

ABSTRAK

Penelitian ini bertujuan untuk menguji dan menganalisis efektivitas pemberian krim ekstrak cengkeh (*Syzygium aromaticum*) terhadap pertumbuhan rambut dan proses penyembuhan luka bekas dermapen pada tikus putih (*Rattus norvegicus*) galur wistar. Sampel penelitian ini dihitung menggunakan rumus Ferderer untu 4 kelompok. Penelitian ini menggunakan 24 ekor tikus galur wistar untuk tiap kelompok percobaan. Kelompok pertama sebagai kelompok kontrol, pada kelompok ini tikus hanya diberi krim basis. Kelompok perlakuan diberikan krim ekstrak cengkeh (*Syzygium aromaticum*) dengan konsentrasi 3%, 9%, dan 12%. Hasil uji fitokimia menunjukkan bahwa ekstrak cengkeh (*Syzygium aromaticum*) mengandung metabolit sekunder berupa flavonoid, saponin, tannin, dan steroid. Senyawa-senyawa ini, khususnya flavonoid, membantu penyembuhan luka bekas dermapen serta merangsang pertumbuhan rambut. Pemberian krim ekstrak cengkeh (*Syzygium aromaticum*) mempengaruhi pertumbuhan rambut. Berdasarkan perbedaan rata-rata panjang rambut peneliti menyimpulkan bahwa kelompok dengan pertumbuhan rambut paling besar ada pada kelompok perlakuan 3 yang diberi ekstrak bunga telang dengan konsentrasi 12%. Kelompok dengan pertumbuhan rambut paling sedikit yaitu pada kelompok kontrol yang hanya diberi krim basis. Pemberian krim ekstrak cengkeh (*Syzygium aromaticum*) dengan konsentrasi 3%, 9%, dan 12% berpengaruh terhadap proses penyembuhan luka bekas dermapen pada tikus putih (*Rattus norvegicus*) galur wistar. Kelompok perlakuan mengalami penyembuhan total, sedangkan kelompok kontrol yang diberi krim basis tidak. Hasil pengamatan histopatologi menunjukkan bahwa kelompok kontrol menghasilkan pertumbuhan kolagen yang sangat tipis <25%, sedangkan pada perlakuan yang diberikan ekstrak cengkeh dengan konsentrasi 3%, 9%, dan 12% kolagen terisi penuh dan padat (75-100%).

Kata Kunci: Luka, Cengkeh, Kolagen, Rambut, Dermapen

ABSTRACT

*This study aims to analyze and test the effectiveness of administering moringa flower extract (*Moringa oleifera*) in reducing cholesterol levels and improving testicular function in male Wistar rats (*Rattus norvegicus*) who are obese and how the histopathology of rat testicles (*Rattus norvegicus*) looks like. The research sample was 24 male Wistar rats (*Rattus norvegicus*) obtained by calculating the Ferderer formula for 4 groups. Each group consisted of 6 mice that were given different treatments. The control/normal group was given regular food and distilled water, while the treatment group was made obese and given *Moringa oleifera* flower extract at different doses, namely 200mg/KgBB, 400mg/KgBB, and 600mg/KgBB. To induce obesity in test animals, mice were fed a high-fat diet every day in the form of quail egg yolks for 14 days. These foods exogenously increase cholesterol levels and give rise to obesity. The parameter used to confirm that mice are obese is by calculating the Lee index value. After 14 days of a high-fat diet, the mice were calculated for the Lee Index value and obtained a value of >0.30 , which means the mice were obese. The results of the observations showed that *Moringa oleifera* flower extract at a dose of 400mg/KgBW and 600mg/KgBW was effective in reducing total cholesterol levels in obese white Wistar rats. This is evident from the cholesterol levels in both groups which were less than 54mg/dl. The results of histopathological observations of testicular tissue in treatment group 3, namely *Moringa oleifera* flower extract at a dose of 600 mg/KgBW, experienced the most significant improvement and were closer to the control group compared to the other groups. Reducing total cholesterol levels and improving the function of testicles damaged due to obesity occurs due to the help of the phytochemical compounds contained in *Moringa* flower extract. Based on the results of phytochemical tests, it was found that *Moringa* flower extract contains compounds in the form of flavonoids, tannin saponin alkaloids, and steroids which help reduce total cholesterol levels and improve testicular function.*

Keywords: Obesity, Cholesterol, Testes, Moringa Flowers