INTISARI

Candida albicans merupakan salah satu flora normal yang dapat ditemukan pada individu seperti di area rongga mulut. Peningkatan pertumbuhannya dapat menyebabkan infeksi *oral candidiasis*. Ekstrak daun kemangi (*Ocimum sanctum L.*) telah terbukti memiliki kemampuan antifungi terhadap *C. albicans* dengan kandungan senyawa kimia yang terdapat di dalamnya, di antaranya flavonoid, tanin, saponin, alkaloid, eugenol, dan minyak atsiri. Tujuan dari penelitian ini adalah untuk mengetahui efek durasi paparan ekstrak daun kemangi 12,5% terhadap pertumbuhan *Candida albicans* ATCC 10231.

Uji pengaruh durasi paparan dilakukan replikasi sebanyak tiga kali pada masing-masing sampel kelompok perlakuan, yaitu ekstrak daun kemangi 12,5%, *chlorhexidine* 0,2%, dan Phosphate Buffered Saline (PBS). Pengujian dilakukan menggunakan durasi paparan 30 detik, 1 menit, dan 2 menit kemudian diinokulasikan pada media *Sabouraud Dextrose Agar* (SDA). Setelah prosedur inokulasi dilanjutkan dengan inkubasi pada suhu 37°C selama 24 jam. Jumlah koloni jamur yang tumbuh pada media SDA dihitung menggunakan *standard plate count* dan dianalisis menggunakan statistik pada $p<0,05$.

Hasil uji *Two-Ways ANOVA* menunjukkan perbedaan yang signifikan pada jumlah koloni *C. albicans* ATCC 10231 berdasarkan durasi paparan, larutan uji, dan hubungan keduanya. Hasil uji *Post-hoc Tukey* antara ekstrak daun kemangi 12,5% dibandingkan dengan *chlorhexidine* 0,2% dan PBS berbeda signifikan pada setiap durasi paparan, kemampuannya lebih rendah dibandingkan kontrol positif dan lebih tinggi dibandingkan kontrol negatif. Antara durasi paparan 1 menit signifikan sama dengan 2 menit pada paparan ekstrak. Kesimpulan dari penelitian ini adalah durasi paparan ekstrak daun kemangi 12,5% bermakna berpengaruh menghambat pertumbuhan koloni *C. albicans* ATCC 10231 dan kemampuannya masih di bawah *chlorhexidine* 0,2%.

Kata kunci: *Candida albicans* ATCC 10231, ekstrak daun kemangi (*Ocimum sanctum L.*), t*ime-kill assay*

ABSTRACT

Candida albicans is known as one of the normal flora that can be found in individuals, such as in the oral cavity area. The overgrowth of this species can cause in oral candidiasis infections. *Ocimum sanctum L.* leaves has been proven to possess antifungal properties against *C. albicans* due to the presence of various chemical compounds, including flavonoids, tannins, saponins, alkaloids, eugenol, and essential oils. The aim of this study was to determine the effect of exposure duration of 12,5% *Ocimum sanctum L.* extract on the growth of *C. albicans* ATCC 10231.

The test of exposure duration effect was replicated three times for each group sample, including 12,5% *Ocimum sanctum L.* extract, 0,2% *chlorhexidine gluconate*, and Phosphate Buffered Saline (PBS). The test was performed using exposure durations of 30 seconds, 1 minute, and 2 minutes, followed by inoculation on *Sabouraud Dextrose Agar* (SDA) medium. After the inoculation procedure, incubation was carried out at 37°C for 24 hours. The number of fungal colonies grown on the SDA medium were counted using the standard plate count method and analyzed statistically at $p<0,05$.

The results of the Two-way ANOVA test showed that significant differences was found in the number of *C. albicans* ATCC 10231 colonies based on exposure duration, test solutions, and the interaction of both factors. The results of the *Post-hoc Tukey HSD* test revealed that significant differences were observed between 12,5% *Ocimum sanctum L.* extract compared to 0,2% *chlorhexidine* and PBS at each exposure duration, its effectiveness was found to be lower than the positive control and higher than the negative control. No significant difference was found between the exposure durations of 1 minute and 2 minute with the extract. In conclusion, the exposure duration of 12,5% *Ocimum sanctum L.* extract was shown to significantly inhibit the growth of *C. albicans* ATCC 10231 colonies and its effectiveness is still considered to be lower than that of 0,2% *chlorhexidine*.

Keywords: *Candida albicans* ATCC 10231, *Ocimum sanctum L.* extract, t*ime-kill assay*