

## DAFTAR PUSTAKA

- Ackhar JM dan Fries BC. 2010. Candida infection of the Genitourinary track clinical microbiology review: 253-273.
- Alberts B, Johnson A, Lewis J, Raff, M., Roberts, K dan Walter, P. 2002. Molecular Biology of the Cell. 4<sup>th</sup> Edition. New York: [Garland Science](#).
- Altieri, C., Bevilacqua, A., Cardillo, D., Sinigaglia, M., 2009. Antifungal activity of fatty acids and their monoglycerides against Fusarium spp. in a laboratory medium. *Int. J. Food Sci. Technol.* 44, 242-245.
- Alves, A., Filho, D. O., Mara, H., Fernandes, B., dan Sousa, J. P. De., 2016. In vitro anti-Candida activity and mechanism of action of the flavonoid isolated from Praxelis clematidea against Candida albicans species. *Journal of Applied Pharmaceutical Science* 6(01), hal. 66-69. <https://doi.org/10.7324/JAPS.2016.600111>
- Andarwulan, N. Batari, R., Sandrasari, D.A., Bolling, B. dan Wijaya, H. 2010. Flavonoid content and antioxidant activity of vegetables from Indonesia. *Food Chemistry*, 121(4) :1231-1235.
- Avis, T.J., 2007. Antifungal compounds that target fungal membranes: applications in plant disease control. *Can. J. Plant Pathol.* 29, 323-329.
- Bararti, B Dkk, 2011. Otomikosis in central iran: A Clinical and Mycological Study. *Iran Red Crescent med J* 2011;13 (12):873- 876. Vol.13. www.ircmj.com, diakses pada tanggal 05 Maret 2021.
- Bergsson, G., Arnfinnsson, J., Steingrímsson O, null, Thormar, H., 2001. In vitro killing of Candida albicans by fatty acids and monoglycerides. *Antimicrob. Agents Chemother.* 45, 3209-3212.
- Bode, A.M., Dong, Z. 2011. The Amazing and Mighty Ginger. *Herbal Medicine: Biomolecular and Clinical Aspects*, 2<sup>nd</sup> Edition., CRC Press/Taylor & Francis, chapter 7. (Online). ([https://www.ncbi.nlm.nih.gov/books/NBK92775/#\\_ch7\\_sec4](https://www.ncbi.nlm.nih.gov/books/NBK92775/#_ch7_sec4)). Diakses 29 Oktober 2018 pukul 17.00)
- Campbell, N.A, Reece, J.B, Mitchell, L.G. 2002. *Biologi*. 1. Diterjemahkan oleh R. Lestari dkk. (edisi ke-5). Jakarta: Erlangga. [ISBN 9796884682](#).
- Candiracci, M. Citteruio, B., Diamantini, G., Blasa, M., Accorso, A. dan Piatì, E., 2011. Honey flavonoids, natural antifungal agents against Candida albicans. *International Journal of Food Properties*, 14(4): 799-808.
- Casalinoovo, I. A., Francesco, P. D. I., dan Garaci, E., 2004. Fluconazole

- resistance in *Candida albicans* : a review of mechanisms. *European Review for Medical and Pharmacological Sciences*, 8, hal. 69-77.
- Chairani, E. dan Supriatna, J., 2018. The Antifungal Inhibitory Concentration Effectiveness Test From Ethanol Seed Arabica Coffee ( *Coffea arabica* ) Extract Against The Growth Of *Candida albicans* Patient Isolate With In Vitro Method.
- Corrêa, J. C. R., dan Salgado, H. R. N., 2011. Review of fluconazole properties and analytical methods for its determination. *Critical Reviews in Analytical Chemistry*, 41(3), 270-279. <https://doi.org/10.1080/10408347.2011.588924>
- Da Silva, C.R. et al., 2014. Synergistic effect of the flavonoid catechin, quercetin, or epigallocatechin gallate with fluconazole induces apoptosis in *Candida tropicalis* resistant to fluconazole. *Antimicrobial Agents and Chemotherapy*, 58(3):1468-1478.
- de Oliveira, M. R., Nabavi, S. M., Braidy, N., Setzer, W. N., Ahmed, T., dan Nabavi, S. F., 2016. Quercetin and the mitochondria: A mechanistic view. *Biotechnology Advances*, 34(5) : 532-549.
- Desbois, A.P., Smith, V.J., 2010. Antibacterial free fatty acids: activities, mechanisms of action and biotechnological potential. *Appl. Microbiol. Biotechnol.* 85, 1629-1642.
- Dhingra, PL Dhingra, Shurti, 2012. Disease Of Ear, Nose, and Thruuat. 5Th Edition. India; Elsevier.
- Dowd, F. J., 2014. *Candida albicans infections*. xPharm: The Comprehensive Pharmacology Reference. Elsevier Inc. <https://doi.org/10.1016/B978-008055232-3.60909-2>
- Fathona, D. 2011. ‘Kandungan Gingerol dan Shogaol, Intensitas Kepedasan, dan Penerimaan Panelis terhadap Oleoresin Jahe Gajah (*Zingiber officinale* var. Roscoe), Jahe Emprit (*Zingiber officinale* var. Amarum), dan Jahe Merah (*Zingiber officinale* var. Rubrum). (Online). ([https://repository.ipb.ac.id/jspui/bitstream/123456789/51192/4/F11dfa\\_Abstract.pdf](https://repository.ipb.ac.id/jspui/bitstream/123456789/51192/4/F11dfa_Abstract.pdf)). Diakses 6 November 2018 pukul 22.00).
- Gao, M., Wang, H. and Zhu, L., 2016. Quercetin Assists Fluconazole to Inhibit Biofilm Formations of Fluconazole-Resistant *Candida Albicans* in In Vitro and in Vivo Antifungal Managements of Vulvovaginal Candidiasis. *Cellular Physiology and Biochemistry*, 40(3-4): 727-742.
- Hargono, Pradhita, F., Aulia, M. P. 2013. ‘Pemisahan Gingerol dari Rimpang Jahe

