

DAFTAR PUSTAKA

- Ahn, S.J., Wen, Z.T., Brady, L.J., Burne, R.A., 2008, Characteristic of Biofilm Formation by *Streptococcus mutans* in the Presence of Saliva, *Infect Immun*, 76(9) : 4259-68
- , Lee, S.J., Kook, J.K., Lim, B.S., 2009, Experimental antimicrobial orthodontic adhesives using nanofillers and perak nanoparticles. *Dent Mater*, 25(2):206-13.
- Achmad and Suryana, I., 2009, Pengujian Aktivitas Ekstrak Daun Sirih (*Piper betle* Linn.) Terhadap *Rhizoctonia* sp. secara In Vitro, *Buletin Litro.*, 20, 92-98.
- Ahmad, M.B., Lim, J.J., Shameli, K., Ibrahim, N.A., dan Tay, M.Y., 2011, Synthesis of Silver Nanoparticles in Chitosan, Gelatin and Chitosan/Gelatin Bionanocomposite by a Chemical Reducing Agent and Their Characterization, *Molecules*, 16 :7237-7248.
- Akhavan, A., Sodagar, A., Mojtahedzadeh, F., & Sodagar, K., 2013, Investigating the effect of incorporating nanosilver/nanohydroxyapatite particles on the shear bond strength of orthodontic adhesives. *Acta Odontologica Scandinavica*, 71(5), 1038–1042.
- Alex, G., 2007, Adhesive Consideration in the placement of direct composite restoration, *Functional Esthetics and Restorative Dentistry*; 1 (1): 20-1.
- Al-Jewair, TS., Sunjay Suri, dan Bryan D. Tompson., 2011, Predictors of adolescent compliance with oral hygiene instructions during two-arch multibracket fixed orthodontic treatment, *Angle Orthodontist* 81(3): 525–31.
- Andrucioli, M.C.D., Faria, G., Filho, P.N., Romano, F.L., Matsumoto, M.A.N., 2017, Influence of resin-modified glass ionomer and topical Fluoride on level of *Streptococcus mutans* in saliva and biofilm adjacent to metallic bracket, *J Appl Oral Sci.*, 25(2):196-202.
- Anusavice, K. J., 2013, *Phillips Sciences of Dental Materials*, 12th ed, W.B. Saunders Company, Philadelphia.
- Bachtiar, E.W., 1997, Prospek vaksinasi dalam pencegahan karies dengan antigen hasil rekayasa protein dinding sel *Streptococcus mutans*, *JKG UI*, 4:641-7
- Batra, P., Mushtaq, A., Rizvi, M. S., & Miglani, R., 2016, Nanoparticles and their Applications in Orthodontics. *Advances in Dentistry & Oral Health*, vol. 2(1): 1–10.

- Bhalajhi, S.I., 2004, *Orthodontics The Art and Science 3rd Edition*, Arya(medi) Publishing House, New Delhi, 307-9.
- Bishara, S.E., dan Ostby, A.W., 2008, White Spot Lesions: Formation, Prevention, and Treatment, *Seminar Orthodontic* ;14(3):174–82.
- Borzabadi-Farahani, A., Borzabadi, E., dan Lynch, E., 2014, Nanoparticles in Orthodontics, A Review of Antimicrobial and Anti-Caries Applications, *Acta Odontol Scand*,72:413–417.
- Brantley, W., dan Eliades, T., 2001, *Orthodontic Materials: Scientific and Clinical Aspects*, New York: Thieme.
- Cao, X. L., Cheng, C., Ma, Y. L. and Zhao, C. S., 2010, Preparation of Silver Nanoparticles with Antimicrobial Activities and the Researches of Their Biocompatibilities, *J. Mater. Sci.*, 21, 2861–2868.
- Capuccino, James G., Natalie Sherman, 2001, *Microbiology : A laboratory Manual*, 6th ed, Benjamin Cummings, San Fransisco.
- Cardoso, M.D.A., Saraiva, P.P., Maltagliati, L.Á., Rhoden, F.K., 2015, Original article Alterations in plaque accumulation and gingival inflammation promoted by treatment with self-ligating and conventional orthodontic brackets, *Dental Press J Orthod*, 20(2), 35–41.
- Çatalbaş, B., Kamak, H., Demir, A., Nur, M., Hadimli, H.H., 2012, Antibacterial Effects of Several Current Orthodontic Materials against *Streptococcus mutans*. *West Indian Med J.*,61(8):3–7
- Cho, K. H., Park, J. E., Osaka, T. and Park, S.G., 2005, The Study of Antimicrobial Activity and Preservative Effects of Nanosilver Ingredient, *Electrochim. Acta*, 51, 956–960.
- Choi, K., Lee, J., Hwang, Y., Chang, S., Kum, K. Y., Bae, K., Kim, Y.H.,2012, In vitro Antibacterial Effect of Orthodontic Adhesives Mixed with Silver Nanoparticles, *J Orthodontic*, 7(1), 7–12.
- Corrêa, J. M., Mori, M., Sanches, H. L., Dibo, A., Jr, E. P., Andréa, I., Pola, V., 2015, Silver Nanoparticles in Dental Biomaterials, *International Journal of Biomaterials*, Vol.(20):15.
- Cowan, M. M., 1999, Plant Products as Antimicrobial Agents, *Clin. Microbiology Rev.*, 12, 564-582.
- Craig, R.G., dan Powers, J.M., 2002, *Restorative Dental Material*, 11th ed., Mosby Co., St. Louis, Baltimore.

