

DAFTAR PUSTAKA

- Agnihotri, S.A., Mallikarjuna, N.N., dan Aminabhavi, T.M., 2004, Recent advances on chitosan-based micro-and nanoparticles in drug delivery, *Journal of Controlled Release*, 100(1), 5–28.
- Alcalde, M.P., Bramante, C.M., Vivan, R.R., Amorso-Silva, P.A., Bombarda de Andrade, F., Duarte, M.A.H., 2017, Intradental antimicrobial action and filling quality promoted by ultrasonic agitation of epoxy resin-based sealer in endodontic obturation, *Journal of Applied Oral Science*, 25(6): 641–649.
- Al-Shwaimi, I., 2011, Evaluation of antimicrobial effect of root canal sealers, *Pakistan Oral & Dental Journal*. 31(2) : 432-435.
- Anusavice, K.J., Shen, C., Rawls, H.R., 2012, *Philips' science of dental materials ed 12th*, Elsevier, h. 333-334.
- Athanassiadis, B., George, G.A., Abbott, P.V, Wash, L.J., 2014, A review of the effect of formaldehyde release from endodontic materials, *International Endodontic Journal*, 48 (9): 1-9.
- Aravind, Gopikrishna, V., Kandaswamy, D., Jeyavel, R.K., 2006, Comparative evaluation of the antimicrobial efficacy of five endodontic root canal sealers against *Enterococcus faecalis* and *Candida albicans*. *Journal of Conservative Dentistry*, 9(1):2-12
- Arora, R., Rawat, P., Bhayya, D.P., 2014, A comparative valuation of antimicrobial efficacy of three endodontic sealers: Endoflas FS, AH Plus and Sealapex against *Enterococcus faecalis* - an in vitro study, *Journal of Dental and Medical Sciences*, 13(3) : 90-93.
- Azhar, M., Efendi, J., Syofyeni, E., Lesi, R.M., Novalina, S., 2010, Pengaruh konsentrasi NaOH dan KOH terhadap derajat deasetilasi kitin dari limbah kulit udang, *Eksakta*, v.1:1-8
- Baer, J., dan Maki, J.S., 2010, In vitro evaluation of the antimicrobial effect of three endodontic sealers mixed with amoxicillin. *Journal Of Endodontics*, 36 (7) : 1170–1173
- Balasubramani, P.K., Iroh, J.O., 2016, Mechanism and kinetics of curing of diglycidyl ether of bisphenol A (DGEBA) resin by chitosan, *Polymer Engineering and Science*, 1-10.
- Balouiri, M., Sadiki, M., & Ibsouda, S. K. (2016). Methods for in vitro evaluating antimicrobial activity: A review. *Journal of Pharmaceutical Analysis*, 6(2), 71–79.