- Segar melalui Proses Ekstraksi secara Batch'. *Momentum*, 9 (2): 16-21
- Hasan, I. 2012. Pokok-Pokok Materi *Statistik I (Statistik Deskriptif)*. Jakarta: Bumi Aksara.
- Huang, C.B., Alimova, Y., Myers, T.M., Ebersole, J.L., 2011. Short- and medium-chain fatty acids exhibit antimicrobial activity for oral microorganisms. *Arch. Oral Biol.* 56, 650-654.
- Humaira, Cut Firza. 2012. Prevalensi otomikosis pada mahasiswa PSPD FKIK UIN Syarif Hidayatullah Jakarta dan Faktor yang mempengaruhinya. (<http://journals.cambridge.org>). Diakses pada 05 Maret 2021.
- Jia, C. Zhang, J., Yu, L. dan Wang, C. 2019. Antifungal Activity of Coumarin Against *Candida albicans* Is Related to Apoptosis. *Frontiers in Cellular and Infection Microbiology*, 8 (January): 1-13.
- Kim, S., Woo, E.R. and Lee, D.G. 2019. Synergistic Antifungal Activity of Isoquercitrin: Apoptosis and Membrane Permeabilization Related to Reactive Oxygen Species in *Candida albicans*. *IUBMB Life*, 71(2) : 283-292.
- Kumar, R., Kaur, M. dan Silakari, O., 2013. Chemistry and Biological Activities of Thioacridines/Thioacridones, *Mini-Reviews in Medicinal Chemistry*, 13(8), hal. 1220-1230. doi: 10.2174/1389557511313080008.
- Liu, X., Ma, Z., Zhang, J. and Yang, L., 2017. Antifungal Compounds against *Candida* Infections from Traditional Chinese Medicine . *BioMed Research International* : 1-12.
- Martínez C, M., Pacheco-Yepez, J., Flores-Huerta, N., Guzmán-Téllez, P., Jarillo-Luna, R. A., Cárdenas-Jaramillo, L. M., ... Shibayama, M., 2018. Flavonoids as a Natural Treatment Against *Entamoeba histolytica*. *Frontiers in Cellular and Infection Microbiology*, 8(June) : 1-14.
- Mert, F. 2005. 'Saponins Versus Plant Fungal Pathogens'. *Journal of Cell and Molecular Biology*, 5 (1): 13.
- Mulyadi, A. F., Schreiner, M. and Dewi, I. A. (20 18). Phenolic and volatile compounds, antioxidant activity,.and sensory properties of Virgin Coconut Oil: Occurrence · and their relationship with quality. AIP Conference Proceedings, doi: 10.1063/ 1.5062818.
- Musa, N. L. W., Zain, W. Z. W. M., Kassim, J., dan Karim, S. A., 2011. Premilinary studies on phytochemical screening of ulam and fruit from Malaysia. *Journal of Chemistry*, 8(S1), S285-S288 <https://doi.org/10.1155/2011/464595>.
- Mutiawati, V. K., 2016. Pemeriksaan mikrobiologi pada candida albicans. *Jurnal*

- Kedokteran Syiah Kuala (JKS)*, **16**(1), hal. 53-63.
- Narayananakutty, A. et al. (2021). Curcumin Enriched VCO Protects against 7,12-Dimethyl Benz[a] Anthracene-Induced Skin Papilloma in Mice. *Nutrition and Cancer*, **73**(5), pp. 809-816. doi: 10.1080/01635581.2020.1778745.
- Nasirudeen, A. M. A., dan Tan, K. S., 2004. Caspase-3-like protease influences but is not essential for DNA fragmentation in *Blastocystis* undergoing apoptosis. *European journal of cell biology*, **83**(9), hal. 477.
- Nett, J.E., dan Andes, D.R. 2012. Antifungals: Drug Class, Mechanisms of Action, Pharmacokinetics/Pharmacodynamics, Drug-Drug Interactions, Toxicity, and Clinical Use. In *Candida and Candidiasis*, R.A. Calderone, and C.J. Clancy, eds. (Washington, D.C., ASM Press) : 345-371.
- Oliva, M. de las M., Gallucci, M. N., Carezzano, M. E., dan Demo, M. S., 2013. *Natural Products as Alternative Treatments for Candida Species Resistant to Conventional Chemotherapeutics. Fighting Multidrug Resistance with Herbal Extracts, Essential Oils and their Components*, hal. 31-43. <https://doi.org/10.1016/B978-0-12-398539-2.00004-5>
- Perlin, D. S., Rautemaa-richardson, R., dan Alastryey-izquierdo, A., 2017. The global problem of antifungal resistance : prevalence , mechanisms , and management. *The Lancet Infectious Diseases*, **17**(12), hal. e383-e392. [https://doi.org/10.1016/S1473-3099\(17\)30316-X](https://doi.org/10.1016/S1473-3099(17)30316-X)
- Pfaller, M. A., 2012. Antifungal Drug Resistance : Mechanisms, Epidemiology, and Consequences for Treatment. *AJM*, **125**(1), hal. S3-S13. <https://doi.org/10.1016/j.amjmed.2011.11.001>
- Podolak I., Galanty, A., Sobolewska, D. 2010. 'Saponins as Cytotoxic Agents: a Review'. *Phytocom Rev*, **9** (1): 426.
- Rajput, S.B. and Karuppayil, S.M., 2013. Small molecules inhibit growth , viability and ergosterol biosynthesis in *C. albicans*: 1-6.
- Rakatama A.S, Pramono A, Yulianti R. 2018. The Antifungal Inhibitory Concentration Effectiveness Test From Ethanol Seed Arabica Coffee (*Coffea arabica*) Extract Against The Growth Of *Candida albicans* Patient Isolate With In Vitro Method. *J. Phys.: Conf. Ser.* 970 012023
- Ramadhan, F., Mukarramah, L., Risma, F. A., Yulian, R., Annisyah, N. H., dan Asyiah, I. N., 2018. Flavonoids From Endophytic Bacteria of *Cosmos Caudatus Kunth*. Leaf As Anticancer and Antimicrobial. *Asian Journal of Pharmaceutical and Clinical Research*, **11**(1), hal. 200.

