ABSTRAK

Nirmala Rahmaniar Kesya
KUALITAS AIR SUMUR GALI DI TINJAU DARI BANGUNAN FISIK SUMUR, JARAK DAN KONSTRUKSI SEPTIC TANK DI DESA RANDUAGUNG, GRESIK
xv + 77 Halaman + 2 Gambar + 17 Tabel + 5 Lampiran

Air sumur gali di Desa Randuagung secara fisik terlihat keruh dan berbau, dengan jarak sumur terhadap sumber pencemar seperti septic tank kurang dari 10 meter. Enam sumur memiliki kondisi fisik sumur yang tidak memenuhi syarat, seperti dinding yang tidak diplester, yang berisiko menyebabkan pencemaran air. Penelitian ini bertujuan untuk menganalisis kondisi fisik sumur, jarak dan konstruksi septic tank terhadap kualitas fisik dan mikrobiologi air sumur gali.

Jenis penelitian ini adalah deskriptif dengan pendekatan cross-sectional, dilakukan pada 11 sumur yang dipilih secara purposive. Data dikumpulkan melalui observasi lapangan, wawancara, serta uji laboratorium berdasarkan Permenkes No. 2 Tahun 2023 dan SNI. Variabel yang dikaji meliputi kondisi fisik sumur, jarak terhadap septic tank, konstruksi septic tank, serta kualitas fisik (bau, suhu, TDS) dan mikrobiologi (E. coli) air sumur gali. Data dianalisis secara deskriptif dalam bentuk distribusi frekuensi dan persentase.

Hasil penelitian menunjukkan bahwa 55% sumur tidak memenuhi syarat konstruksi, 82% memiliki jarak septic tank kurang dari standar, dan 45% konstruksi septic tank tidak sesuai. Seluruh sampel (100%) tidak memenuhi standar kualitas fisik air. Sebanyak 82% sampel positif mengandung Escherichia coli. Temuan ini menunjukkan bahwa kondisi fisik sumur dan konstruksi septic tank yang tidak memenuhi syarat seperti dinding tidak diplester serta jarak yang tidak memenuhi syarat meningkatkan potensi pencemaran air secara fisik dan mikrobiologis.

Disimpulkan bahwa kualitas fisik (bau, suhu, TDS) dan mikrobiologi (E.coli) air sumur gali dipengaruhi oleh kondisi fisik sumur, jarak, dan konstruksi septic tank. Diperlukan edukasi kepada masyarakat mengenai standar pembangunan sarana sanitasi serta pengawasan kualitas air secara berkala.

Kata kunci : Kualitas Fisik Air, Kualitas Mikrobiologi Air, Sumur Gali, Septic Tank
Daftar Bacaan : 1 Buku (1987) dan 42 Jurnal (2000-2024)

ABSTRACT

Nirmala Rahmaniar Kesya
WATER QUALITY OF DUG WELLS IN TERMS OF WELL PHYSICAL STRUCTURE AND SEPTIC TANK CONSTRUCTION IN RANDUAGUNG VILLAGE, GRESIK
xv + 77 Pages + 2 Figures + 17 Tables + 5 Appendices

Well water in Randuagung Village appears physically turbid and odorous, with wells located less than 10 meters from pollution sources such as septic tanks. Six wells have physical conditions that do not meet requirements, such as unplastered walls, which pose a risk of water contamination. This study aims to analyze the physical condition of the wells, the distance and construction of septic tanks in relation to the physical and microbiological quality of dug well water.

This is a descriptive study with a cross-sectional approach, conducted on 11 wells selected purposively. Data were collected through field observations, interviews, and laboratory tests based on Ministry of Health Regulation No. 2 of 2023 and SNI standards. The variables examined include the physical condition of the wells, distance from the septic tank, septic tank construction, and physical (odor, temperature, TDS) and microbiological (E. coli) quality of the dug well water. Data were analyzed descriptively in the form of frequency distributions and percentages.

The results showed that 55% of the wells did not meet construction standards, 82% had a distance to the septic tank below the standard, and 45% had improper septic tank construction. All samples (100%) failed to meet physical water quality standards. Additionally, 82% of the samples tested positive for Escherichia coli. These findings indicate that physical conditions of wells and non-compliant septic tank construction, such as unplastered walls and non-compliant distances, increase the potential for physical and microbiological water contamination.

It is concluded that the physical (odor, temperature, TDS) and microbiological (E. coli) quality of dug well water is influenced by the physical condition of the well, distance, and septic tank construction. Education for the community regarding sanitation facility construction standards and regular water quality monitoring is required.

Keywords : Physical Water Quality, Microbiological Water Quality, Dug Well, Septic Tank
Reading List : 1 Book (1987) and 42 Journals (2000-2024)