

Kadar Antioksidan dan Mutu Organoleptik Minuman Herbal Kombinasi Rambut Jagung (*Zea mays*), Bunga Rosella (*Hibiscus sabdariffa L*), dan Kayu Manis (*Cinnamomum burmannii*)

Althea Margaretha¹, Ninik Rustanti¹, Lilis Wijayanti¹, Gemala Anjani¹

Email : althea.nugroho@gmail.com

ABSTRAK

Latar belakang: Kondisi hiperglikemia pada penderita diabetes melitus memicu terjadinya stres oksidatif yang memicu kerusakan sel dan jaringan. Salah satu upaya alternatif nonfarmakologis yang berpotensi adalah minuman herbal kombinasi tiga bahan yang belum pernah dibuat sebelumnya yaitu rambut jagung, bunga rosella, dan kayu manis yang mengandung antioksidan dan bersifat antidiabetik.

Tujuan: Menganalisis adanya perbedaan kadar antioksidan dan mutu organoleptik pada minuman herbal kombinasi rambut jagung, bunga rosella, dan kayu manis.

Metode: Penelitian eksperimental dengan satu faktor yaitu perbandingan rambut jagung, bunga rosella, dan kayu manis, yaitu F0 (0 : 100% : 0), F1 (33% : 49% : 18%), F2 (35% : 42% : 23%), F3 (37% : 35% : 28%). Uji kadar antioksidan IC₅₀ dilakukan dengan metode DPPH dan uji mutu organoleptik menggunakan uji hedonik 9 titik. Analisis data menggunakan *One-Way ANOVA* dan *Kruskall-Wallis*.

Hasil: Terdapat perbedaan signifikan pada kadar antioksidan IC₅₀ ($p < 0,001$) dan mutu organoleptik ($p < 0,05$) seluruh formulasi minuman herbal. Kadar antioksidan IC₅₀ tertinggi ditemukan pada formulasi F3 sebesar 173,19 µg/ml. Hasil uji mutu organoleptik menunjukkan tingkat kesukaan aspek warna, rasa, dan aroma pada formulasi F1, F2, dan F3 lebih tinggi dibandingkan dengan formulasi F0 (kontrol).

Simpulan: Kombinasi rambut jagung, bunga rosella, dan kayu manis memberikan perbedaan signifikan pada kadar antioksidan dan mutu organoleptik.

Kata kunci: antioksidan, rambut jagung, bunga rosella, kayu manis, minuman herbal

¹Program Studi Gizi, Fakultas Kedokteran, Universitas Diponegoro, Semarang

Evaluation of Antioxidant Levels and Organoleptic Properties of a Herbal Beverage Formulated with Corn Silk (*Zea mays*), Roselle (*Hibiscus sabdariffa* L.), and Cinnamon (*Cinnamomum burmannii*)

Althea Margaretha¹, Ninik Rustanti¹, Lilis Wijayanti¹, Gemala Anjani¹
Email : althea.nugroho@gmail.com

ABSTRACT

Background: Hyperglycemic conditions in individuals with diabetes mellitus can trigger oxidative stress, leading to cellular and tissue damage. A promising non-pharmacological approach is a herbal beverage formulated for the first time from a combination of corn silk, roselle, and cinnamon, which possess antioxidant and antidiabetic properties.

Objective: To analyze the differences in antioxidant levels and organoleptic characteristics of a herbal beverage composed of corn silk, roselle, and cinnamon.

Methods: This experimental study employed with a single factor, examining various formulation ratios of corn silk, roselle, and cinnamon: F0 (0 : 100% : 0), F1 (33% : 49% : 18%), F2 (35% : 42% : 23%), and F3 (37% : 35% : 28%). Antioxidant activity (IC₅₀) was measured using the DPPH radical scavenging assay, while organoleptic quality was evaluated through a 9-point hedonic test. Data were analyzed using One-Way ANOVA and the Kruskal-Wallis test.

Results: A significant difference was observed in both antioxidant activity (IC₅₀) (p<0.001) and organoleptic quality (p<0.05) among the formulations. The highest antioxidant activity was found in formulation F3, with an IC₅₀ of 173.19 µg/mL. Organoleptic evaluation revealed that formulations F1, F2, and F3 received significantly higher preference scores in terms of color, taste, and aroma compared to the control formulation (F0).

Conclusion: The combination of corn silk, roselle, and cinnamon resulted in a significant effect on both antioxidant levels and organoleptic quality.

Keywords: antioxidants, corn silk, roselle, cinnamon, herbal beverage

¹Nutrition Study Program, Faculty of Medicine, Diponegoro University, Semarang