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PROGRAM STUDI KESEHATAN MASYARAKAT
PEMINATAN KESEHATAN LINGKUNGAN
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ABSTRAK

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**EFEKTIVITAS TABLET KLOLIN MENGGUNAKAN TABUNG
KLOLINATOR DALAM MENGURANGI BAKTERI *Escherichia coli* PADA
AIR SUMUR GALI DI KAMPUNG CIDAHU KABUPATEN GARUT**

Air sumur gali yang berasal dari air tanah seringkali menimbulkan permasalahan. Hasil pemeriksaan salah satu sumur di Kampung Cidahu menunjukkan air sumur mengandung 15 APM/100 ml *Escherichia coli*. Keberadaan *Escherichia coli* ini melebihi nilai ambang batas yaitu 0 APM/100 ml. Penelitian ini bertujuan menganalisis efektivitas penambahan tablet klorin dalam mengurangi bakteri *Escherichia coli* pada air sumur di Kampung Cidahu. Penelitian ini merupakan jenis penelitian kuantitatif dengan metode *quasi eksperimen* dan desain *posttest only control design*. Variabel bebas dalam penelitian ini adalah dosis tablet klorin 0 mg/l (kontrol), 1 g/ 85L, 1,5 g/ 85L, dan 2 g/ 85L menggunakan tabung klorinator, serta variabel terikat dalam penelitian ini adalah bakteri *Escherichia coli* pada air sumur gali di Kampung Cidahu. Berdasarkan perhitungan menggunakan rumus *Federer* didapati sampel penelitian ini sebanyak 24 sampel air sumur sebelum dan sesudah mengenai tablet klorin. Pemilihan sampel menggunakan metode *sampling purposive*. Analisis data secara univariat dan bivariat menggunakan Uji *One-Way Anova* dan dilanjutkan dengan Uji *Post Hoc*. Hasil penelitian menunjukkan bahwa tablet klorin berpengaruh terhadap penurunan bakteri *Escherichia coli* dengan nilai $p = 0,0005$. Tablet klorin 1 g/ 85L dapat menurunkan bakteri *Escherichia coli* sebanyak 13,3 MPN/mL (85,8%). Tablet klorin 1,5 g/ 85L dan 2 g/ 85L dapat menurunkan bakteri *Escherichia coli* sebanyak 15,5 MPN/mL (100%). Dosis yang paling efektif untuk menurunkan bakteri *Escherichia coli* adalah tablet klorin 1,5 g/ 85L dan 2 g/ 85L. Masyarakat disarankan untuk menggunakan dosis klorin 1,5 g/ 85L dan dosis tablet 2 g/ 85L untuk desinfeksi air.

Kata Kunci: Klorinator, *Escherichia coli*, Tablet Klorin,

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ABSTRACT

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EFFECTIVENESS OF CHLORINE TABLETS USING A CHLORINATOR TUBE IN REDUCING *Escherichia coli* BACTERIA IN WELL WATER IN CIDAHU VILLAGE, GARUT REGENCY

*Dug well water originating from groundwater often causes problems. The results of an examination of one of the wells in Cidahu Village showed that the well water contained 15 APM/100 ml of *Escherichia coli*. The presence of *Escherichia coli* exceeded the threshold value of 0 APM/100 ml. This study aims to analyze the effectiveness of adding chlorine tablets in reducing *Escherichia coli* bacteria in well water in Cidahu Village. This study is a quantitative study with a quasi-experimental method and a posttest only control design. The independent variable in this study was the dose of chlorine tablets of 0 mg/l (control), 1 g/85L, 1.5 g/85L, and 2 g/85L using a chlorinator tube, and the dependent variable in this study was *Escherichia coli* bacteria in dug well water in Cidahu Village. Based on calculations using the Federer formula, the sample for this study was 24 well water samples before and after exposure to chlorine tablets. Sample selection used a purposive sampling method. Univariate and bivariate data analysis using One-Way Anova Test and continued with Post Hoc Test. The results of the research showed that chlorine tablets have an effect on reducing *Escherichia coli* bacteria with a p value = 0.0005. 1 g/85L chlorine tablets can reduce *Escherichia coli* bacteria by 13.3 MPN/mL (85.8%). 1.5 g/85L and 2 g/85L chlorine tablets can reduce *Escherichia coli* bacteria by 15.5 MPN/mL (100%). The most effective doses to reduce *Escherichia coli* bacteria are 1.5 g/85L and 2 g/85L chlorine tablets. The public is advised to use a chlorine dose of 1.5 g/85L and a tablet dose of 2 g/85L for water disinfection.*

Keywords: Chlorinator, *Escherichia coli*, Chlorine Tablets,