<https://doi.org/10.22159/ajpcr.2017.v11i1.21987>

- S. S. W. Wong, L. P. Samaranayake, and C. J. Seneviratne. 2014. "In pursuit of the ideal antifungal agent for Candida infections: high-throughput screening of small molecules," *DrugDiscovery Therapy*, **19** (11) : 1721- 1730.
- Sani, Fathnur K., 2016. *Metode Penelitian Farmasi Komunitas dan Eksperimental*. Yogyakarta : Deepublish.
- Sastroasmoro S. 2011. Dasar-dasar Metodologi Penelitian Klinis. Jakarta: Sagung Seto.
- Sedjawidada R, dkk, 2013. Bagian Telinga Hidung Tenggorokan Fakultas Kedokteran Universitas Hasanuddin. Kejadian koloni Jamur pada penderita Otore Dengan Berbagai Penyebab Di Poliklinik THT Rumah sakit Pendidikan Unhas, **1** (1); 1-14
- Seong, M. dan Lee, D.G., 2018. Reactive oxygen species-independent apoptotic pathway by gold nanoparticles in *Candida albicans*. *Microbiological Research*, **207**(August 2017): 33-40.
- Supreetha, S., Mannur, S., Simon, S. P., Jain, J., Tikare, S., Mahuli, A. 2011. 'Antifungal Activity of Ginger Extract on *Candida albicans*: An In-vitro Study'. *Journal of Dental Sciences and Research*, **2**: 1-5.
- Tiwari Kumar, Kaur Mandeep, Kaur Gurpreet and Kaur Harleem. 2011. Phytochemical Screening and Extraction: A review. *Internationale Pharmaceutica Scienzia* Vol. **1**(1).
- Tone, S., Sugimoto, K., Tanda, K., Suda, T., Uehira, K, Kanouchi, H. et al. 2007. Three distinct stages of apoptotic nuclear condensation revealed by time-lapse imaging, biochemical and electron microscopy analysis of cell-free apoptosis. *Exp Cell Res. 2007 Oct 1; 313*(16): 3635-3644
- Vikrant, P., Priya, J., Nirichan, K. B. 2015. 'Plants with Anti-*Candida* Activity and Their Mechanism of Action: A Review'. *Journal of Environmental Research and Development*, **9** (4): 1189-1196.
- Wattier, R. L., dan Steinbach, W. J., 2018. *Antifungal Agents*. In Principles and Practice of Pediatric Infectious Diseases (Fifth Edition), hal. 1532-1541. Elsevier Inc. [https://doi.org/10.1016/S0065-7743\(08\)61513-4](https://doi.org/10.1016/S0065-7743(08)61513-4)
- Yugo M.R dan Ridhawati. 2013. Pola kepekaan *Candida albicans* terhadap Fluconazol dan Itrakonazil secara in-vitro : tinjauan pada bahan klinik Laboatorium Mikologi Departemen Parasitologi FKUI periode 2010- 1011. FKUI.

## LAMPIRAN

### Lampiran 1. Sertifikat Kelayakan Etik



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI  
UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN  
KOMITE ETIK PENELITIAN UNIVERSITAS HASANUDDIN  
RSPTN UNIVERSITAS HASANUDDIN  
RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR  
Sekretariat : Lantai 2 Gedung Laboratorium Terpadu  
JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.



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### REKOMENDASI PERSETUJUAN ETIK

Nomor : 70/UN4.6.4.5.31 / PP36/ 2024

Tanggal: 29 Januari 2024

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH23100783	No Sponsor	
Peneliti Utama	<b>dr. Sulpikar Habibie</b>	Sponsor	
Judul Peneliti	<b>UJI EFEKTIVITAS ANTI JAMUR EKSTRAK JAHE (<i>Zingiber Officinale</i>) DAN VIRGIN COCONUT OIL (VCO) TERHADAP PERTUMBUHAN <i>Candida albicans</i> SECARA IN VITRO DI MAKASSAR</b>		
No Versi Protokol	2	Tanggal Versi	<b>26 Januari 2024</b>
No Versi PSP	2	Tanggal Versi	<b>26 Januari 2024</b>
Tempat Penelitian	Laboratorium Mikrobiologi Balai Besar Laboratorium Kesehatan Makassar		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard Tanggal	Masa Berlaku <b>29 Januari 2024</b> sampai <b>29 Januari 2025</b>	Frekuensi review lanjutan
Ketua KEP Universitas Hasanuddin	Nama <b>Prof. dr. Muh Nasrum Massi, PhD, SpMK, Subsp. Bakt(K)</b>	Tanda tangan	
Sekretaris KEP Universitas Hasanuddin	Nama <b>dr. Firdaus Hamid, PhD, SpMK(K)</b>	Tanda tangan	

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 jam dan dilengkapi dalam 7 hari dan Lapor SUSAR dalam 72 jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari protokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

**Lampiran 2.** Hasil Uji Normalitas, Uji Homogenitas dan *One Way ANOVA*

**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Jumlah Koloni	,137	32	,135	,963	32	,324

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Keterangan : Hasil Uji Normalitas

