

ABSTRACT

PLASMA MALONDIALDEHYDE (MDA) LEVEL DIFFERENCE BETWEEN ALBINO RATS (*Rattus norvegicus*) *Sprague dawley* STRAIN WHICH EXPOSED WITH COIL REPELLENT AND THAT EXPOSED TO SPRAY MOSQUITO REPELLENT

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Background: Coil and spray mosquito repellent are the most used type to avoid mosquito bites. Coil repellent's fumes contain active substances and toxic residues of coil burn, while spray mosquito repellent spread in aerosol form which easily absorbed by human body. Mosquito repellent's active substances will cause free radical increase in the body which is shown by the increase of malondialdehyde level. This research objective is to know plasma malondialdehyde level difference between coil repellent exposed rats and spray mosquito repellent exposed

Methods: This experimental research is done in 30 days to 30 Sprague dawley strain albino rats in 3 groups : K without any exposure, P1 exposed to 1 coil repellent 8 hours/day, and P2 exposed to 5ml spray mosquito repellent 8 hours/day. TBARS test is used as Malondialdehyde level measurement method. Result data of this research is analyzed by One Way ANOVA test and Post Hoc test

Results: K group mean malondialdehyde level is 0.087880 nmol/mg, P1 group is 0.162240 nmol/mg, and P2 group is 0.120970 nmo/mg. One Way ANOVA test result shows ($p=0.000$) and Post Hoc test result shows P1 towards P2 ($p=0.000$).

Conclusion: There is difference in malondialdehyde level of albino rats which exposed to coil mosquito repellent and that exposed to spray mosquito repellent

Keywords: malondialdehyde, coil repellent, spray mosquito repellent

ABSTRAK

PERBEDAAN KADAR MALONDIALDEHID (MDA) PLASMA TIKUS PUTIH (*Rattus norvegicus*) GALUR *Sprague dawley* YANG TERPAPAR OBAT NYAMUK BAKAR DENGAN OBAT NYAMUK SPRAY

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Latar Belakang: Obat nyamuk bakar dan spray merupakan jenis yang paling banyak digunakan untuk menghindari gigitan nyamuk. Asap obat nyamuk bakar mengandung bahan aktif dan zat sisa pembakaran yang bersifat toksik, sementara obat nyamuk spray tersebar dalam bentuk aerosol yang mudah diserap oleh tubuh. Bahan aktif obat nyamuk akan menyebabkan peningkatan radikal bebas dalam tubuh yang ditandai dengan peningkatan kadar malondialdehid. Tujuan penelitian ini untuk mengetahui perbedaan kadar malondialdehid plasma tikus yang terpapar obat nyamuk bakar dengan obat 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 nyamuk bakar 1 kumparan 8 jam/hari dan P2 diberikan obat nyamuk spray 5ml 8 jam/hari. Metode pengukuran kadar malondialdehid dilakukan dengan uji TBARS. Data hasil penelitian dianalisis dengan uji *One Way ANOVA* dan uji *Post Hoc*.

Hasil: Kadar malondialdehid rerata kelompok K adalah 0.087880 nmol/mg, kelompok P1 0.162240 nmol/mg dan P2 0.120970 nmol/mg dengan hasil uji *One Way ANOVA* ($p=0.000$) dan uji *Post Hoc* P1 terhadap P2 ($p=0.000$).

Kesimpulan: Terdapat perbedaan kadar malondialdehid plasma tikus putih yang terpapar obat nyamuk bakar dengan obat nyamuk spray

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