minum masih sering ditemukan dan berpotensi meningkatkan risiko infeksi parasit usus. Penelitian ini bertujuan untuk menganalisis hubungan antara kualitas fisik air minum rumah tangga dengan kejadian infeksi protozoa usus pada siswa sekolah dasar.

Metode: Penelitian ini merupakan penelitian analitik observasional dengan desain *cross-sectional*. Sampel penelitian terdiri dari 40 rumah tangga dan siswa sekolah dasar yang dipilih menggunakan teknik *purposive sampling*. Analisis data dilakukan secara univariat dan bivariat menggunakan uji *Fisher's Exact* untuk menilai hubungan antara kualitas fisik air minum dan kejadian infeksi protozoa usus.

Hasil: Hasil penelitian menunjukkan bahwa terdapat hubungan yang bermakna secara statistik antara sebagian parameter kualitas fisik air minum rumah tangga dengan kejadian infeksi protozoa usus pada siswa sekolah dasar. Parameter suhu memiliki nilai signifikansi ($p = 0.022$), bau ($p = 0.074$), warna ($p = 0.092$), kekeruhan ($p = 0.038$), dan *total dissolved solid* ($p = 0.023$) menunjukkan hubungan signifikan parsial dengan kejadian infeksi protozoa usus pada siswa sekolah dasar.

Kesimpulan: Terdapat hubungan yang signifikan antara kualitas fisik air minum rumah tangga dengan kejadian infeksi protozoa usus pada siswa sekolah dasar di Desa Cipadang, Kecamatan Gedong Tataan, Kabupaten Pesawaran.

Kata Kunci: Infeksi Parasit, Kualitas Fisik Air Minum, Protozoa Usus, Siswa Sekolah Dasar, Sanitasi Lingkungan