Jumlah Koloni

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
K (-)	4	19.00	1.826	.913	16.09	21.91	17	21
E. Jahe 1%	4	17.25	2.062	1.031	13.97	20.53	15	19
E. Jahe 2%	4	15.25	.957	.479	13.73	16.77	14	16
VCO 1%	4	13.00	1.155	.577	11.16	14.84	12	14
VCO 2%	4	11.25	.500	.250	10.45	12.05	11	12
Kombinasi 1%	4	9.25	1.708	.854	6.53	11.97	7	11
Kombinasi 2%	4	.00	.000	.000	.00	.00	0	0
Fluconazole 2%	4	.00	.000	.000	.00	.00	0	0
Total	32	10.63	6.992	1.236	8.10	13.15	0	21

Keterangan : Hasil Uji Homogenitas

**ANOVA**

Jumlah Koloni

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1476.500	7	210.929	129.802	.000
Within Groups	39.000	24	1.625		
Total	1515.500	31			

Keterangan : Hasil Uji One Way ANOVA

### Lampiran 3. Hasil Uji Post Hoc Tukey

#### Multiple Comparisons

Dependent Variable: Jumlah Koloni  
Tukey HSD

(I) Kelompok	(J) Kelompok	Mean Difference(I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K (-)	E. Jahe 1%	1.75	.901	.538	-1.24	4.74
	E. Jahe 2%	3.75*	.901	.007	.76	6.74
	VCO 1%	6.00*	.901	.000	3.01	8.99
	VCO 2%	7.75*	.901	.000	4.76	10.74
	Kombinasi 1%	9.75*	.901	.000	6.76	12.74
	Kombinasi 2%	19.00*	.901	.000	16.01	21.99
	Fluconazole 2%	19.00*	.901	.000	16.01	21.99
E. Jahe 1%	K (-)	-1.75	.901	.538	-4.74	1.24
	E. Jahe 2%	2.00	.901	.376	-.99	4.99
	VCO 1%	4.25*	.901	.002	1.26	7.24
	VCO 2%	6.00*	.901	.000	3.01	8.99
	Kombinasi 1%	8.00*	.901	.000	5.01	10.99
	Kombinasi 2%	17.25*	.901	.000	14.26	20.24
	Fluconazole 2%	17.25*	.901	.000	14.26	20.24
E. Jahe 2%	K (-)	-3.75*	.901	.007	-6.74	-.76
	E. Jahe 1%	-2.00	.901	.376	-4.99	.99
	VCO 1%	2.25	.901	.244	-.74	5.24
	VCO 2%	4.00*	.901	.004	1.01	6.99
	Kombinasi 1%	6.00*	.901	.000	3.01	8.99
	Kombinasi 2%	15.25*	.901	.000	12.26	18.24
	Fluconazole 2%	15.25*	.901	.000	12.26	18.24
VCO 1%	K (-)	-6.00*	.901	.000	-8.99	-3.01
	E. Jahe 1%	-4.25*	.901	.002	-7.24	-1.26
	E. Jahe 2%	-2.25	.901	.244	-5.24	.74
	VCO 2%	1.75	.901	.538	-1.24	4.74
	Kombinasi 1%	3.75*	.901	.007	.76	6.74
	Kombinasi 2%	13.00*	.901	.000	10.01	15.99
	Fluconazole 2%	13.00*	.901	.000	10.01	15.99
VCO 2%	K (-)	-7.75*	.901	.000	-10.74	-4.76
	E. Jahe 1%	-6.00*	.901	.000	-8.99	-3.01
	E. Jahe 2%	-4.00*	.901	.004	-6.99	-1.01
	VCO 1%	-1.75	.901	.538	-4.74	1.24
	Kombinasi 1%	2.00	.901	.376	-.99	4.99
	Kombinasi 2%	11.25*	.901	.000	8.26	14.24
	Fluconazole 2%	11.25*	.901	.000	8.26	14.24
Kombinasi 1%	K (-)	-9.75*	.901	.000	-12.74	-6.76
	E. Jahe 1%	-8.00*	.901	.000	-10.99	-5.01
	E. Jahe 2%	-6.00*	.901	.000	-8.99	-3.01
	VCO 1%	-3.75*	.901	.007	-6.74	-.76
	VCO 2%	-2.00	.901	.376	-4.99	.99
	Kombinasi 2%	9.25*	.901	.000	6.26	12.24
	Fluconazole 2%	9.25*	.901	.000	6.26	12.24
Kombinasi 2%	K (-)	-19.00*	.901	.000	-21.99	-16.01
	E. Jahe 1%	-17.25*	.901	.000	-20.24	-14.26
	E. Jahe 2%	-15.25*	.901	.000	-18.24	-12.26
	VCO 1%	-13.00*	.901	.000	-15.99	-10.01
	VCO 2%	-11.25*	.901	.000	-14.24	-8.26
	Kombinasi 1%	-9.25*	.901	.000	-12.24	-6.26
	Fluconazole 2%	.00	.901	1.000	-2.99	2.99
Fluconazole 2%	K (-)	-19.00*	.901	.000	-21.99	-16.01
	E. Jahe 1%	-17.25*	.901	.000	-20.24	-14.26
	E. Jahe 2%	-15.25*	.901	.000	-18.24	-12.26
	VCO 1%	-13.00*	.901	.000	-15.99	-10.01
	VCO 2%	-11.25*	.901	.000	-14.24	-8.26
	Kombinasi 1%	-9.25*	.901	.000	-12.24	-6.26
	Kombinasi 2%	.00	.901	1.000	-2.99	2.99

\*. The mean difference is significant at the .05 level.

