

**PENGARUH PEMBERIAN KRIM EKSTRAK FLAVONOID BUNGA
TELANG TERHADAP JUMLAH MELANIN PADA KULIT
MARMOT YANG TERPAPAR SINAR UVB**

TESIS



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PENGARUH PEMBERIAN KRIM EKSTRAK FLAVONOID BUNGA TELANG (*Clitoria Ternatea L.*) TERHADAP JUMLAH MELANIN PADA KULIT MARMOT YANG TERPAPAR SINAR UVB

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Abstrak

Latar Belakang

Bunga telang (*Clitoria ternatea L.*) merupakan salah satu tanaman yang mengandung flavonoid dan saat ini banyak diteliti di bidang kesehatan, salah satunya sebagai *depigmenting agent*. Flavonoid dapat menghambat aktivitas enzim tirosinase, sehingga menghambat proses melanogenesis. Penelitian ini merupakan lanjutan dari penelitian sebelumnya, yaitu pengaruh ekstrak bunga telang terhadap ekspresi gen enzim tirosinase pada *cell line mouse melanoma B16F10*.

Tujuan

Mengetahui pengaruh pemberian krim ekstrak flavonoid bunga telang (*Clitoria ternatea L.*) 1,5% terhadap jumlah melanin pada kulit marmot yang terpapar sinar UVB.

Subjek dan Metode

Penelitian ini merupakan penelitian eksperimental murni dengan metode *post-test only control group design*. Subjek penelitian terdiri dari 3 kelompok dengan 9 ekor marmot setiap kelompok. Setiap kelompok diberi pajanan sinar UVB 3 kali seminggu selama 2 minggu dengan dosis total 390 mJ/cm^2 . Kelompok 1 diberi krim plasebo, kelompok 2 diberi krim hidrokuinon 4%, dan kelompok 3 diberi krim ekstrak flavonoid bunga telang 1,5%. Krim diberikan 2 kali sehari selama 2 minggu. Jumlah melanin dihitung dengan persentase *pixel* luas area melanin dibandingkan dengan *pixel* seluruh jaringan epidermis.

Hasil

Hasil penelitian menunjukkan rerata jumlah melanin paling tinggi terdapat pada kelompok krim plasebo sebesar 2,98%. Jumlah melanin paling rendah terdapat pada kelompok krim hidrokuinon 4% sebesar 0,61%, sedangkan jumlah melanin pada kelompok ekstrak flavonoid bunga telang 1,5% sebesar 2,12%. Terdapat perbedaan bermakna antara kelompok krim ekstrak flavonoid bunga telang dengan kelompok krim plasebo dan krim hidrokuinon ($p < 0,05$).

Kesimpulan

Krim ekstrak flavonoid bunga telang 1,5% dapat mencegah peningkatan jumlah melanin kulit marmot yang terpapar sinar UVB.

Kata kunci: krim ekstrak flavonoid bunga telang, melanin, ultraviolet B.

**THE EFFECT OF FLAVONOID EXTRACT CREAM BUNGA TELANG
(*Clitoria ternatea L.*) ON THE AMOUNT OF MELANIN ON THE GUINEA
PIGS SKIN EXPOSED TO ULTRAVIOLET B**

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Abstract

Background

Butterfly pea flower (*Clitoria ternatea L.*) is a plant that contains flavonoids and is currently being studied in the health sector, one of which is as a depigmentation agent. Flavonoids can inhibit the activity of the tyrosinase enzyme, thereby inhibiting the process of melanogenesis. This research is a continuation of previous studies, namely the effect of butterfly pea flower extract on the expression of the tyrosinase enzyme gene in the B16F10 mouse melanoma cell line.

Aim

To determine the effect of giving 1.5% bunga telang (*Clitoria ternatea L.*) flavonoid extract cream on the amount of melanin in the skin of guinea pigs exposed to UVB rays.

Subject and Method

This research is an experimental study with post-test only control group design. The study subjects consisted of 3 groups with 9 guinea pigs in each group. Each group was exposed to UVB rays 3 times a week for 2 weeks with a total dose of 390 mJ/cm². Group 1 was given placebo cream, group 2 was given 4% hydroquinone cream, and group 3 was given 1.5% flavonoid extract cream bunga telang. The cream is given 2 times a day for 2 weeks. The total amount of melanin produced was calculated in percentage of pixels of the melanin area compared to the pixels of the entire epidermal tissue.

Result

The results showed that the highest average amount of melanin was found in placebo cream group (P0) of 2,98%. The lowest amount of melanin was found in 4% hydroquinone cream group (P1) of 0,61%, while the amount of melanin in 1,5% butterfly pea flower flavonoid extract cream group (P2) was 2,12%. There was a significant difference between the butterfly pea flower flavonoid extract cream with the placebo cream and hydroquinone cream groups ($p < 0.05$).

Conclusion

1.5% butterfly pea flower flavonoid extract cream can prevent an increase in the amount of melanin in guinea pig skin that is exposed to UVB rays.

Keywords: flavonoid extract cream bunga telang, melanin, ultraviolet B.