

## ABSTRAK

**Latar Belakang:** Negara Indonesia merupakan negara beriklim tropis yang memiliki paparan radiasi UV tinggi yang menyebabkan. Untuk mengatasi efek tersebut, diperlukan antioksidan yang dapat menghambat efek radiasi UV. *Clitoria ternatea* yang kaya flavonoid, mampu melawan radikal bebas dan mengurangi efek *photoaging*. Penelitian ini bertujuan untuk mengetahui pengaruh krim ekstrak *Clitoria ternatea* terhadap jumlah fibroblas dan ketebalan kolagen pada tikus wistar jantan yang diinduksi UVB. **Metode:** Penelitian ini berjenis *true experimental* dengan desain *post-test only control group* dengan 36 tikus wistar jantan yang dibagi dalam 4 kelompok. Krim ekstrak *Clitoria ternatea* diberikan dalam 3 kadar (2,5%, 5%, 10%) dan base cream plasebo Synchro® dioleskan pada punggung tikus selama 30 hari. Penyinaran dilakukan 3 kali seminggu, dan krim dioleskan dua kali sehari. Analisis statistik dilakukan untuk melihat perbedaan rerata antar kelompok. **Hasil:** Pengaplikasian krim ekstrak *Clitoria ternatea* dengan kadar 2,5%, 5%, dan 10% dapat meningkatkan jumlah fibroblas secara bermakna ( $p < 0,05$ ) dari  $7,40 \pm 0,81$  menjadi  $9,40 \pm 1,39$ ;  $11,33 \pm 1,73$ ;  $12,00 \pm 1,49$ . Pada kadar 5% dan 10% dapat meningkatkan ketebalan kolagen secara bermakna ( $p < 0,05$ ) dari  $64,44 \pm 5,64$  menjadi  $70,75 \pm 4,44$ ;  $77,43 \pm 4,27$ . **Kesimpulan:** Dapat disimpulkan bahwa krim ekstrak *Clitoria ternatea* 2,5 %, 5% dan 10% dapat meningkatkan jumlah fibroblas dan krim ekstrak *Clitoria ternatea* 5% dan 10% dapat meningkatkan ketebalan kolagen

**Kata Kunci:** *Clitoria ternatea*; Flavonoid; Fibrobla; Kolagen; Photoaging

## ABSTRACT

**Background:** Indonesia is a tropical country that has a high exposure to UV radiation that causes. To overcome these effects, antioxidants are needed that can inhibit the effects of UV radiation. *Clitoria ternatea*, which is rich in flavonoids, is able to fight free radicals and reduce the effects of photoaging. This study aims to determine the effect of *Clitoria ternatea* extract cream on the number of fibroblasts and collagen thickness in UVB-induced male white rats.

**Methods:** This study was a true experimental type with a post-test only control group design with 36 male White rats divided into 4 groups. *Clitoria ternatea* extract cream was administered in 3 levels (2.5%, 5%, 10%) and Synchro® placebo base cream was applied on the rats' back for 30 days. Irradiation was performed 3 times a week, and the cream was applied twice a day. Statistical analysis was performed to see the mean differences between groups in UVB-induced male white rats.

**Results:** The application of *Clitoria ternatea* extract cream with levels of 2.5%, 5%, and 10% can increase the number of fibroblasts significantly ( $p < 0.05$ ) from  $7.40 \pm 0.81$  to  $9.40 \pm 1.39$ ;  $11.33 \pm 1.73$ ;  $12.00 \pm 1.49$ . At 5% and 10% levels can increase collagen thickness significantly ( $p < 0.05$ ) from  $64.44 \pm 5.64$  to  $70.75 \pm 4.44$ ;  $77.43 \pm 4.27$ .

**Conclusion:** It can be concluded that *Clitoria ternatea* extract cream 2.5%, 5% and 10% can increase the number of fibroblasts and *Clitoria ternatea* extract cream 5% and 10% can increase collagen thickness.

**Keywords:** *Clitoria ternatea*; Collagen; Fibroblast; Flavonoid; Photoaging; UVB.