DAFTAR PUSTAKA

Aas, J. A., Paster, B. J., Stokes, L. N., Olsen, I., dan Dewhirst, F. E., (2005) Defining the normal bacterial flora of the oral cavity. *J Clin Microbiol*. 43(11) : 5721-5732.

Abdullah, N. A., Ja'afar, F., Yasin, H. M., Taha, H., Petalcorin, M. I. R., Mamit, M. H., Kusrini, E., dan Usman, A., (2019) Physicochemical analyses, antioxidant, antibacterial, and toxicity of propolis particles produced by stingless bee Heterotrigona itama found in Brunei Darussalam. *Heliyon*, *5*(9) : e02402476.

Ahmed, R., Tanvir, E. M., Hossen, S., Afroz, R., Ahmmed, I., Rumpa, N., Paul, S., Gan, S. H., Sulaiman, S. A., dan Khalil, I., (2017) Antioxidant properties and cardioprotective mechanism of Malaysian propolis in rats. *Evid Based Complement Alternat Med.* Vol. 2017.

Akca, A. E., Akca, G., Topçu, F. T., Macit, E., Pikdöken, L., dan Özgen, I. F., (2016) The Comparative Evaluation of the Antimicrobial Effect of Propolis with Chlorhexidine against Oral Pathogens : An In Vitro Study. *BioMed Res Int.* Vol. 2016.

Al-ani, I., Zimmermann, S., Reichling, J., dan Wink, M., (2018) Antimicrobial activities of European propolis collected from various geographic origins alone and in combination with antibiotics. *Medicines*. 5(2).

Alves, P., Castro, D., Leite, V., Bom, P., Andrew, N., Sérgio, R., Almeida, C. De, Naira, L., Ramalho, Z., Savoldi, M., Helena, M., Goldman, S., Berretta, A. A., dan Henrique, G., (2013) Identification of the cell targets important for propolis-induced cell death in Candida albicans. *Fungal Genet Biol*. 60: 74–86.

Anjum, S. I., Ullah, A., Khan, K. A., Attaullah, M., Khan, H., Ali, H., Bashir, M. A., Tahir, M., Ansari, M. J., Ghramh, H. A., Adgaba, N., dan Dash, C. K., (2019) Composition and functional properties of propolis (bee glue): A review. *Saudi J Biol Sci. 26*(7) : 1695–1703.

Avila, M., Ojcius, D. M., dan Yilmaz, Ö., (2009) The oral microbiota: Living with a permanent guest. *DNA Cell Biol*. 28(8) : 405-411.

Awang, N., Ali, N., Majid, F. A. A., Hamzah, S., dan Razak, S. B. A., (2018) Total flavonoids and phenolic contents of sticky and hard propolis from 10 species of Indo-Malayan stingless bees. *Malaysian Journal of Analytical Sciences*, *22*(5): 877–884.

Bankova, V., Galabov, A. S., Antonova, D., Vilhelmova, N., dan Perri, B. Di., (2014) Phytomedicine Chemical composition of Propolis Extract ACF ® and activity

against herpes simplex virus. *Phytomedicine.* 21(11) : 1432–1438.

Chandki, R., Banthia, P., dan Banthia R., (2011) Biofilms: A microbial home. *J Indian Soc Periodontol*. 15(2) : 111-114.

Chua, E. G., Parolia, A., Ahlawat, P., Pau, A., dan Amalraj, F. D., (2014) Antifungal effectiveness of various intracanal medicaments against Candida albicans : an ex-vivo study. *BMC Oral Health.* 14(1) : 1–8.

Coelho, G. R., Mendonça, R. Z., De SennaVilar, K., Figueiredo, C. A., Badari, J. C., Taniwaki, N., Namiyama, G., De Oliveira, M. I., Curti, S. P., Evelyn Silva, P., dan Negri, G., (2015) Antiviral action of hydromethanolic extract of geopropolis from scaptotrigona postica against antiherpes simplex virus (HSV-1). *eCAM.* Vol. 2015.

Corrêa, J. L., Veiga, F. F., Jarros, I. C., Ignacio, M., Castilho, P. F., Mari, K., Oliveira, P. De, Cássia, H., Bruschi, M. L., Svidzinski, T. I. E., dan Negri, M., (2020) Propolis extract has bioactivity on the wall and cell membrane of Candida albicans. *J Ethnopharmacol*. 256 (2019) : 112791.

