

ABSTRACT

COMPARISON OF DAMAGES DEGREE TO THE PULMONARY ALVEOLI OF ALBINO RATS (*Rattus norvegicus*) Sprague dawley STRAIN WHICH EXPOSED TO MOSQUITO COILS WITH MOSQUITO REPELLENT SPRAY

By

AMANDA DEWI ROSITA

Background: People use mosquito coils or spray to avoid mosquito bites. The use of mosquito coils or sprays produces smoke or steam which contains harmful active ingredients, especially in the respiratory tract. The active ingredients of mosquito repellent can cause damage to the lung alveoli. The purpose of this study was to determine the degree of damage to the lung alveoli of rats exposed to mosquito coils with mosquito repellent spray.

Methods: This experimental study was conducted for 30 days with 30 white Sprague dawley rats in 3 groups: K was not given exposure, P1 was given mosquito repellent 1 coil 8 hours/day and P2 was given mosquito repellent spray 5ml 8 hours/day. The method of measuring the degree of damage to the alveoli is done by observing using a microscope. The research data were analyzed using One Way ANOVA and Post Hoc tests.

Results: The average degree of damage for group K was 1.8, group P1 was 3.62 and P2 was 3.56 with One Way ANOVA test results ($p= 0.000$) and Post Hoc test P1 to P2 ($p=0.714$).

Conclusion: Mosquito repellent can cause damage to the alveoli.

Keywords: alveolus, mosquito coil, mosquito repellent spray

ABSTRAK

PERBANDINGAN DERAJAT KERUSAKAN ALVEOLUS PARU TIKUS PUTIH (*Rattus norvegicus*) GALUR Sprague dawley YANG DIBERI PAPAN OBAT ANTI NYAMUK BAKAR DENGAN OBAT ANTI NYAMUK SPRAY

Oleh

AMANDA DEWI ROSITA

Latar Belakang: Masyarakat menggunakan obat anti nyamuk bakar maupun spray untuk terhindar dari gigitan nyamuk. Penggunaan obat anti nyamuk bakar maupun spray menghasilkan asap maupun uap yang mengandung bahan aktif berbahaya terutama pada saluran pernapasan. Bahan aktif obat anti nyamuk dapat menimbulkan kerusakan pada alveolus paru. Tujuan penelitian ini untuk mengetahui derajat kerusakan alveolus paru tikus yang terpapar obat anti nyamuk bakar dengan obat anti nyamuk spray.

Metode: Penelitian eksperimental ini dilakukan selama 30 hari dengan 30 ekor tikus putih galur Sprague dawley dalam 3 kelompok: K tidak diberikan paparan, P1 diberikan obat anti nyamuk bakar 1 kumparan 8 jam/hari dan P2 diberikan obat anti nyamuk spray 5ml 8 jam/hari. Metode pengukuran derajat kerusakan alveolus dilakukan dengan pengamatan menggunakan mikroskop. Data hasil penelitian dianalisis dengan uji *One Way ANOVA* dan uji *Post Hoc*.

Hasil: Derajat kerusakan rerata kelompok K adalah 1.8, kelompok P1 3.62 dan P2 3.56 dengan hasil uji *One Way ANOVA* ($p= 0.000$) dan uji *Post Hoc* P1 terhadap P2 ($p=0.714$).

Kesimpulan: Obat anti nyamuk dapat menimbulkan kerusakan pada alveolus.

Kata kunci: alveolus, obat nyamuk bakar, obat nyamuk spray