- Bauza, G.A.M., Junior, F.J., Gabriel, A.E.S., Neto, M. D.S., Miranda, C.D.S., Sousa, Y.T.C., 2010. Physicochemical Properties of Methacrylate Resin–based Root Canal Sealers, *Journal Of Endodontics*, 36 (9) : 1531–1536.
- Bauza, G.A.M., Sousa, Y.T.C., Cunha, S.H., Junior, F.J., Filho, I.B., Neto, M.D.S., Miranda, C.D.S., 2012, Physicochemical properties of endodontic sealers of different bases, *Journal Appliance Oral Sciences*, 20(4):455-61.
- Bodrumlu, E., dan Mustafa, S., 2006, Antibacterial Activity of a New Endodontic Sealer against *Enterococcus faecalis*, *Journal of the Canadian Dental*, 72(7):637.
- Bonsor, S.J. dan Pearson, G.J., 2013, *A Clinical Guide to Applied Dental Materials*, Elsevier : China. h. 205.
- Cappucino, J., dan Sherman, N., 2013, *Manual Laboratorium Mikrobiologi edisi 8 (Microbiology : a Laboratory Manual 8th ed)*, EGC Medical Publisher : Jakarta.
- Chávez-Andrade, G.M., Kuga, M.C., Duarte, M.A.H., de Toledo Leonardo, R, Keine, K.C., Anna-Junior, A.S., Só, M.V.R., 2013, Evaluation of the Physicochemical Properties and Push-Out Bond Strength of Mta-based Root Canal Cement. *Journal of Contemporary Dental Practice* 2013;14(6):1094-1099.
- Cussler, E.R., 2009, *Diffusion Mass Transfer in Fluid Systems 3rd ed.*, Cambridge University Press : USA, h: 237.
- Dalmia, S., Gaikwad, A., Samuel, R., Aher, G., Gulve, M., dan Kolhe, S., 2018, Antimicrobial efficacy of different endodontic sealers against *Enterococcus faecalis*: An *In vitro* study. *Journal of International Society Preventive and Community Dentistry*, 8:104-9
- DaSilva, L., Yoav, F., Shimon, F., Bettina, B., Anil, K., 2013, Biofilm Formation within the Interface of Bovine Root Dentin Treated with Conjugated Chitosan and Sealer Containing Chitosan Nanoparticles, *Journal of Endodontics*, 39 (2) :249–253.
- David, A.B., dan Davidson, C. E., 2014, Estimation method for serial dilution experiments, *Journal of microbiological methods*, vol. 107 : 214-221.
- Del Carpio-Perochena, A., Kishen, A., Shresta, A., Bramante, C.M., 2015, Antibacterial properties associated with chitosan nanoparticle treatment on root dentin and 2 type of endodontic sealers, *Journal or Endodontics*, 41 (8) : 1353-1357.

- Del Carpio-Perochena, A., Bramante, C.M., Duarte, M.A.H., Regina de Moura, M., Aouada, F.A., Kishen, A., 2015, Chelating and antibacterial properties of chitosan nanoparticles on dentin, *Restorative Dentistry and Endodontic*, 40(3): 195–201
- Elsaka, S., dan Elnaghy, A., 2012, Effect of Addition of Chitosan to Self-Etching Primer: Antibacterial Activity and Push-Out Bond Strength to Radicular Dentin, *Journal of Biomedical Research*, 26(4), 288–294.
- Fan, W., Yan, W., Xu, Z., Ni, H., 2012. Formation mechanism of monodisperse, low molecular weight chitosan nanoparticles by ionic gelation technique, *Colloids and Surfaces B: Biointerfaces*, 90 (2012), 21–27.
- Farmakis, E.T.R., Kontakiotis, E.G., Tseleni-Kotsovoli, A., dan Tsatsas, V.G., 2012, Comparative in vitro antibacterial activity of six root canal sealers against *Enterococcus faecalis* and *Proteus vulgaris*, *Journal of Investigative and Clinical Dentistry*, 3(4), 271–275.
- Garg N., dan Garg, A., 2014, *Textbook of Endodontics 3rd Ed.*, Jaypee Brothers Medical Publishers, New Delhi, h. 246-298.
- Gjorgievska, E.S., Nicholson, J.W., Coleman, N.J., Booth, S., Dimkov, A., Hurt, A., 2017, Component release and mechanical properties of endodontic sealer following incorporation of antimicrobial agents, *Biomed research international*, 2017 : 1-6.
- Goldberg, I.S., Slutzky, H., Solomonov, M., 2008, Antibacterial properties of four endodontic sealers, *Journal Of Endodontics*, 34 (6):735–8.
- Gomes, B.P., Pedroso, J.A., Jacinto, R.C., Vianna, M.E., 2004, In vitro evaluation of the antimicrobial activity of five root canal sealers. *Brazilian Dental Journal*, 15 (1):30–35.
- Gong, S., Huang, Z., Shi, W., Ma, B., Tay, F.R., Zhou, B., 2014, In Vitro Evaluation of Antibacterial Effect of AH Plus Incorporated with Quaternary Ammonium Epoxy Silicate against *Enterococcus faecalis*, *Journal Of Endodontics*, 40(10), 1611–1615.
- Goy, R. C., Britto, D. de, dan Assis, O.B.G., 2009, A review of the antimicrobial activity of chitosan, *Polímeros : Ciência e Tecnologia* , 19(3), 241–247.
- Ha, W.N., Nicholson, T., Kahler, W.A., Walsh, L.J., 2017, Rheological Characterization as an Alternative Method to Indentation for Determining the Setting Time of Restorative and Endodontic Cements, *materials*, 10(12):1451