Keterangan : Hasil Uji Post Hoc Tukey

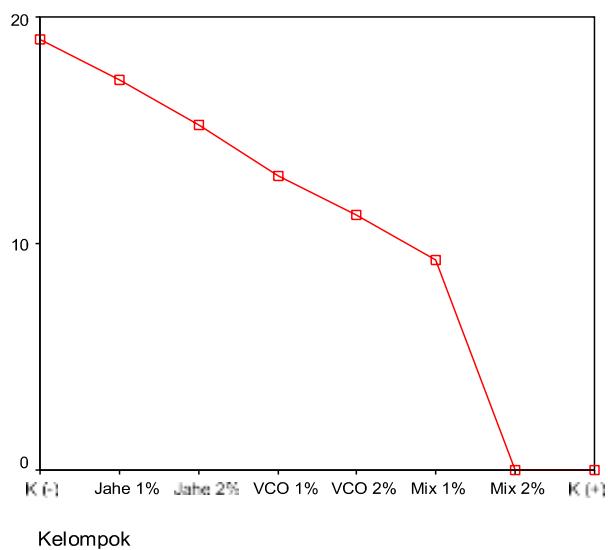
**Lampiran 4.** Hasil Uji Post Hoc Tukey dan Grafik Jumlah Koloni *Candida albicans*

Kelompok	N	Jumlah Koloni					
		Subset for alpha = .05					
		1	2	3	4	5	6
Fluconazole 2%	4	.00					
Kombinasi 2%	4	.00					
Kombinasi 1%	4		9.25				
VCO 2%	4			11.25	11.25		
VCO 1%	4				13.00	13.00	
E. Jahe 2%	4					15.25	15.25
E. Jahe 1%	4					17.25	17.25
Kontrol (-)	4						19.00
Sig.		1.000	.376	.538	.244	.376	.538

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.

Keterangan : Hasil Uji Post Hoc Tukey



Keterangan : Grafik Jumlah Koloni *Candida albicans*

**Lampiran 5.** Hasil Uji Korelasi Pearson dan Uji Regresi

**Correlations**

		Konsentrasi	Jumlah Koloni
Konsentrasi	Pearson Correlation	1	-.921*
	Sig. (2-tailed)	.	.000
	N	28	28
Jumlah Koloni	Pearson Correlation	-.921**	1
	Sig. (2-tailed)	.000	.
	N	28	28

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Keterangan : Hasil Uji Korelasi Pearson

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.921 <sup>a</sup>	.847	.842	2.421

a. Predictors: (Constant), Konsentrasi

Keterangan : Hasil Uji Regresi

**Lampiran 6.** Hasil Uji Normalitas, Uji Homogenitas dan *One Way ANOVA*

**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ketebalan Jamur	,152	32	,059	,953	32	,173

a. Lilliefors Significance Correction

Keterangan : Hasil Uji Normalitas

**Descriptives**

Ketebalan Jamur

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
K (-)	4	225,4200	1,01807	,50904	223,8000	227,0400	224,53	226,86
E. Jahe 1%	4	158,8200	,16593	,08297	158,5560	159,0840	158,62	158,98
E. Jahe 2%	4	156,4200	,49234	,24617	155,6366	157,2034	155,86	156,90
VCO 1%	4	125,4425	1,08607	,54304	123,7143	127,1707	124,21	126,81
VCO 2%	4	123,6400	,23594	,11797	123,2646	124,0154	123,45	123,98
Kombinasi 1%	4	102,7425	,27403	,13701	102,3065	103,1785	102,42	102,98
Kombinasi 2%	4	70,0400	1,07502	,53751	68,3294	71,7506	68,45	70,82
Fluconazole 2%	4	68,9325	,54993	,27497	68,0574	69,8076	68,53	69,73
Total	32	128,9322	49,19501	8,69653	111,1955	146,6689	68,45	226,86

**Test of Homogeneity of Variances**

Ketebalan Jamur

Levene Statistic	df1	df2	Sig.
2,109	7	24	,082

Keterangan : Hasil Uji Homogenitas

**ANOVA**

Ketebalan Jamur

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	75012,385	7	10716,055	21038,644	,000
Within Groups	12,224	24	,509		
Total	75024,610	31			

