

ABSTRAK

Diabetes melitus ialah gangguan kronis pemicu berbagai komplikasi, termasuk ulkus diabetikum yang sukar pulih akibat lonjakan stres oksidatif. Penggunaan sumber nabati seperti kulit kayu manis (*Cinnamomi burmannii cortex*), yang mengandung flavonoid serta fenolik, berpotensi menjadi terapi komplementer potensial berkat daya antioksidannya. Hal ini diharapkan mampu mempercepat regenerasi jaringan pada area luka. Riset ini bermaksud menetapkan kadar flavonoid total dan daya antioksidan fraksi aktif kayu manis serta menelaah potensinya bagi pengobatan ulkus diabetikum. Studi dilaksanakan secara eksperimental laboratorium melalui ekstraksi. Proses tersebut menerapkan teknik maserasi memakai etanol 70%, yang kemudian diteruskan dengan metode ekstraksi cair-cair guna memperoleh fraksi-fraksi yang diinginkan. Analisis total flavonoid dilakukan memakai metode $AlCl_3$ via spektrofotometri UV-Vis, sementara potensi antioksidan diukur melalui metode DPPH dengan parameter IC_{50} . Temuan membuktikan fraksi etil asetat mempunyai kadar flavonoid paling maksimal (0,8637%) serta daya antioksidan paling tangguh, yang ditandai oleh nilai IC_{50} sebesar 12,2716 ppm. Hasil tersebut membuktikan bahwa fraksi etil asetat kayu manis berpotensi diproduksi menjadi pendukung terapi ulkus diabetikum lewat mekanisme peredaman stres oksidatif pada area luka pasien.

Kata kunci: kulit kayu manis, flavonoid total, aktivitas antioksidan, DPPH, ulkus diabetikum.

ABSTRACT

Diabetes mellitus is a chronic disease that can cause complications, one of which is diabetic ulcer, a wound that is difficult to heal due to increased oxidative stress. The use of natural ingredients such as cinnamon bark (Cinnamomi burmannii cortex), which is rich in flavonoids and phenolic compounds, has the potential to be an alternative supportive therapy due to its antioxidant activity. This research seeks to identify overall flavonoid levels and antioxidant properties within cinnamon bark active fractions while assessing its effectiveness for healing diabetic ulcers. The investigation involved laboratory experiments utilizing specific extraction techniques. Primary processing employed the maceration approach using 70% ethanol solvent, which was subsequently followed by a secondary liquid-liquid separation procedure to isolate desired chemical compounds. Total flavonoid amounts underwent analysis through $AlCl_3$ colorimetry with UV-Vis spectrophotometry, while free radical scavenging capacity was evaluated employing DPPH methods and documented as IC_{50} values. The study revealed the ethyl acetate fraction contained peak flavonoid percentages (0.8637%) and exhibited the most effective antioxidant strength IC_{50} 12.2716 ppm). These data imply that ethyl acetate extracts from cinnamon bark offer substantial viability for development as supplementary medicinal agents for diabetic ulcer care by effectively neutralizing oxidative damage during healing.

Keywords: *cinnamon bark, total flavonoids, antioxidant activity, DPPH, diabetic ulcer.*