- Hargreaves, K. M. dan Berman, L. H., 2016, *Cohen's Pathways of The Pulp 11th*, Elsevier, St. Louis. h. 280-293.
- Harley, J.P., dan Prescott, L.M., 2002, *Laboratory Exercise in microbiology, 5th ed.*, The Mc-Graw Hill Companies, USA, h. 117-118
- Heyder, M., Stefan, K., Andrea, V., Wolfgang, P., David, C. W., Klaus D.J., Bernd W. S., 2013, Antibacterial effect of different root canal sealers on three bacterial species, *Dental Material journal*, 29 (2013) : 542-549.
- Ibrahim, A.I.O., Moodley, D.S., Petrik, L., Pate, N., 2017, Use of antibacterial nanoparticles in Endodontics, *The South African Dental Journal*, 72 (3): 105 - 112.
- Ingle, J.I., Bakland, L.K., Baumgartner, J.C., 2008, *Ingle's Endodontic 6th Ed*, B.C. Decker, Ontario, h. 877-1043.
- Jannata, Hafidata, R., Gunadi, A., Ernawati, T., 2014, Daya Antibakteri Ekstrak kulit Apel Manalagi (*Malus sylvestris Mill.*) Terhadap Pertumbuhan *Streptococcus mutans*, Fakultas Kedokteran Gigi Universitas Jember, *e-Jurnal Pustaka Kesehatan*; 2(1) ; 23-28
- Jaiswal, N., Dakshita, J.S., Udai, P.S., Kanwardeep, S., Urja, A.J., Shivika, G., 2017, Evaluation of antibacterial efficacy of Chitosan, Chlorhexidine, Propolis and Sodium hypochlorite on *Enterococcus faecalis* biofilm: An *in vitro* study, *Journal Clinical and Experimental Dentistry*, 9(9) :e1066-1074.
- Jorgensen J, Pfaller M, Carroll K, Funke G, Landry M, Richter S, Warnock D, 2015, *Manual of Clinical Microbiology, Eleventh Edition*. ASM Press, Washington, DC. h. 1253-1273.
- Kaur, A., Shah, N., Logani, A., Navin, M., 2015, Biototoxicity of commonly used root canal sealers: A meta-analysis, *Journal of conservative dentistry*, 18(2): 83-88.
- Kenneth J. Anusavice, Chiayi Shen, H. Ralph Rawls, 2012, *Philips's science of dental materials 12th ed*, Elsevier, h. 333-334.
- Kishen, A., 2015, *Nanotechnology in endodontics*, Springer : Switzerland, h. 104-108, 114
- Kishen, A., Shi, Z., Shrestha, A., dan Neoh, K. G., 2008, An Investigation on The Antibacterial and Antibiofilm Efficacy of Cationic Nanoparticulates for Root Canal Disinfection, *Journal of Endodontics*, 34(12), 1515–1520.
- Komariah, A., 2014, Efektivitas Antibakteri Nano Kitosan terhadap Pertumbuhan

Staphylococcus aureus (in vitro), *Prosiding Seminar Nasional XI Pendidikan Biologi FKIP UNS* 11(1): 371-377.

Levinson, W., 2006, *Review of Medical Microbiology and Immunology, 9th edition*, Mc Graw Hill Lange, USA

Lee, J.K., Sang, W.K., Jung, H.H., Woo, C.L., Hyeon, C.K., 2017, Physicochemical Properties of Epoxy Resin-Based and Bioceramic-Based Root Canal Sealers, *Hindawi.*, 9 (61) : 1-8.

