

ABSTRACT

*Lifestyles such as lack of movement or physical activity, unhealthy diet, and exposure to stress can increase the risk of degenerative diseases. One of the causes is oxidative stress that occurs due to the number of free radicals formed in the body exceeding the number of antioxidants. Flavonoids are secondary metabolite compounds that act as natural antioxidants and are found in many plants, such as paper flowers (*Bougainvillea glabra*). This study aims to determine the total flavonoid content and IC₅₀ value that indicates the antioxidant activity of paper flower infusion. The research stages include preparing the simplicia by drying and grinding the flowers, and making an infusion that is heated at 90 °C for 15 minutes. Qualitative analysis shows the presence of flavonoids through a change in the color of the solution to orange. Determination of total flavonoid levels carried out using the colorimetric method with AlCl₃ and CH₃COOK reagents showed that the total flavonoid content in 10% paper flower infusion (10 g/100 mL) was 12.10 ± 0.55 mgEK/10 g. Antioxidant activity was tested using the colorimetric method with DPPH reagent, showing an IC₅₀ value of 10% paper flower infusion of 703.34±12.37 µg/mL, so the strength of the antioxidant activity is very weak because the levels of antioxidant compounds, such as flavonoids, are quite low. This is caused by the difficulty of antioxidant compounds to dissolve in water and the high heating temperature causes damage to antioxidant compounds.*

Keywords: *Antioxidant, Flavonoid, Infusion, Bougainvillea glabra*