UJI FITOKIMIA DAN UJI AKTIVITAS ANTIBAKTERI MINYAK ATSIRI DAUN KEMANGI (*Ocimum basilicum* L.) TERHADAP PERTUMBUHAN *Propionibacterium acnes* ATCC 11827 SECARA *IN VITRO*

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ABSTRAK

Minyak atsiri daun kemangi (*Ocimum basilicum* L.) memiliki daya antibakteri terhadap bakteri. Senyawa yang terkandung dalam daun kemangi yang mempunyai aktivitas antibakteri adalah sitral dan neral. Penelitian ini bertujuan untuk mengetahui kandungan komponen kimia melalui uji fitokimia, potensi antibakteri dari minyak atsiri daun kemangi dalam menghambat pertumbuhan *Propionibacterium acnes*, Konsentrasi Hambat Minimum (KHM), dan Konsentrasi Bunuh Minimum (KBM).

Jenis penelitian ini adalah eksperimental. Tahapan penelitian meliputi uji daya antibakteri minyak atsiri daun kemangi dengan beberapa variasi konsentrasi yang didasari oleh uji pendahuluan, yaitu 4% v/v, 6% v/v, 8% v/v, dan 10% v/v dengan metode difusi kertas cakram. Selanjutnya, dilakukan penentuan nilai KHM dengan metode *pour plate* dan KBM dengan metode *streak plate*. Data yang diperoleh dianalisis menggunakan *Analysis of Variance* (ANOVA) SPSS 18. Sebelumnya, data diuji normalitas dan homogenitasnya menggunakan uji normalitas *Shapiro-Wilk*, dilanjutkan uji homogenitas *Levene*. Apabila diperoleh hasill yang berbeda nyata maka dilanjutkan dengan Uji *Least Significant Difference* (LSD) dengan taraf kepercayaan $\alpha = 0{,}05$.

Berdasarkan hasil penelitian, komponen utama penyusun minyak atsiri daun kemangi adalah neral, sitral, α-humulene, β-caryophyllene, linalool, dan germacrene-d. Selain itu, minyak atsiri daun kemangi mempunyai aktivitas antibakteri terhadap pertumbuhan *P. acnes*. Nilai KHM dan KBM minyak atsiri daun kemangi terhadap pertumbuhan *P. acnes* berturut-turut adalah 2% v/v dan 3,5% v/v.

Kata kunci: fitokimia, antibakteri, minyak atsiri, daun kemangi, *Propionibacterium acnes*

PHYTOCHEMICAL SCREENING AND IN-VITRO *ANTIBACTERIAL ACTIVITY OF SWEET BASIL LEAVES (*Ocimum basilicum *L.) ESSENTIAL OIL AGAINST* Propionibacterium acnes *ATCC 11827*

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ABSTRACT

*Sweet basil leaves (*Ocimum basilicum *L.) essential oil has antibacterial power against bacteria. The compounds which can be found in sweet basil leaves are citral and neral. Both of them have been recognized as antibacterial compounds. The objective of this research was to find evaluate the chemical compounds using phytochemical screening, the antibacterial properties of sweet basil essential oil against* Propionibacterium acnes*, Minimum Inhibitory Concentration (MIC), and Minimum Bactericidal Concentration (MBC).*

This research was an experimental study design. Research was started with determining antibacterial activity of solutions containing 4% v/v, 6% v/v, 8% v/v, and 10% v/v sweet basil leaves essential oil, which based on pre-assay, using disc diffusion method. The MIC was assessed using pour plate method. Lastly, the MBC was assessed using streak plate method. Data were analyzed using the one-way analysis of variance (ANOVA) SPSS 18. Previously, data were tested for normality and homogeneity of variance, using Shapiro-Wilk and Levene tests, respectively. If there were statistically significant differences between group means as determined by one-way ANOVA, then follow-up test was needed by running Least Significant Difference at 5-percent level.

The results revealed the main chemical compounds of sweet basil essential oil are neral, sitral, α-humulene, β-caryophyllene, linalool, and germacrene-d. Furthermore, sweet basil essential oil showed antibacterial activity against P. acnes *growth. The MIC and MBC values for sweet basil essential oil against* P. acnes *were 2% v/v and 3,5% v/v, respectively.*

Keywords: *phytochemical, antibacterial, sweet basil, essential oil,* Propionibacterium acnes