Cushnie, T. P. T., dan Lamb, A. J., (2005). Detection of galangin-induced cytoplasmic membrane damage in Staphylococcus aureus by measuring potassium loss Detection of galangin-induced cytoplasmic membrane damage in Staphylococcus aureus by measuring potassium loss. *J Ethnopharmacol*. 101(2005) : 243-248.

da Cunha, M. G., Franchin, M., Galvão, L. C. C., de Ruiz, A. L. T. G., de Carvalho, J. E., Ikegaki, M., de Alencar, S. M., Koo, H., dan Rosalen, P. L., (2013) Antimicrobial and antiproliferative activities of stingless bee Melipona scutellaris geopropolis. *BMC Complement Altern Med*. 13(23).

Dantas, A. P., Salomão, K., Barbosa, H. S., dan Castro, S. L. De., (2006). The effect of Bulgarian propolis against Trypanosoma cruzi and during its interaction with host cells. *Mem Inst Oswaldo Cruz.* 101(2): 207–211.

de Campos, J.V., Assis, O.B.G., dan Bernardes-filho, R., (2019) Atomic force microscopy evidences of bacterial cell damage caused by propolis extracts on E. coli and S. aureus. *Food Sci Technol*. 4(1).

Deo, P.N., dan Deshmukh, R., (2019) Oral microbiome: Unveiling the fundamentals. *J Oral Maxillofac Pathol*. 23(1) : 122-128.

Djais, A. A., Putri, N., dan Putri, A. R., (2020) Description of Streptococcus mutans , Streptococcus sanguinis , and Candida albicans biofilms after exposure to propolis dentifrice by using OpenCFU method. *The Saudi Dent J*. *32*(3) : 129–134.

Dodwad, V., dan Kukreja, B., (2011) Propolis mouthwash: A new beginning. *J Indian Soc Periodontol*. 15(2): 121-125.

dos Santos, T. L. A., Queiroz, R. F., Sawaya, A. C. H. F., Lopez, B. G. C., Soares, M. B. P., Bezerra, D. P., Rodrigues, A. C. B. C., de Paula, V. F., dan Waldschmidt, A. M., (2017) Melipona mondury produces a geopropolis with antioxidant, antibacterial and antiproliferative activities. *An Acad Bras Cienc*. 89(3) : 2247–2259.

Dziedzic, A., Kubina, R., Wojtyczka, R. D., B, A. K., Tanasiewicz, M., dan Morawiec, T., (2013) The antibacterial effect of ethanol extract of polish propolis on Mutans Streptococci and Lactobacilli isolated from saliva. *eCAM*. Vol. 2013.

Galeotti, F., Maccari, F., Fachini, A., dan Volpi, N., (2018) Chemical composition and antioxidant activity of propolis prepared in different forms and in different solvents useful for finished products. *Foods*. 7(41).

Grecka, K., dan Szweda, P., (2021) Synergistic effects of propolis combined with 2-phenoxyethanol and antipyretics on the growth of Staphylococcus aureus. *Pharmaceutics.* 13(2) :215.

Hariyanto, R. A. B., (2017) Penentuan kandungan fenolik, flavonoid & aktivitas antioksidan ekstrak propolis *Trigona sp.* Surabaya: ultas Matematika & Ilmu Pengetahuan Alam Institut Teknologi Sepuluh Nopember.

Hegazi, A. G., Abd, F. K., Hadyb, E., dan Allah, F. A. M. A., (2000) Chemical Composition and Antimicrobial Activity of European Propolis. *Z Naturforsch C J Biosci.* 70–75.

Hegde, K. S., Bhat, S. S., Rao, A., dan Sain, S., (2013) Effect of propolis on Streptococcus mutans counts: an in vivo study. *Int J Clin Pediatr Dent*. 6(1): 22-25.

Hernández Zarate, M. S., Abraham Juárez, M. del R., Cerón García, A., Ozuna López, C., Gutiérrez Chávez, A. J., Segoviano Garfias, J. de J. N., dan Avila Ramos, F., (2018) Flavonoids, phenolic content, and antioxidant activity of propolis from various areas of Guanajuato, Mexico. *Food Sci Tech*. 38(2): 210–215.

Khalid, A., Abdulkareem, E., Kheir, E., dan Aljafari, A., (2015) Commensal oral protozoa among patients attending academic dental teaching hospital, Khartoum State, Sudan. *AUMJ*. 2(2) : 17-20.

Kilian, M., Chapple, I. L. C., Hannig, M., Marsh, P. D., Meuric, V., Pedersen, A. M. L., Tonetti, M. S., Wade, W. G., dan Zaura, E., (2016) The oral microbiome - An update for oral healthcare professionals. *Br Dent J*. 221(10): 657-666.

Koru, O., Toksoy, F., Han, C., Meric, Y., dan Baysallar, M., (2007) In vitro antimicrobial activity of propolis samples from different geographical origins against certain oral pathogens. *Anaerobe*. 13 : 140–145.

