Abstract.

This study aimed to evaluate the effectiveness of the topical application of coffee bean extract (Coffea) in accelerating the wound healing process of cut wounds on the backs of Wistar strain white rats (Rattus norvegicus). The research was conducted using an experimental design with a completely randomized design (CRD) consisting of four treatment groups, namely the negative control group (receiving base ointment), the positive control group (receiving antibiotic ointment), and two treatment groups receiving coffee bean extract at concentrations of 1% and 2%. A total of 20 Wistar-strain white rats were used as the research subjects. Cut wounds were created on the backs of the rats using sterile sharp instruments. After the formation of the cut wounds, the treatments were applied topically to the wound area according to the assigned treatment groups. Observations were made periodically for 14 days, and the parameters observed included wound healing time, presence of secondary infection, inflammation, and scar formation. The study showed that topical application of coffee bean extract at concentrations of 1% and 2% significantly accelerated the wound healing process in the Wistar strain white rats. The wound healing time in the treatment groups receiving 1% and 2% coffee bean extract was significantly faster compared to the negative control group ($p < 0.05$). Still, it did not differ significantly from the positive control group ($p > 0.05$). Furthermore, the treatment groups receiving coffee bean extract also exhibited a significant reduction in inflammation and secondary infection compared to the negative control group. However, there was no significant difference in scar formation between the treatment and control groups. In conclusion, topical application of 1% and 2% coffee bean extract effectively accelerated the wound healing process of cut wounds on the backs of Wistar strain white rats. This study provides insights into the potential use of coffee bean extract as an alternative therapy for wound healing. However, further research is needed to evaluate the mechanisms of action and possible side effects associated with using coffee bean extract.

Keywords: Coffee bean extract, Cut wounds, Experimental design, Experimental design, Alternative therapy