Keterangan : Hasil Uji *One Way ANOVA*

## Lampiran 7. Hasil Uji Post Hoc Tukey

### Multiple Comparisons

Dependent Variable: Ketebalan Jamur  
Tukey HSD

(I) Kelompok	(J) Kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K (-)	E.Jahe 1%	66,6000*	,50465	,000	64,9286	68,2714
	E. Jahe 2%	69,0000*	,50465	,000	67,3286	70,6714
	VCO 1%	99,9775*	,50465	,000	98,3061	101,6489
	VCO 2%	101,7800*	,50465	,000	100,1086	103,4514
	Kombinasi 1%	122,6775*	,50465	,000	121,0061	124,3489
	Kombinasi 2%	155,3800*	,50465	,000	153,7086	157,0514
	Fluconazole 2%	156,4875*	,50465	,000	154,8161	158,1589
E. Jahe 1%	K (-)	-66,6000*	,50465	,000	-68,2714	-64,9286
	E. Jahe 2%	2,4000*	,50465	,002	,7286	4,0714
	VCO 1%	33,3775*	,50465	,000	31,7061	35,0489
	VCO 2%	35,1800*	,50465	,000	33,5086	36,8514
	Kombinasi 1%	56,0775*	,50465	,000	54,4061	57,7489
	Kombinasi 2%	88,7800*	,50465	,000	87,1086	90,4514
	Fluconazole 2%	89,8875*	,50465	,000	88,2161	91,5589
E. Jahe 2%	K (-)	-69,0000*	,50465	,000	-70,6714	-67,3286
	E. Jahe 1%	-2,4000*	,50465	,002	-4,0714	-7,286
	VCO 1%	30,9775*	,50465	,000	29,3061	32,6489
	VCO 2%	32,7800*	,50465	,000	31,1086	34,4514
	Kombinasi 1%	53,6775*	,50465	,000	52,0061	55,3489
	Kombinasi 2%	86,3800*	,50465	,000	84,7086	88,0514
	Fluconazole 2%	87,4875*	,50465	,000	85,8161	89,1589
VCO 1%	K (-)	-99,9775*	,50465	,000	-101,6489	-98,3061
	E. Jahe 1%	-33,3775*	,50465	,000	-35,0489	-31,7061
	E. Jahe 2%	-30,9775*	,50465	,000	-32,6489	-29,3061
	VCO 1%	1,8025*	,50465	,028	,1311	3,4739
	Kombinasi 1%	22,7000*	,50465	,000	21,0286	24,3714
	Kombinasi 2%	55,4025*	,50465	,000	53,7311	57,0739
	Fluconazole 2%	56,5100*	,50465	,000	54,8386	58,1814
VCO 2%	K (-)	-101,7800*	,50465	,000	-103,4514	-100,1086
	E. Jahe 1%	-35,1800*	,50465	,000	-36,8514	-33,5086
	E. Jahe 2%	-32,7800*	,50465	,000	-34,4514	-31,1086
	VCO 1%	-1,8025*	,50465	,028	-3,4739	-1,1311
	Kombinasi 1%	20,8975*	,50465	,000	19,2261	22,5689
	Kombinasi 2%	53,6000*	,50465	,000	51,9286	55,2714
	Fluconazole 2%	54,7075*	,50465	,000	53,0361	56,3789
Kombinasi 1%	K (-)	-122,6775*	,50465	,000	-124,3489	-121,0061
	E. Jahe 1%	-56,0775*	,50465	,000	-57,7489	-54,4061
	E. Jahe 2%	-53,6775*	,50465	,000	-55,3489	-52,0061
	VCO 1%	-22,7000*	,50465	,000	-24,3714	-21,0286
	VCO 2%	-20,8975*	,50465	,000	-22,5689	-19,2261
	Kombinasi 2%	32,7025*	,50465	,000	31,0311	34,3739
	Fluconazole 2%	33,8100*	,50465	,000	32,1386	35,4814
Kombinasi 2%	K (-)	-155,3800*	,50465	,000	-157,0514	-153,7086
	E. Jahe 1%	-88,7800*	,50465	,000	-90,4514	-87,1086
	E. Jahe 2%	-86,3800*	,50465	,000	-88,0514	-84,7086
	VCO 1%	-55,4025*	,50465	,000	-57,0739	-53,7311
	VCO 2%	-53,6000*	,50465	,000	-55,2714	-51,9286
	Kombinasi 1%	-32,7025*	,50465	,000	-34,3739	-31,0311
	Fluconazole 2%	1,1075	,50465	,389	-,5639	2,7789
Fluconazole 2%	K (-)	-156,4875*	,50465	,000	-158,1589	-154,8161
	E. Jahe 1%	-89,8875*	,50465	,000	-91,5589	-88,2161
	E. Jahe 2%	-87,4875*	,50465	,000	-89,1589	-85,8161
	VCO 1%	-56,5100*	,50465	,000	-58,1814	-54,8386
	VCO 2%	-54,7075*	,50465	,000	-56,3789	-53,0361
	Kombinasi 1%	-33,8100*	,50465	,000	-35,4814	-32,1386
	Kombinasi 2%	-1,1075	,50465	,389	-2,7789	,5639

\*. The mean difference is significant at the .05 level.

Keterangan : Hasil Uji Post Hoc Tukey

**Lampiran 8.** Hasil Uji Post Hoc Tukey dan Grafik Ketebalan Koloni *Candida albicans*

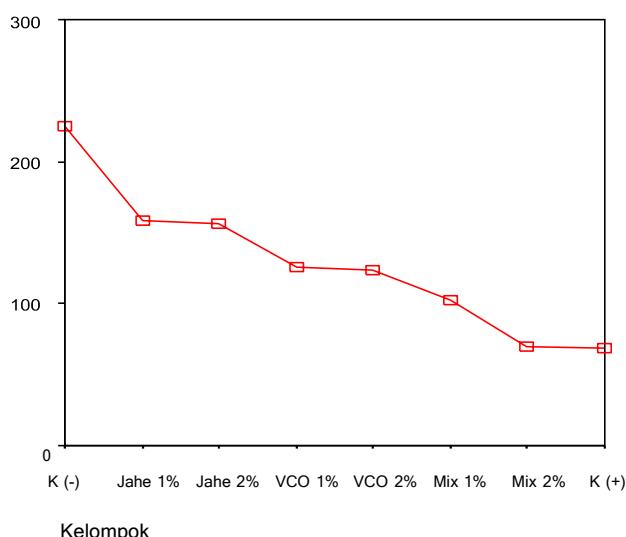
**Ketebalan Jamur**

Kelompok	N	Subset for alpha = .05						
		1	2	3	4	5	6	7
Fluconazole 2%	4	68,9325						
Kombinasi 2%	4	70,0400						
Kombinasi 1%	4		102,7425					
VCO 2%	4			123,6400				
VCO 1%	4				125,4425			
E. Jahe 2%	4					156,4200		
E. Jahe 1%	4						158,8200	
K (-)	4							225,4200
Sig.		,389	1,000	1,000	1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