Koyuncuoğlu, C. Z., Kazak, M., Pamuk, F., dan Çifcibaşı, E., (2016) Oral hygiene habits and oral health status of female adolescents under state protection: A pilot study. *J Istanb Univ Fac Dent*. 51(1): 1-7.

Kumar, V. M., Kumar, P. R., Richa, K., dan Jyotsna, A., (2014) The antimicrobial effectiveness of 25 % propolis extract in root canal irrigation of primary teeth. *J Indian Soc Pedod Prev Dent.* 32(2) : 120–125.

Leonel, M., Lorene, K., Leite, D. F., Pacheco-filho, E. F., Farah, A., Pereira, D. M., Teresa, M., Romanos, V., Cople, L., Fonseca-gonçalves, A., Wilney, W., Padilha, N., dan Wanderley, Y., (2018) Archives of Oral Biology Efficacy of red propolis hydro-alcoholic extract in controlling Streptococcus mutans bio fi lm build-up and dental enamel demineralization. *Arch Oral Biol*. 93 : 56–65.

Lu, L. C., Chen, Y. W., dan Chou, C. C., (2005) Antibacterial activity of propolis against Staphylococcus aureus. *Int J Food Microbiol*. 102(2) : 213–220.

Lu, M., Xuan, S., dan Wang, Z., (2019) Oral microbiota: A new view of body health. *Food Sci Hum Wellness*. *8*(1) : 8–15.

Mahani, Michelle, Cahyana, Y., Sulaeman, A., Hardinsyah, Nurjanah, N., Sunarno, dan Sariadji, K., (2021) Distribution and composition of the main active components found in stingless bee propolis from various regions in Indonesia. *Int J Pharm Pharm Sci*. 13(2): 44–49.

Mohammadzadeh, S., Shariatpanahi, M., Hamedi, M., Ahmadkhaniha, R., Samadi, N., dan Ostad, S. N., (2007) Chemical composition, oral toxicity and antimicrobial activity of Iranian propolis. *Food Chem*. 103(4) : 1097–1103.

Morawiec, T., Dziedzic, A., Niedzielska, I., Mertas, A., Tanasiewicz, M., Skaba, D., Kasperski, J., Machorowska-pieni, A., Kucharzewski, M., Szaniawska, K., Wi, W. B., dan Wi, M., (2013) The Biological Activity of Propolis-Containing Toothpaste on Oral Health Environment in Patients Who Underwent Implant-Supported Prosthodontic Rehabilitation. *Evid Based Complement Alternat Med.* Vol. 2013.

Morawiec, T., Mertas, A., Wojtyczka, R. D., Niedzielska, I., Dziedzic, A., B, A. B., Sender, J., Wróbel, J., Tanasiewicz, M., B, P. W., dan Król, W., (2015) The Assessment of Oral Microflora Exposed to 3 % Ethanolic Extract of Brazilian Green Propolis Preparation Used for Hygiene Maintenance following Minor Oral Surgeries. *Evid Based Complement Alternat Med.* Vol. 2013.

Nweze, N. E., Okoro, H. O., Robaian, M. Al, Omar, R. M. K., Tor-anyiin, T. A., Watson, D. G., dan Igoli, J. O., (2017) Effects of Nigerian red propolis in rats infected with Trypanosoma brucei brucei. *Comp Clin Pathol*. 26:1129–1133.

Oda, H., Nakagawa, T., Maruyama, K., Dono, Y., Katsuragi, H., dan Sato, S., (2016)

Effect of Brazilian green propolis on oral pathogens and human periodontal fibroblasts. *J Oral Biosci*. 58(2) : 50–54.

Orsatti, C.L., Missima, F., Pagliarone, A.C., Bachiega, T.F., Bufalo, M.C., Araujo, J.P., dan Sforcin, J.M., (2010) Propolis immunomodulatory action in vivo on toll-like receptors 2 and 4 expression and on pro-inflammatory cytokines production in mice. *Phytother res*. 24:1141-1147.

Özan, F., Sümer, Z., Polat, Z. A., Er, K., Özan, Ü., dan Değer, O., (2007) Effect of Mouthrinse Containing Propolis on Oral Microorganisms and Human Gingival Fibroblasts. *Eur J Dent.* 1(4) : 195-201.

Paulraj, J., dan Nagar, P., (2020) Antimicrobial efficacy of triphala and propolis-modified glass ionomer cement : an in vitro study. *Int J Clin Pediatr Dent*. 13(5) : 457-462.

Petruzzi, L., Corbo, M. R., Campaniello, D., Speranza, B., Sinigaglia, M., dan Bevilacqua, A., (2020) Antifungal and antibacterial effect of propolis: a comparative hit for food-borne pseudomonas, enterobacteriaceae and fungi. *Foods*. 9(5) : 559.