Leoni, G. B., Chaves, J.F.M., Crozeta, B.M., Araújo, V.L.C., Rosa., R.P.F., Junior, F.J.C., Silva-Sousa, Y.T.C., Sousa-Neto, M.D., 2014, Physicochemical properties of epoxy resin-based root canal sealers., *Dental Materials Journal* 30 (1): e61-e62.

Loveless, A.R., 1991. *Prinsip prinsip Biologi Tumbuhan untuk Daerah Tropik I*. PT. Gramedia : Jakarta, h. 135-137

Maekawa, L.E., Nassri, M.G., Ishikawa, C.K., Martins, C., Chung, A., Koga-Ito, C.Y., 2012, *In vitro* antimicrobial activity of AH Plus, EndoREZ and Epiphany against microorganisms, *Indian Journal of Dental Research* 2012 (23) :469-472.

Mitchell, G.J., Wiesenfeld, K., Nelson, D.C., Weitz, J.S., 2013, Critical cell wall hole size for lysis in gram positive bacteria, *Journal of the royal society interface*, 10 (80): 1-10.

Nadia, L. M. H., Pipih, S., Bustami, I., 2014, Produksi dan karakterisasi nano kitosan dari cangkang udang windu dengan metode gelas ionik, *Jurnal Pengolahan Hasil Perikanan Indonesia*, 17(2): 119-126.

Miyagak, D.C., Carvalho, E.M.O.F., Robazza, C.R.C., Chavasco, J.K., Levorato, G.L., 2006, *In vitro* evaluation of the antimicrobial activity of endodontic sealers. *Braz Oral Res*, 20(4):303-6.

Ocampo, P. S., Lázár, V., Papp, B., Arnoldini, M., Abel zur Wiesch, P., Busa-Fekete, R., Bonhoeffer, S., 2014, Antagonism between Bacteriostatic and Bactericidal Antibiotics Is Prevalent, *Antimicrobial Agents and Chemotherapy Journal*, 58(8), 4573–4582.

Ouellette, R.J., dan Rawn, J. D., 2015, *Synthetic Polymers. Principles of Organic Chemistry 1st ed*, Elsevier, h: 401-402.

Pizzo, G., Giovanni M.G., Enzo, C., Giuseppe, N., Giuseppe, G., 2005, *In vitro* antibacterial activity of endodontic sealers, *Journal of Dentistry* (2006)34: 35–40

