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Research article

TOTAL PHENOLIC CONTENT, RADICAL SCAVENGING, AND ANTIBACTERIAL ACTIVITY OF THREE DIFFERENT FRACTIONS OF *PARIJOTO* FRUIT (*MEDINILLA SPECIOSA BLUME*)

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ABSTRACT

Parijoto (*Medinilla speciosa Blume*), a traditional Indonesian medicinal plant, requires further scientific investigation. This study explored the total phenolic content, antioxidant activity, and antibacterial properties of three *Parijoto* fruit fractions. Understanding these variations helps identify the most potent fraction for functional food development. Methanol extract was fractionated into n-hexane (PNF), ethyl acetate (PEF), and methanol fractions (PMF). Total phenolic content was determined using the Folin-Ciocalteu method, and antioxidant activity via DPPH assay. Antibacterial activity against *E. coli* and *S. aureus* was assessed using the Kirby-Bauer disk diffusion method with varying fraction concentrations (30, 60, and 90% v/v). Chloramphenicol served as a positive control, and DMSO as a negative control. PNF exhibited the highest total phenolic content (146.29 ± 0.91 µg GAE/g) and highest antioxidant activity (IC_{50} 1.73 ± 0.09 µg/g), but the lowest antibacterial activity. Conversely, PEF demonstrated the strongest antibacterial activity against both bacteria, despite not having the highest phenolic content (68.83 ± 2.63 µg GAE/g) or antioxidant activity (IC_{50} 7.59 ± 0.42 µg/g). These results suggest that *Parijoto*'s antibacterial activity is not solely attributable to phenolic compounds. Other unidentified compounds may contribute to its antibacterial effects, highlighting the need for further biomolecular research to elucidate the underlying mechanisms.