

*THE EFFECT OF VARIATION OF ILLUMINANCE ULTRAVIOLET LAMP
TOWARD DECLINING THE NUMBER OF AIR GERMS IN LABORATORY*

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ABSTRACT

Air germs can be a very significant element of pollution as a cause of symptoms of various diseases Air germs can be a very significant element of pollution as a cause of symptoms of various diseases and in students doing the practicum of planting bacteria, contaminants often grow which interfere with the identification of germs. One method of controlling the number of Air germs with Ultraviolet irradiation. Knowing the effect of variations of illuminance ultraviolet lamp toward declining the number of air germs. This type of research is a quasi-experimental design using a pretest-posttest control group design. This research was conducted on March 2nd – 24th, 2021. A sample of 40 samples with three treatments, namely: illumination intensity 7,08 lux, illumination intensity 9,05 lux, and illumination intensity 11,03 lux. Data analysis used the Kruskal-wallis test and regression. The percentage declining in the number of Air germs before with after irradiation of 7,08 lux was 47,73%, after illuminance irradiation of 9,05 lux was 64,77% and after irradiation of 11,03 lux was 76,70%. The Kruskal-Wallis test results show that there are differences in the number of Air germs before irradiation with after irradiation. The effect of variation of illuminance toward declining the number of Air germs was 64,40%. There is an effect of variations in the intensity of ultraviolet light on the reduction of airborne germ numbers in the Hematology Laboratory, Health Analyst Department, Health Polytechnic, Ministry of Health, Yogyakarta.

Keywords: *Ultraviolet, Illuminance, Air germs number*

PENGARUH VARIASI INTENSITAS LAMPU ULTRAVIOLET TERHADAP
PENURUNAN ANGKA KUMAN UDARA DI LABORATORIUM

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ABSTRAK

Kuman udara dapat menjadi unsur pencemaran yang sangat berarti sebagai penyebab gejala berbagai penyakit, serta dalam praktikum penanaman kuman sering tumbuh kuman kontaminan yang mengganggu identifikasi kuman. Salah satu metode pengendalian angka kuman udara dengan penyinaran Ultraviolet. Mengetahui pengaruh variasi intensitas lampu ultraviolet terhadap penurunan angka kuman udara. Jenis penelitian ini adalah *quasi eksperiment* dengan menggunakan rancangan *pretest-posttest control group design*. Penelitian ini dilaksanakan pada 2 – 24 Maret tahun 2021. Sampel dengan jumlah 40 sampel dengan tiga perlakuan, yaitu: penyinaran intensitas 7,08 lux, penyinaran intensitas 9,05 lux, serta penyinaran intensitas 11,03 lux. Analisis data menggunakan Uji *Kruskal-wallis* dan regresi. Persentase penurunan angka kuman udara sebelum dan setelah penyinaran intensitas 7,08 lux adalah 47,73%, setelah penyinaran intensitas 9,05 lux adalah 64,77% serta setelah penyinaran intensitas 11,03 lux adalah 76,70%. Hasil uji *Kruskal-wallis* menunjukkan ada perbedaan angka kuman udara sebelum penyinaran dengan setelah penyinaran. Besar pengaruh variasi intensitas lampu ultraviolet terhadap penurunan angka kuman udara adalah 64,40%. Terdapat pengaruh variasi intensitas lampu ultraviolet terhadap penurunan angka kuman udara di Laboratorium Hematologi Jurusan Analis Kesehatan Poltekkes Kemenkes Yogyakarta.

Kata kunci: lampu ultraviolet, intensitas, angka kuman udara