Peycheva, S., Apostolova, E., Gardjeva, P., Peychev, Z., Kokova, V., Angelov, A., Slavov, A., dan Murdjeva, M., (2019) Effect of Bulgarian propolis on the oral microflora in adolescents with plaque-induced gingivitis. *Revista Brasileira de Farmacognosia*. 29(3) : 271–277.

Pobiega, K., Gniewosz, M., dan Kraśniewska, K., (2017) Antimicrobial and antiviral properties of different types of propolis. *Zesz Probl Postęp Nauk Rol.* 589 : 69-79.

Rath, S. K., dan Singh, M., (2013) Comparative clinical and microbiological efficacy of mouthwashes containing 0.2% and 0.12% chlorhexidine. *Dent Res J*. 10(3): 364-369.

Rosyidi, D., Eka Radiati, L., Minarti, S., Mustakim, M., Susilo, A., Jaya, F., dan Azis, A., (2018) Perbandingan Sifat Antioksidan Propolis pada Dua Jenis Lebah (*Apis mellifera* dan *Trigona sp*.) di Mojokerto dan Batu, Jawa Timur, Indonesia. *Jurnal Ilmu dan Teknologi Hasil Ternak*. 13(2): 108–117.

Salomao, K., Souza, E. M. De, Henriques-pons, A., Barbosa, H. S., dan Castro, S. L. De., (2011) Brazilian green propolis : effects in vitro and in vivo on Trypanosoma cruzi. *Evid Based Complement Alternat Med.* 2011.

Sayyadi, F., Mahdavi, S., Moghadamnia, A. A., Moslemi, D., Shirzad, A., dan Motallebnejad, M., (2020) The effect of aqueous and ethanolic extract of Iranian propolis on Candida Albicans isolated from the mouth of patients with colorectal malignancy undergone chemotherapy: An in-vitro study. *Caspian J Intern Med*.

11(1): 62-66.

Serra Bonvehi, J., dan Ventura Coll, F., (2000) Study on propolis quality from China and Uruguay. *Zeitschrift fur Naturforschung - Section C Journal of Biosciences*. 55(9–10): 778–784.

Sforcin, J.M., (2007) Propolis and the immune system: a review. *J Ethnopharmacol* 113:1–14.

Shekar, B. R. C., Nagarajappa, R., Suma, S., dan Thakur, R., (2015) Herbal extracts in oral health care - A review of the current scenario and its future needs. *Pharmacogn Rev*. 9(18) : 87–92.

Siheri, W., Zhang, T., Ebiloma, G. U., Biddau, M., Woods, N., Hussain, M. Y., Clements, C. J., Fearnley, J., Ferro, A., Koning, H. P. De, dan Watson, D. G., (2016) Chemical and antimicrobial profiling of propolis from different regions within Libya. *Plos One*. 11(5) : 1–17.

Silva-Carvalho, R.,Baltazar, F., dan Almeida-Aguiar, C., (2015) Propolis: A complex natural product with a plethora of biological activities that can be explored for drug development. Evid Based Complement Alternat Med. Hal 1-29.

Silva, J. C., Rodrigues, S., Feás, X., dan Estevinho, L. M., (2012) Antimicrobial activity, phenolic profile and role in the inflammation of propolis. *Food Chem Toxicol*. 50 (2012) : 1790–1795.

Stepanović, S., Antić, N., Dakić, I., dan Švabić-Vlahović, M., (2003) In vitro antimicrobial activity of propolis and synergism between propolis and antimicrobial drugs. *Mibrobiol. Res*. 158 : 353-357.

Tulsani, S. G., Chikkanarasaiah, N., Siddaiah, S. B., dan Krishnamurthy, N. H., (2014) The effect of Propolis and Xylitol chewing gums on salivary Streptococcus mutans count: A clinical trial. *Indian J Dent Res*. 25(6): 737-741.

Vemanaradhya, G., Agarwal, G., dan Mehta, D., (2012) Evaluation of chemical composition and efficacy of Chinese propolis extract on Porphyromonas gingivalis and Aggregatibacter actinomycetemcomitans: An in vitro study. *Contemp Clin Dent*. 3(3) : 256.

Viuda-Martos, M., Ruiz-Navajas, Y., Fernández-López, J., dan Pérez-Álvarez, J. A., (2008) Functional properties of honey, propolis, and royal jelly. *J Food Sci*. 73(9): 117-124.

Yildirim, A., Duran, G. G., Duran, N., Jenedi, K., Bolgu, B. S., Miraloglu, M., dan Muz, M., (2016) Antiviral activity of hatay propolis against replication of herpes simplex virus type 1 and type 2. *Med Sci Monit*. 22 : 422–430.