**Keterangan : Hasil Uji Post Hoc Tukey**



**Keterangan : Grafik Ketebalan Koloni *Candida albicans***

**Lampiran 10.** Hasil Uji Korelasi Pearson dan Uji Regresi

**Correlations**

		Konsentrasi	Ketebalan Jamur
Konsentrasi	Pearson Correlation	1	-,954*
	Sig. (2-tailed)	,	,000
	N	28	28
Ketebalan Jamur	Pearson Correlation	-,954**	1
	Sig. (2-tailed)	,000	,
	N	28	28

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Keterangan : Hasil Uji Korelasi Pearson

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,954 <sup>a</sup>	,911	,907	14,17211

a. Predictors: (Constant), Konsentrasi

Keterangan : Hasil Uji Regresi

**Lampiran 11.** Hasil Uji Normalitas, Uji Homogenitas dan One Way ANOVA

**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Diameter Koloni	.083	32	.200*	.977	32	.704

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Keterangan : Hasil Uji Normalitas

**Descriptives**

Diameter Koloni	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
K (-)	4	3.3875	.34490	.17245	2.8387	3.9363	3.10	3.85
E. Jahe 1%	4	2.4625	.27500	.13750	2.0249	2.9001	2.20	2.85
E. Jahe 2%	4	1.8750	.02887	.01443	1.8291	1.9209	1.85	1.90
VCO 1%	4	.4000	.07071	.03536	.2875	.5125	.35	.50
VCO 2%	4	.2250	.05000	.02500	.1454	.3046	.15	.25
Kombinasi 1%	4	.1000	.00000	.00000	.1000	.1000	.10	.10
Kombinasi 2%	4	.0000	.00000	.00000	.0000	.0000	.00	.00
K (+)	4	.0000	.00000	.00000	.0000	.0000	.00	.00
Total	32	1.0563	1.27011	.22453	.5983	1.5142	.00	3.85

**Test of Homogeneity of Variances**

Diameter Koloni

Levene Statistic	df1	df2	Sig.
1.309	7	24	.288

Keterangan : Hasil Uji Homogenitas

**ANOVA**

Diameter Koloni		Sum of Squares	df	Mean Square	F	Sig.
Between Groups	49.400	7	7.057		278.228	.000
Within Groups	.609	24	.025			
Total	50.009	31				

Keterangan : Hasil Uji One Way ANOVA

## Lampiran 12. Hasil Uji Post Hoc Tukey

### Multiple Comparisons

Dependent Variable: Diameter Koloni  
Tukey HSD

(I) Kelompok	(J) Kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K (-)	E. Jahe 1%	.9250*	.11262	.000	.5520	1.2980
	E. Jahe 2%	1.5125*	.11262	.000	1.1395	1.8855
	VCO 1%	2.9875*	.11262	.000	2.6145	3.3605
	VCO 2%	3.1625*	.11262	.000	2.7895	3.5355
	Kombinasi 1%	3.2875*	.11262	.000	2.9145	3.6605
	Kombinasi 2%	3.3875*	.11262	.000	3.0145	3.7605
	Fluconazole 2%	3.3875*	.11262	.000	3.0145	3.7605
E. Jahe 1%	K (-)	-.9250*	.11262	.000	-1.2980	-.5520
	E. Jahe 2%	.5875*	.11262	.001	.2145	.9605
	VCO 1%	2.0625*	.11262	.000	1.6895	2.4355
	VCO 2%	2.2375*	.11262	.000	1.8645	2.6105
	Kombinasi 1%	2.3625*	.11262	.000	1.9895	2.7355
	Kombinasi 2%	2.4625*	.11262	.000	2.0895	2.8355
	Fluconazole 2%	2.4625*	.11262	.000	2.0895	2.8355
E. Jahe 2%	K (-)	-1.5125*	.11262	.000	-1.8855	-1.1395
	E. Jahe 1%	-.5875*	.11262	.001	-.9605	-.2145
	VCO 1%	1.4750*	.11262	.000	1.1020	1.8480
	VCO 2%	1.6500*	.11262	.000	1.2770	2.0230
	Kombinasi 1%	1.7750*	.11262	.000	1.4020	2.1480
	Kombinasi 2%	1.8750*	.11262	.000	1.5020	2.2480
	Fluconazole 2%	1.8750*	.11262	.000	1.5020	2.2480
VCO 1%	K (-)	-2.9875*	.11262	.000	-3.3605	-2.6145
	E. Jshe 1%	-2.0625*	.11262	.000	-2.4355	-1.6895
	E. Jahe 2%	-1.4750*	.11262	.000	-1.8480	-1.1020
	VCO 2%	.1750	.11262	.771	-.1980	.5480
	Kombinasi 1%	.3000	.11262	.182	-.0730	.6730
	Kombinasi 2%	.4000*	.11262	.029	.0270	.7730
	Fluconazole 2%	.4000*	.11262	.029	.0270	.7730
VCO 2%	K (-)	-3.1625*	.11262	.000	-3.5355	-2.7895
	E. Jahe 1%	-2.2375*	.11262	.000	-2.6105	-1.8645
	E. Jahe 2%	-1.6500*	.11262	.000	-2.0230	-1.2770
	VCO 1%	-.1750	.11262	.771	-.5480	.1980
	Kombinasi 1%	.1250	.11262	.948	-.2480	.4980
	Kombinasi 2%	.2250	.11262	.503	-.1480	.5980
	Fluconazole 2%	.2250	.11262	.503	-.1480	.5980
Kombinasi 1%	K (-)	-3.2875*	.11262	.000	-3.6605	-2.9145
	E. Jahe 1%	-2.3625*	.11262	.000	-2.7355	-1.9895
	E. Jahe 2%	-1.7750*	.11262	.000	-2.1480	-1.4020
	VCO 1%	-.3000	.11262	.182	-.6730	.0730
	VCO 2%	-.1250	.11262	.948	-.4980	.2480
	Kombinasi 2%	.1000	.11262	.984	-.2730	.4730
	Fluconazole 2%	.1000	.11262	.984	-.2730	.4730
Kombinasi 2%	K (-)	-3.3875*	.11262	.000	-3.7605	-3.0145
	E. Jahe 1%	-2.4625*	.11262	.000	-2.8355	-2.0895
	E. Jahe 2%	-1.8750*	.11262	.000	-2.2480	-1.5020
	VCO 1%	-.4000*	.11262	.029	-.7730	-.0270
	VCO 2%	-.2250	.11262	.503	-.5980	.1480
	Kombinasi 1%	-.1000	.11262	.984	-.4730	.2730
	Fluconazole 2%	.0000	.11262	1.000	-.3730	.3730
Fluconazole 2%	0%	-3.3875*	.11262	.000	-3.7605	-3.0145
	0,10%	-2.4625*	.11262	.000	-2.8355	-2.0895
	0,20%	-1.8750*	.11262	.000	-2.2480	-1.5020
	0,30%	-.4000*	.11262	.029	-.7730	-.0270
	0,40%	-.2250	.11262	.503	-.5980	.1480
	0,50%	-.1000	.11262	.984	-.4730	.2730
	0,60%	.0000	.11262	1.000	-.3730	.3730

