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**FORMULASI DAN UJI ANTIOKSIDAN DENGAN METODE ABTS PADA
SEDIAAN *FACE MIST* MINYAK BIJI BUNGA MATAHARI (*Helianthus
annus L.*) SEBAGAI PELEMBAB WAJAH
ABSTRAK**

Latar Belakang: Untuk mendukung perlindungan kulit, digunakan produk kosmetik seperti *face mist* yang berfungsi sebagai penyegar kulit dengan menggunakan bahan alami. Salah satunya adalah minyak biji bunga matahari (*Helianthus annuus L.*) yang mengandung vitamin E dan senyawa antioksidan yang bermanfaat dalam melindungi kulit dari paparan radikal bebas. Penelitian ini bertujuan untuk memformulasikan sediaan *face mist* berbahan dasar minyak biji bunga matahari serta mengevaluasi karakteristik fisik dan aktivitas antioksidannya.

Metode: Sediaan dibuat dalam tiga formula dengan variasi konsentrasi minyak biji bunga matahari (F1: 3%; F2: 5%; F3: 7%). Uji karakteristik fisik yang dilakukan meliputi organoleptis, pH, bobot jenis, homogenitas, viskositas, daya sebar semprot, waktu kering, dan kelembaban kulit. Uji aktivitas antioksidan dilakukan dengan metode ABTS dan dinyatakan dalam % inhibisi dan data dianalisis menggunakan uji Anova, Normality, Kruskal Wallis, *Post hoc tukey*, Paired t-test, wilcoxon pada SPSS versi 26.

Hasil: Ketiga formula bahwa *face mist* memiliki bentuk cair, bau khas dan sedikit berbau minyak biji bunga matahari, warna dari bening sampai putih kecreaman serta homogen. Nilai pH F0 berkisar 5,17 dan ketiga formulasi mulai dari 5,72 – 6,06, bobot jenis 1,07 – 1,014 g/ml, daya sebar semprot 6,5 – 8 cm, waktu kering 01.21 – 02.48 menit, viskositas 1,00 – 2,20 cP, kelembaban mengalami peningkatan setelah di semprotkan sediaan *face mist*. Nilai IC₅₀ kuersetin 7,125, F1 114,273, F2 2 107,188, dan F3 97,968 ppm.

Kesimpulan: Hasil evaluasi sediaan telah memenuhi standar, terdapat perbedaan yang signifikan pada pH, bobot jenis, daya sebar semprot, waktu kering, viskositas, kelembaban. Aktivitas antioksidan tertinggi terdapat pada F3 disusul F2 dan F1 serta terdapat perbedaan yang signifikan.

Kata kunci: *Face mist*, minyak biji bunga matahari, antioksidan

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**ANTIOXIDANT FORMULATION AND TESTING USING THE ABTS
METHOD ON SUNFLOWER SEED OIL (*Helianthus annuus L.*) FACE MIST
PREPARATIONS AS A FACIAL MOISTURIZER**

ABSTRACT

Background: To support skin protection, cosmetic products such as face mist are used which function as a skin freshener using natural ingredients. One of them is sunflower seed oil (*Helianthus annuus L.*) which contains vitamin E and antioxidant compounds that are beneficial in protecting the skin from exposure to free radicals. This study aims to formulate a face mist preparation made from sunflower seed oil and evaluate its physical characteristics and antioxidant activity.

Method: The preparation is made in three formulas with variations in the concentration of sunflower seed oil (F1: 3%; F2: 5%; F3: 7%). The physical characteristics test carried out included organoleptis, pH, specific weight, homogeneity, viscosity, spray dispersion, dry time, and skin moisture. The antioxidant activity test was carried out using the ABTS method and expressed in % inhibition and the data were analyzed using the Anova, Normality, Kruskal Wallis, Post hoc tukey, Paired t-test, and wilcoxon tests in SPSS version 26.

Results: The three formulas that face mist have a liquid form, a distinctive smell and a slight smell of sunflower seed oil, colors from clear to creamy white and homogeneous. The pH value of F0 ranges from 5.17 and the three formulations range from 5.72 – 6.06, type weight 1.07 – 1.014 g/ml, spray dispersion power 6.5 – 8 cm, drying time 01.21 – 02.48 minutes, viscosity 1.00 – 2.20 cP, moisture increases after spraying face mist preparation. The IC50 values of quercetin are 7.125, F1 is 114.273, F2 2 is 107.188, and F3 is 97.968 ppm.

Conclusion: The results of the evaluation of the preparation have met the standards, there are significant differences in pH, specific gravity, spray dispersion, drying time, viscosity, humidity. The highest antioxidant activity was found in F3 followed by F2 and F1 and there was a significant difference.

Keywords: Face mist, sunflower seed oil, antioxidants