

**PENGARUH HEPUV PORTABEL TERHADAP PENURUNAN ANGKA KUMAN
UDARA RUANG DI JURUSAN KESEHATAN LINGKUNGAN POLTEKKES
KEMENKES YOGYAKARTA**

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ABSTRAK

Latar Belakang : Kualitas lingkungan yang sehat merupakan bagian penting di bidang kesehatan. Udara sebagai komponen lingkungan yang berperan penting dalam kehidupan, sehingga perlu dipelihara dan dijaga kualitasnya agar dapat memberikan daya dukungan bagi makhluk hidup secara optimal. Sumber terjadinya pencemaran udara dalam ruangan dapat disebabkan oleh berbagai faktor. Angka kuman udara yang melebihi nilai ambang batas dan tidak memenuhi standar persyaratan merupakan kondisi yang perlu diperhatikan karena berpotensi menimbulkan alergi, ISPA dan *Sick Building Syndrome (SBS)* yang dapat mempengaruhi kesehatan manusia. HEPA Filter dan sinar *Ultra Violet* dapat mengeliminasi kuman patogen penyebab penyakit bagi manusia.

Tujuan : Mengetahui pengaruh penggunaan HEPA Filter dan *Ultra Violet* Portabel (HEPUV Portabel) terhadap penurunan angka kuman udara.

Metode : Penelitian ini menggunakan metode eksperimental dan dilaksanakan di Jurusan Kesehatan Lingkungan Poltekkes Kemenkes Yogyakarta. Menggunakan media HEPA dan UV Portabel. Ruangan dilakukan pemeriksaan angka kuman udara sebelum (*pre*), kemudian HEPUV Portabel dipaparkan pada ruangan selama 5 jam, dan pada bagian akhir dilakukan pemeriksaan angka kuman udara sesudah (*post*) pemeriksaan. Hasil dari penelitian ini dianalisis menggunakan media aplikasi SPSS *for Windows*.

Hasil : Berdasarkan hasil analisa data terdapat penurunan yang signifikan terhadap penurunan angka kuman udara dalam ruang. Nilai angka kuman udara sebelum pemaparan yaitu sebesar 756 koloni/m³, dan nilai angka kuman udara sesudah pemaparan yaitu sebesar 67 koloni/m³. Penurunan terjadi sebanyak 689 koloni/m³. Persentase penurunan sebesar 91,14%.

Kesimpulan : Penurunan angka kuman udara sebelum dan sesudah dilakukan disinfeksi menggunakan HEPUV Portabel mampu menurunkan angka kuman udara secara efektif.

Kata Kunci : Penurunan Angka Kuman Udara, HEPUV Portabel, Disinfeksi, HEPA Filter, Ultra Violet

**THE EFFECT OF PORTABLE HEPUV ON THE DECREASE OF SPACE AIR
GERMAN RATE IN THE DEPARTMENT OF ENVIRONMENTAL HEALTH
POLYTECHNIC, KEMENKES YOGYAKARTA**

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ABSTRACT

Background : *The quality of a healthy environment is an important part of the health sector. Air as an environmental component that plays an important role in life, so it needs to be maintained and maintained its quality in order to provide optimal support for living things. The source of indoor air pollution can be caused by various factors. The number of airborne germs that exceeds the threshold value and does not meet the standard requirements is a condition that needs to be considered because it has the potential to cause allergies, ARI and Sick Building Syndrome (SBS) which can affect human health. HEPA Filter and Ultra Violet rays can eliminate pathogenic germs that cause disease for humans.*

Purpose : *To determine the effect of using HEPA Filter and Portable Ultra Violet (HEPUV Portable) on reducing airborne germ numbers.*

Method : *This study used an experimental method and was carried out at the Department of Environmental Health Poltekkes, Ministry of Health, Yogyakarta. Using Portable HEPA and UV media. The room is checked for air germ numbers before (pre), then Portable HEPUV is exposed to the room for 5 hours, and at the end, air germ numbers are checked after (post) inspection. The results of this study were analyzed using SPSS for Windows application media.*

Results : *Based on the results of data analysis, there is a significant decrease in the number of airborne germs in the room. The air germ number value before exposure was 756 colonies/m³, and the air germ number value after exposure was 67 colonies/m³. The decrease occurred as much as 689 colonies/m³. The percentage decrease is 91.14%.*

Conclusion : *Reducing the number of airborne germs before and after disinfection using Portable HEPUV can reduce the number of airborne germs effectively.*

Keywords : *Air Germ Reduction, Portable HEPUV, Disinfection, HEPA Filter, Ultra Violet*