

ABSTRAK

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Judul Skripsi : Analisis Aktivitas Antioksidan dalam Sediaan Toner Wajah yang Mengandung Ekstrak Daging Buah Delima Merah (*Punica granatum* L.) dengan Metode 1,1-Difenil-2-pikrilhidrazil (DPPH) dan Tinjauannya Menurut Pandangan Islam

Latar Belakang: Sumber radikal bebas banyak ditemui di kehidupan kita sehari-hari seperti radiasi sinar *ultraviolet* (UV), polusi dan stres. Paparan radikal bebas yang terus menerus pada kulit wajah dapat menyebabkan penuaan dini. Antioksidan diperlukan untuk memperlambat proses oksidasi senyawa radikal bebas pada kulit. Buah delima merah merupakan salah satu buah yang disebutkan dalam Al-Quran dengan kandungan antioksidan tinggi. Pada penelitian ini dilakukan pengolahan daging buah delima merah menjadi toner wajah yang dapat memiliki aktivitas antioksidan.

Tujuan: Mengetahui aktivitas antioksidan pada toner wajah yang mengandung ekstrak daging buah delima merah yang diujikan dengan metode DPPH dan mengetahui tinjauannya menurut pandangan Islam.

Metode: Daging buah delima merah dihaluskan dengan *blender* dan dimaserasi menggunakan etanol 70% kemudian disaring dan filtratnya dipekatkan dengan *vacuum rotary evaporator* sehingga didapatkan ekstrak kental. Selanjutnya dibuat tiga formulasi toner wajah dengan konsentrasi ekstrak yang berbeda (400 ppm, 800 ppm, 1600 ppm). Masing-masing sampel (ekstrak dan tiga formulasi toner) diukur aktivitas antioksidannya dengan metode DPPH menggunakan asam askorbat sebagai kontrol positif.

Hasil: Aktivitas antioksidan dinyatakan dengan nilai IC_{50} . Nilai IC_{50} ekstrak daging buah delima merah yaitu 295,57 ppm. Nilai IC_{50} pada toner daging buah delima merah formula 1 (400 ppm), 2 (800 ppm) dan 3 (1600 ppm) adalah 598,44 ppm, 487,03 ppm dan 539,88 ppm berturut-turut dan nilai IC_{50} asam askorbat 2,98 ppm.

Kesimpulan: Aktivitas antioksidan pada ekstrak daging buah delima merah termasuk kategori tidak aktif. Aktivitas semua formulasi toner wajah yang mengandung ekstrak daging buah delima merah juga termasuk kategori antioksidan tidak aktif. Toner formulasi 2 yang memiliki aktivitas antioksidan paling baik di antara ketiga formulasi toner wajah. Penelitian ini sejalan dengan perintah Allah SWT yang menganjurkan untuk merawat diri asal tidak melewati batasan.

Kata Kunci: Antioksidan, DPPH, Delima merah (*Punica granatum* L.), Ekstrak daging buah delima merah, IC_{50} (*inhibitory concentration* 50), Toner wajah, Asam askorbat

ABSTRACT

ANTIOXIDANT ACTIVITY ANALYSIS IN RED POMEGRANATE FRUIT (*Punica granatum* L.) AS FACIAL TONER USING 1,1-DIPHENYL-2- PICRYLHYDRAZIL (DPPH) METHOD AND ITS OPINION ACCORDING TO ISLAM PERSPECTIVE

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Background: Sources of free radicals are found in our daily lives such as ultraviolet (UV) radiation, pollution and stress. Continuous exposure to free radicals on facial skin can cause premature aging. Antioxidants are needed to slow down the oxidation process of free radical compounds on the skin. Red pomegranate is one of the fruits mentioned in the Quran with high antioxidant content. In this study, red pomegranate fruit are made into facial toner as an antioxidant.

Subjects: Determines the antioxidant activity of facial toner containing red pomegranate fruit using DPPH method and knowing its opinion according to Islam perspective.

Methods: Red pomegranate fruit was blended using blender and macerated using 70% ethanol then the maceration result was filtered and the filtrate was concentrated using vacuum rotary evaporator so the thick extract was obtained. Furthermore, three facial toner formulations were made with different extract concentrations (400 ppm, 800 ppm, 1600 ppm). Each sample (extract and three toner formulations) was measured for its antioxidant activity by the DPPH method using ascorbic acid as the positive control.

Result: Antioxidant activity was stated by IC_{50} value. IC_{50} value of red pomegranate fruit extract is 295,57 ppm. IC_{50} value in the formula 1 (400 ppm), 2 (800 ppm) and 3 (1600 ppm) red pomegranate toner was 598,44 ppm, 487,03 ppm and 539,88 ppm respectively and IC_{50} value of ascorbic acid is 2,98 ppm.

Conclusion: Antioxidant activity in red pomegranate fruit extract is inactive category. The activity of all facial toner formulations that contain red pomegranate fruit extract also belongs to the category of inactive antioxidants. Toner formulation 2 has the best antioxidant activity among the three facial toner formulations. This research is in line with the command of Allah SWT who advocates to take care of themselves as long as they do not cross the line.

Keywords: Antioxidant, DPPH, Red pomegranate (*Punica granatum* L.), Red pomegranate fruit extract, IC_{50} (inhibitory concentration 50), Facial Toner, Ascorbic Acid