ABSTARAK

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HUBUNGAN KONTRUKSI SUMUR GALI DENGAN TOTAL COLIFORM TERHADAP AIR SUMUR

1x + 96 Halaman + 21 Tabel + 11 Lampiran

Pencemaran bakteriologis air sumur terjadi ketika air tercemar bakteri patogen akibat kontruksi sumur yang buruk dan lokasi dekat sumber pencemar seperti septic tank atau limbah rumah tangga. Kondisi seperti dinding tidak kedap air dan lantai retak memungkinkan bakteri coliform masuk ke dalam air sumur.

Tujuan penelitian ini Untuk Mengetahui Hubungan Kontruksi Sumur Gali dengan Total *Coliform* Terhadap Air Sumur Jenis penelitian ini menggunakan metode kuantitatif dengan desain penelitian survei analitik dan rancangan penelitian cross sectional. Teknik pengambilan sampel Total Sampling jumlah populasi sebanyak 31 sumur. Teknik analisis data menggunakan *chi-square*

Hasil penilaian didapatkan kontruksi sumur mendapatkan rata-rata 53,9% dari keseluruhan nilai kontruksi. Hasil paling tinggi tidak memenuhi baku mutu dari komponen lantai sumur dengan presentase 87,1%, pemeriksaan bakteri *colifrom* sebanyak 6 (19,36%) memenuhi baku mutu yang tidak memenuhi baku mutu sebanyak 25 dengan hasil (80,64%). Hasil analisis uji statistik menunjukkan p value dinding sumur p 0,474>0,05, bibir sumur 0,095 < 0,05, lantai sumur 0,096 < 0,05 dan lokasi serta sumber pencemar 0,018<0,05 . Karena nilai p-value tersebut lebih besar dari 0,05, maka H_0 ditolak sedangkan H_1 diterima. kontuksi dan sumber pencemar ada hubungan terhadap kontruksi dan sumber pencemar dengan total bakteriologis coliform terhadap air sumur. Saran peneliti selanjutnya Agar menghindari kontaminasi dengan bakteri pada air sumur gali maka perlu melakukan clorinasi pada sumur untuk menurunkan angka *colform*

Kata Kunci : Kontruksi sumur, Jarak sumber pencemar, Bakteriologis *coliform*

ABSTRACT

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CORRELATION BETWEEN POLLUTION SOURCES AND TOTAL COLIFORM BACTERIOLOGICAL CONTAMINATION IN WELL WATER

1x + 96 Pages + 21 Tables + 11 Appendices

Bacteriological contamination of well water refers to a condition in which the well water is polluted by pathogenic bacteria or other harmful microorganisms that can cause various human diseases. Dug wells can become contaminated by household waste, human and animal feces especially if the well is located near sources of pollution such as septic tanks, latrines, or garbage disposal sites. Inadequate well construction, such as a dug well that does not meet construction standards, the absence of waterproof walls, or cracked floors, can allow coliform bacteria to seep into the well water

The aim of this study is to determine the relationship between sources of contamination and the total coliform bacteria in well water in Pakel Village, Montong Subdistrict, Tuban Regency. This study uses a quantitative method with an analytical survey design and a cross-sectional research design. The sampling technique used is total sampling, with a population of 31 wells. Data analysis was performed using the chi-square test.

The assessment results showed that the average well construction score was 53.9% of the total construction criteria. The highest component that did not meet quality standards was the well floor, with a non-compliance rate of 87.1%. Based on coliform bacteria testing, 6 wells (19.36%) met the quality standard, while 25 wells (80.64%) did not. Statistical analysis showed the following p-values: well wall $p = 0.474$ (>0.05), well edge $p = 0.095$ (<0.05), well floor $p = 0.096$ (<0.05), and location and pollution source $p = 0.018$ (<0.05). Since the p-value is less than 0.05, H0 is rejected and H1 is accepted, indicating a significant relationship between well construction and pollution sources with total coliform bacteria in the well water in Pakel Village, Montong Subdistrict, Tuban Regency.

Keywords: Well construction, distance from pollution sources, *coliform* bacteriology