ABSTRAK

POTENSI ANTIOKSIDAN EKSTRAK ETANOL DAUN KELOR (*Moringa oleifera)* SEBAGAI SEDIAAN LOSIO

Daun kelor (*Moringa oleifera*) merupakan tanaman yang memiliki banyak khasiat dan dapat digunakan sebagai zat tambahan dalam sediaan perawatan kulit salah satunya ialah losio yang merupakan emulsi cair yang distabilkan emulgator. Zat aktif yang terkandung di dalam daun kelor yaitu antioksidan yang dapat mencegah penuaan sehingga daun kelor dapat diformulasikan sebagai sediaan losio. Penelitian ini bertujuan untuk mengetahui kandungan metabolit sekuder dalam daun kelor melalui uji fitokimia, mengetahui nilai aktivitas antioksidan yang terkandung di dalam ekstrak daun kelor, mengaplikasikannya ke dalam formula sediaan losio, mengetahui karakteristik produk yang dihasilkan berdasarkan syarat mutu pelembap kulit menurut SNI 16-4399-1996, dan produk losio diuji ketahanannya menggunakan metode TPC selama 30 hari. Daun kelor diekstraksi dengan metode maserasi, kemudian ekstrak diuji fitokimia sehingga diidentifikasi mengandung senyawa flavonoid, saponin, tanin, steroid, triterpenoid, dan alkaloid. Formula sediaan losio yang dibuat ditambahkan ekstrak daun kelor dengan variasi konsentrasi diantaranya yaitu 0%; 0,20%; 0,35%; dan 0,50%. Uji aktivitas antioksidan ekstrak etanol daun kelor dilakukan dengan metode DPPH (2,2-difenil-1-pikrilhidrazil), kemudian serapannya diukur menggunakan spektrofotometer UV-Vis. Hasil penelitian diperoleh kadar antioksidan pada ekstrak daun kelor dengan konsentrasi 5; 10; 20; 40; 80 (ppm) dan didapat nilai y = 0,3938x + 4,6916 dengan nilai regresi sebesar 0,9539, sehingga diperoleh nilai IC_{50} sebesar 115,0543 ppm. Produk losio dengan penambahan ekstrak daun kelor memiliki nilai persen inhibisi yang berbanding lurus dengan variasi konsentrasi ekstrak daun kelor yang ditambahkan ke dalam formula losio yang menunjukkan bahwa semakin besar juga nilai antioksidannya. Produk losio ekstrak daun kelor memenuhi syarat mutu karakterisasi pelembap kulit yang berdasarkan SNI 16-4399-1996 dengan nilai pH 6,43-7,10; stabilitas emulsi 93,8694%-95,3346%; bobot jenis 0,9600-1,0002 g/mL; dan negatif cemaran mikroba. Produk losio ekstrak daun kelor tahan selama 30 hari di suhu ruang dan produk losio yang paling optimum berdasarkan kesukaan panelis ialah losio dengan penambahan ekstrak daun kelor sebesar 0,20% dengan nilai 4,36.

Kata-kata kunci: antioksidan; DPPH; kelor; losio; *Moringa oleifera*.

ABSTRACT

POTENTIAL OF ANTIOXIDANT ETHANOL EXTRACT OF MORINGA LEAVES (Moringa oleifera) AS A LOTION PREPARATION

Moringa leaf (Moringa oleifera) is a plant that has many properties and can be used as an additive in skin care preparations, one of which is lotion which is a liquid emulsion stabilized by an emulsifier. The active substances contained in moringa leaves is an antioxidants that can prevent aging so that moringa leaves can be formulated as lotion preparation. This study aims to determine the content of secondary metabolites in moringa leaves through phytochemical tests, to determine the value of antioxidant activity contained in moringa leaf extract, to apply it to the lotion formula, to determine the characteristics of the resulting product based on the quality requirements of skin moisturizers according to SNI 16-4399-1996, and the resistance of the losio product was tested using the TPC method for 30 days. Moringa leaves were extracted by maceration method, then the extract was tested for phytochemistry so that it was identified as compound flavonoid, saponin, tannin, steroid, triterpenoid, and alkaloid. The formula for the lotion that was made was added with moringa leaf extract with various concentrations including 0%; 0.20%; 0.35%; and 0.50%. The antioxidant activity test of the ethanol extract of Moringa leaves was carried out using the DPPH (2,2-diphenyl-1-picrylhydrazil) method, then the absorption was measured using a UV-Vis spectrophotometer. The results showed that the levels of antioxidants in moringa leaf extract with a concentration of 5; 10; 20; 40; 80 (ppm) and obtained a value of y = 0.3938x + 4.6916 with a regression value of 0.9539, so that the IC_{50} value was 115.0543 ppm. The lotion product with the addition of Moringa leaf extract has a percent inhibition value that is directly proportional to the variation in the concentration of Moringa leaf extract added to the lotion formula which shows that the greater the antioxidant value. The product of Moringa leaf extract lotion fulfills the quality requirements for skin moisturizing characterization based on SNI 16-4399-1996 with a pH value of 6.43-7.10; emulsion stability 93.8694%-95.3336%; specific gravity 0.9600-1.0002 g/mL; and negative microbial contamination. The product of Moringa leaf extract lotion is resistant for 30 days at room temperature and the most optimum product based on the preference of the panelists is the lotion with the addition of moringa leaf extract by 0.20% with a value of 4.36.

Key words: antioxidant; DPPH; moringa; lotion; Moringa oleifera.