ABSTRAK

EFEKTIVITAS EKSTRAK ETANOL BIJI PEPAYA CALIFORNIA (*Carica papaya* L. var. Callina) TERHADAP PENGHAMBATAN PERTUMBUHAN *Candida tropicalis* PENYEBAB *ORAL CANDIDIASIS* SECARA IN VITRO

Nurul Fajar Fitriani

Candida tropicalis merupakan spesies *non-Candida albicans Candida* (NCAC) yang memiliki virulensi paling tinggi. *Candida tropicalis* ditemukan sebesar 50%-70% dalam rongga mulut individu yang sehat dan merupakan salah satu penyebab infeksi oportunistik *oral candidiasis*. Ekstrak etanol biji pepaya California (*Carica papaya* L. var. Callina) memiliki aktivitas antijamur yang berpotensi sebagai alternatif pengobatan *oral candidiasis* karena memiliki kandungan senyawa saponin, flavonoid, tanin, dan triterpenoid. Tujuan penelitian ini untuk mengetahui efektivitas ekstrak etanol biji pepaya California dalam menghambat pertumbuhan *C. tropicalis* penyebab *oral candidiasis*. Penelitian dilakukan secara eksperimental laboratoris dengan 5 kelompok ekstrak, yaitu 3,125 mg/mL, 6,25 mg/mL, 12,5 mg/mL, 25 mg/mL, dan 50 mg/mL, kontrol positif (nistatin), dan kontrol negatif (DMSO 1%). Uji penghambatan pertumbuhan *Candida* menggunakan metode dilusi cair dilanjutkan dengan penanaman pada media SDA dengan pengulangan 4 kali. Jumlah koloni yang tumbuh dihitung menggunakan *Total Plate Count.* Data jumlah koloni dianalisis secara statistik menggunakan uji *One-Way ANOVA* dan dilanjutkan uji *Post Hoc LSD*. Hasil penelitian menunjukkan belum didapatkan nilai KHM namun terdapat penurunan pertumbuhan *C. tropicalis* seiring peningkatan konsentrasi ekstrak etanol biji pepaya California. Aktivitas penghambatan tertinggi terdapat pada konsentrasi 50 mg/mL (70,48%) dan menunjukkan tidak berbeda bermakna dibandingkan nistatin ($p \geq 0,05$). Simpulan penelitian ini adalah ekstrak etanol biji pepaya California memiliki aktivitas penghambatan terhadap pertumbuhan *C. tropicalis* dengan konsentrasi paling efektif adalah 50 mg/mL, namun nilai KHM belum ditemukan.

Kata kunci: *Candida tropicalis*, *Carica papaya* L. var. Callina, *Oral candidiasis*

ABSTRACT

EFFECTIVENESS OF CALIFORNIA PAPAYA (Carica papaya L. var. Callina) *SEED ETHANOL EXTRACT ON THE GROWTH INHIBITION OF Candida tropicalis AS THE CAUSE OF ORAL CANDIDIASIS*

Nurul Fajar Fitriani

Candida tropicalis is a species non-Candida albicans Candida (NCAC) which has the highest virulence. Candida tropicalis was found in 50%-70% in the oral cavity of healthy individuals and one of the causes of oral candidiasis opportunistic infection. The ethanol extract of California papaya seeds (Carica papaya L. var. Callina) has antifungal activity which has potential as an alternative treatment for oral candidiasis because contains saponins, flavonoids, tannins, and triterpenoids. The aim of this study was to determine the effectiveness of California papaya seeds ethanol extract againts C. tropicalis growth which causes oral candidiasis. This study was an experimental laboratory with 5 extract groups 3,125 mg/mL, 6,25 mg/mL, 12,5 mg/mL, 25 mg/mL, and 50 mg/mL, positive control (nystatin), and negative control (DMSO 1%). The Candida growth inhibition test method was broth serial dilution followed with colony cultivating in SDA media with 4 repetitions. Total Plate Count method was carried to count the colonies growth. Data of colony count were statistically analyzed using One-Way ANOVA test and followed by Post Hoc LSD test. The results showed that the MIC value had not been obtained but there was an decrease in the percentage of C. tropicalis growth inhibition as increased the concentration of the California papaya seed ethanol extract. The highest inhibition was found at concentration 50 mg/mL (70,48%) and showed significantly different from nystatin ($p \geq 0.05$). The conclusion of this study is that the ethanol extract of California papaya seeds has inhibitory activity on the growth of C. tropicalis with the most effective concentration is 50 mg/mL, but the MIC value has not been found.

Key word: *Candida tropicalis*, *Carica papaya* L. var. Callina, *Oral candidiasis*