- Poggio, C., Trovati, F., Ceci, M., Colombo, M., Pietrocola, G., 2017, Antibacterial activity of different root canal sealers against *Enterococcus faecalis*, *J Clin Exp Dent*, 9(6) : e743-8.
- Rajalakshmi, R., Muzib, I., Aruna, U., Vinesha, V., Rupangada, V., Krishna, M., 2014, Chitosan Nanoparticles An Emerging Trend In Nanotechnology, *International Journal of Drug Delivery*, 6 (3) : 204-229.
- Saeb, M.R., Bakhshandeh, E., Khonakdar, H.A., Mäder, E., Scheffler, C., Heinrich, G., 2013, Cure Kinetics of Epoxy Nanocomposites Affected by MWCNTs Functionalization: A Review, *Hindawi Publishing Corporation : The Scientific World Journal*, 2013: 1-14.
- Samiei, M., Farjami, A., Dizaj, S. M., dan Lotfipour, F., 2016, Nanoparticles for antimicrobial purposes in Endodontics: A systematic review of in vitro studies, *Materials Science and Engineering: C*, 58, 1269–1278.
- Schmitt, B. dan Eloit, M., 2016, *Manual of diagnostic test and vaccines for terrestrial animal 7th ed*, vol 1, h. 3-9.
- Seelan, R.G., Kumar, A.A., Sam, R.J.E., dan Maheswari, S.U., 2015, Antimicrobial efficacy of different root canal sealers by using real-time polymerase chain reaction: An *ex vivo* study, *Journal of conservative dentistry*, 18(6): 474–478
- Shakouie, S., Eskandarinezhad, M., Shahi, S., Mokhtari, H., Reihani, M.F., Soroush, M., Gosili, A., 2012, Antimicrobial efficacy of AH-Plus, adseal and endofill against *Enterococcus faecalis*- An in vitro study, *African Journal of Microbiology Research*, 6(5): 991-994
- Shakya, V.K., Gupta, P., Tikku, A.P., Pathak, A.K., Chandra, A., Yadav, R.K., Bharti, R., Singh, R.K., 2016, An In vitro Evaluation of Antimicrobial Efficacy and Flow Characteristics for AH Plus, MTA Fillapex, CRCS and Gutta Flow 2 Root Canal Sealer, *Journal of Clinical and Diagnostic Research*, 10(8): 104–108.
- Shin, J.-H., Lee, D.-Y., dan Lee, S.-H., 2018, Comparison of antimicrobial activity of traditional and new developed root sealers against pathogens related root canal, *Journal of Dental Sciences*, 13(1), 54–59.
- Shrestha, A., dan Kishen, A., 2016, Antibacterial Nanoparticles in Endodontics: A Review, *Journal Of Endodontics*, 42 (10) : 1417-1426.
- Shrestha A, Shi Z, Neoh KG, Kishen A., 2010. Nanoparticulates for antibiofilm treatment and effect of aging on its antibacterial activity. *Journal of Endodontics*, 2010 (36):1030–5

- Suwarda R, dan Maarif MS., 2012, Pengembangan Inovasi Teknologi Nanopartikel Berbasis Pati untuk Menciptakan Produk yang Berdaya Saing, *Jurnal Teknik Industri* 13(2):105-122
- Tandon, B., Veerendra, M.U., Su,ati, A.H., Swantika, C., Sumit, B., Shoki, B., 2017, Antibacterial activity of four root canal sealers againts enterococcus faecalis at 1st, 3rd, 5th, and 7th day duration: an in vitro study, *Indian Journal of Dental Sciences*, 9 (2) : 98-104.
- Tripathi, K.D., 2013, *Essentials of Medical Pharmacology 7th ed*, Elsevier : India, h. 696.
- Tyagi, A., Leekha, A., Agarwal, S., Verma, A.K., 2014, Effect of Mass and Aspect Heterogeneity of Chitosan Nanoparticles on Bactericidal Activity, *International Journal of Advanced Research*, 2 (8): 357-367.
- Ustun Y, Sagsen B, Durmaz S, Percin D. 2013. *In vitro* antimicrobial efficiency of different root canal sealers against *Enterococcus faecalis*. *Euroupan Journal of General Dentistry*, 2013(2):134-8
- Wellinghausen, N., Chatterjee, I., Berger, A., Niederfuehr, A., Proctor, R.A., Kah, B.C., 2009, Characterization of Clinical *Enterococcus faecalis* Small-Colony Variants *Journal Of Clinical Microbiology*, 47 (9): 2802–2811.
- Widyawati, K.S., 2017, Pengaruh penambahan kitosan nanopartikel sebagai bahan antibakteri pada medikamen intrakanal kalsium hidroksida terhadap zona hambat bakteri *Enterococcus faecalis*, thesis
- Zhang, H., Shen, Y., Ruse, N.D., Markus, H., 2009, Antibacterial Activity of Endodontic Sealers by Modified Direct Contact Test Against *Enterococcus faecalis*, *Journal of Endodontics*, 35 (7) : 1051–1055.
- Zhou, H., Shen, Y., Zheng, W., Li, L., Zheng, Y., Haapasalo, M., 2013, Physical properties of 5 root canal sealers, *Journal of Endodontics*, 39 (10):1281-1286.
- Zhou, X dan Yuqing, L. 2015. *Atlas of Oral Microbiology*. From Healthy Microflora to Disease. Elsevier : China. h. 30-33, 67–93.