"The Effect of Solvent Concentration in the Extraction Process of Salak Peel Using the Maceration Method on Antioxidant Activity Value Measured by the DPPH (2,2-Diphenyl-1-Picrylhydrazyl) Method"

Juwitasari, Widayanti*

Departement of Pharmaceutical and Food Analysis, Poltekkes Kemenkes Malang

**Email: mavindanur123@gmail.com*

ABSTRACT

Background: *The skin of salak fruit (Salacca zalacca), commonly considered waste, is known to.* ***Objective:*** *To determine the effect of solvent concentration on the antioxidant activity value of salak peel extract using the DPPH (2,2-Diphenyl-1-Picrylhydrazyl) method.* ***Methodology:*** *Extraction was carried out through maceration using ethanol as a solvent at varying concentrations of 50%, 70%, and 96%. Antioxidant activity was tested by measuring the inhibition value and determining the IC50 value using a UV-Vis spectrophotometer at a wavelength of 517 nm.* ***Results:*** *The 96% ethanol extract showed the highest antioxidant activity with an average IC50 value of 60.90 ppm (strong category), followed by 70% ethanol with an IC50 of 106.07 ppm, and 50% ethanol with 107.81 ppm (both in the moderate category). As a comparison, ascorbic acid showed an IC50 value of 28.83 ppm (very strong category). These results indicate that salak peel extract has potential as a natural antioxidant source, especially with higher ethanol concentrations.* ***Conclusion:*** *Salak peel extract exhibits relatively high antioxidant activity, particularly when extracted using 96% ethanol solvent. With an IC50 value of 60.90 ppm, this extract falls into the strong antioxidant category. This demonstrates that salak peel, previously considered waste, has potential to be utilized as an effective natural antioxidant source to combat free radicals.*

Keywords: *Salak peel, antioxidant, DPPH, IC50, ethanol, UV-Vis spectrophotometry.*