\* The mean difference is significant at the .05 level.

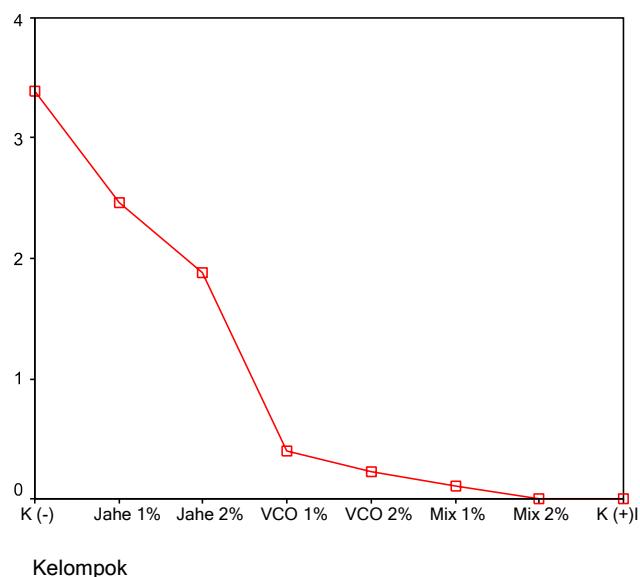
Keterangan : Hasil Uji Post Hoc Tukey

**Lampiran 13.** Hasil Uji Post Hoc Tukey dan Grafik Diameter Koloni *Candida albicans*

Kelompok	N	Subset for alpha = .05				
		1	2	3	4	5
Fluconazole 2%	4	.0000				
Kombinasi 2%	4	.0000				
Kombinasi 1%	4	.1000	.1000			
VCO 2%	4	.2250	.2250			
VCO 1%	4		.4000			
E. Jahe 2%	4			1.8750		
E. Jahe 1%	4				2.4625	
K (-)	4					3.3875
Sig.		.503	.182	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.



Keterangan : Grafik Diameter Koloni *Candida albicans*

**Lampiran 14.** Hasil Uji Korelasi Pearson dan Uji Regresi

**Correlations**

		Konsentrasi	Diameter Koloni
Konsentrasi	Pearson Correlation Sig. (2-tailed) N	1 . . 28	-.933* .000 28
Diameter Koloni	Pearson Correlation Sig. (2-tailed) N		-.933** .000 28

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Keterangan : Hasil Uji Korelasi Pearson

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.933 <sup>a</sup>	.870	.865	.47388

a. Predictors: (Constant), Konsentrasi

Keterangan : Hasil Uji Regresi

**Lampiran 15.** Hasil Pengamatan Ketebalan Koloni *Candida albicans* oleh Pengamat 1

Sampel	<b>Ketebalan Koloni <i>Candida albicans</i></b>			
	<b>Pengulangan</b>			
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
K (-)	+4	+4	+4	+4
E. Jahe 1%	+3	+3	+3	+3
E. Jahe 2%	+3	+3	+3	+3
VCO 1%	+2	+2	+2	+2
VCO 2%	+2	+2	+2	+2
Kombinasi 1%	+1	+1	+1	+1
Kombinasi 2%	0	0	0	0
Fluconazole 2%	0	0	0	0

**Lampiran 16.** Hasil Pengamatan Ketebalan Koloni *Candida albicans* oleh Pengamat 2

Sampel	<b>Ketebalan Koloni <i>Candida albicans</i></b>			
	<b>Pengulangan</b>			
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
K (-)	+4	+4	+4	+4
E. Jahe 1%	+3	+3	+3	+3
E. Jahe 2%	+3	+3	+3	+3
VCO 1%	+2	+2	+2	+2
VCO 2%	+2	+2	+2	+2
Kombinasi 1%	+1	+1	+1	+1
Kombinasi 2%	0	0	0	0
Fluconazole 2%	0	0	0	0

**Lampiran 17.** Hasil Pengamatan Ketebalan Koloni *Candida albicans* oleh Pengamat 3

Sampel	Ketebalan Koloni <i>Candida albicans</i>			
	Pengulangan			
	I	II	III	IV
K (-)	+4	+4	+4	+4
E. Jahe 1%	+3	+3	+3	+3
E. Jahe 2%	+3	+3	+3	+3
VCO 1%	+2	+2	+2	+2
VCO 2%	+2	+2	+2	+2
Kombinasi 1%	+1	+1	+1	+1
Kombinasi 2%	0	0	0	0
Fluconazole 2%	0	0	0	0