

INTISARI

Eupatorium odoratum merupakan tumbuhan obat suku Asteraceae yang memiliki kandungan minyak atsiri. Minyak atsiri daun kering *E.odoratum* diambil dengan dua metode distilasi, yaitu distilasi uap dan distilasi air. Minyak atsiri dari kedua metode dibandingkan perbedaan kadar dan jenis komponen penyusun antara keduanya. Kandungan minyak atsiri tidak dapat dijadikan sebagai parameter standardisasi kandungan kimia pada ekstrak, sehingga perlu dicari kandungan lain dalam tumbuhan. Selain minyak atsiri, daun *E. odoratum* diketahui mengandung flavonoid. Oleh karena itu, kadar flavonoid total dijadikan sebagai parameter standardisasi kandungan kimia ekstrak daun *E. odoratum*. Ekstrak kental memiliki kandungan flavonoid yang lebih besar dibandingkan simplisia, sehingga pada dilakukan penetapan kadar flavonoid total dan dihitung kadar ekivalen flavonoid total ekstrak kental *E. odoratum* terhadap simplisianya.

Daun *E.odoratum* dikeringkan dengan oven, didistilasi secara distilasi air dan distilasi uap. Minyak atsiri hasil distilasi dianalisis secara GC-MS dan profil kromatografi lapis tipisnya. Daun kering *E.odoratum* diserbuk, dan dimaserasi dengan etanol 95%. Maserat diuapkan hingga diperoleh ekstrak kental. Penetapan kadar flavonoid total dilakukan secara spektrofotometri UV-Vis. Data kadar ekivalen flavonoid total daun *E. odoratum* diuji normalitasnya. Jika data terdistribusi normal, maka dilakukan analisis statistik dengan *independent sample t-test*.

Distilasi air dan distilasi uap menghasilkan minyak atsiri dengan kadar dan kandungan utama yang berbeda pada daun *E. odoratum*. Distilasi air menghasilkan rerata rendemen sebesar 0,53 %v/b, sedangkan distilasi uap menghasilkan rerata rendemen sebesar 0,25 %v/b. Profil KLT menunjukkan terdapat bercak yang lebih banyak muncul pada distilat air, sehingga kandungan komponen penyusun minyak atsiri lebih banyak pada distilat air dibandingkan dengan distilat uap. Profil GC-MS menunjukkan bahwa komponen penyusun utama minyak atsiri pada distilat uap adalah *trans*-kariofilen dengan kelimpahan relatif 16,93% dan pada distilat air adalah germakren-d dengan kelimpahan relatif 19,89%. Ekstrak etanolik daun *E. odoratum* memiliki kadar flavonoid total sebesar 3,394 %b/b dan pada simplisia sebesar 1,200 %b/b. Hasil uji statistik menunjukkan terdapat perbedaan yang signifikan kadar flavonoid total antara simplisia dan ekstrak. Ekstrak etanolik daun *E. odoratum* memiliki kadar ekivalen flavonoid total yang lebih rendah dari simplisianya.

Kata kunci : *Eupatorium odoratum* L., kadar ekivalen flavonoid total, minyak atsiri, distilasi.

ABSTRACT

Eupatorium odoratum is a medicinal plant of Asteraceae family, which contains essential oil. Essential oil of these dried leaves was collected with two methods of distillation, water distillation and steam distillation. Yield of oil and main constituent of collected oil were compared within the methods. Essential oil can't be selected for chemical constituents of standardization parameter in plant extract, so it is needed to find other chemical constituents in these plant. Beside essential oil, leaves of *E. odoratum* contain flavonoids. Flavonoid total contents is selected for chemical constituents of standardization parameter in *E. odoratum* leave extracts. Viscoused extract has more flavonoid than the original (simplicia), so the experiment included flavonoid total content and the equivalent flavonoid total of viscous extract of the original is determined.

Leaves of *E. odoratum* was dried by oven, distilled by water distillation and steam distillation. The obtained essential oil was analyzed based on GC-MS profile and thin layer chromatography profile. The dried leaves were pulverized and macerated with ethanol 95%. Macerated liquid was heated until it became viscoused extract. Flavonoid total content was determined using spectrophotometric UV-Vis. Normality of the equivalent flavonoid total content were tested. If these data were distributed normally, the statistical analysis would be with *independent sample t-test*.

Water distillation and steam distillation of *E. odoratum* leaves obtained essential oil with different yield of oil and main constituent. Water distillation resulted the average yield of oil was 0,53 %v/w, meanwhile the steam distillation was 0,25 %v/w. Thin layer chromatography profile shows that there were more constituents seen on essential oil by water distillation, so essential oil obtained by water distillation has more constituents than essential oil obtained by steam distillation. GC-MS profiles shows that main constituent of essential oil obtained by steam distillation is *trans*-caryophyllene (16,93%) and essential oil obtained by water distillation is germacrene-D (19,89%). Flavonoid total content in ethanolic extract of *E. odoratum* leaves is 3,394 %w/w, whereas original one is 1,200 %w/w. Result of statistical test shows that it has a significant difference flavonoid total content between the extract and the original. Ethanolic extract of *E. odoratum* leaves has lower flavonoid total content than the original.

Keywords : *Eupatorium odoratum* L., equivalent flavonoid total content, essential oil, distillation