- Dwivedi, V., Tripathi, S., 2014, Review Study on Potential Activity of Piper betle L., *J. of Pharmacognosy and Phytochemistry*, 3(4), 93-98
- Eley, B.M., Manson, J.D., 2004, *Periodontic*, edisi 5, Elsevier, Saunders.
- Emmanuel, R., Palanisamy, S., Chen, S.M., Chelladurai, K., Padmavathy, S.; Saravanan, M.; Prakash, P., Ajmal, A.M., Al-Hemaid, F.M., 2015, Antimicrobial efficacy of green synthesized drug blended silver nanoparticles against dental caries and periodontal disease causing microorganisms, *Mater Sci Eng C Mater Biol Appl*. Nov 1;56:374-9.
- Enriquez, Velazquez, U., Scougall-Vilchis, R.J., Contreras-Bulnes, R., Flores-Estrada, J., Uematsu, S., Yamaguchi, R., 2013, Adhesion of Streptococci to various orthodontic composite resins. *Australia Dental Journal*, 58:101-5.
- Ewoldsen, N., & Demke, R. S., 2001, A review of orthodontic cements and adhesives, *Am J Orthod Dentofacial Orthop*, 120: 45-48
- Fard, B. K., Ghasemi, M., Rastgariyan, H., Sajjadi, S. H., Emami, H., Amani, M., & Motamedi, M. H. K., 2011, Effectiveness of Mouth Washes on Streptococci in Plaque around Orthodontic Appliances. *ISRN dentistry*, 954053
- Fatemeh, K., Mohammad Javad, M., dan Samaneh, K., 2017, The Effect of Silver Nanoparticles on Composite Shear Bond Strength to Dentin with Different Adhesion Protocols. *J Appl Oral Sci*, 25(4): 367-373.
- Freitas, A. O. A. de, Marquezan, M., Nojima, M. da C. G., Alviano, D. S., & Maia, L. C., 2014, The influence of orthodontic fixed appliances on the oral microbiota: A systematic review. *Dental Press Journal of Orthodontics*, 19(2), 46-55.
- Gani, B. A., Chismirina, S., Hayati, Z., Winiati, E., Bachtiar, B. M., & Wibawan, I. W. T., 2009, The Ability of IgY to Recognize Surface Proteins of Streptococcus mutans, *J. Dental*, 42(4), 189-193.
- Gómora, A.E.H., Carrillo, E.C., Navarro, J.B.R., Vilchis, R.J.S., López, S.H., Solís, C.E.M., Luckie, D.R.M., 2007, Biosynthesis of Silver Nanoparticles on Orthodontic Elastomeric Modules: Evaluation of Mechanical and Antibacterial Properties, *Molecules*, 22, 1407
- Graber, L. W., Vanarsdall, R. L., dan Vig, K. W. L., 2012, *Orthodontic Current Principles and Techniques*, 5th ed., Mosby, Philadelphia, p. 1023-35
- Haas, A., Pannuti, C., Andrade, A., Escobar, E., Almeida, E., Costa, F.

- Oppermann, R. ,2014, Mouthwashes for the control of supragingival biofilm and gingivitis in orthodontic patients: evidence-based recommendations for clinicians. *Brazilian oral research*, 28: p.1–8.
- Hamilton, I.R. dan Buckley, N.D., 1991, Adaptation by *Streptococcus mutans* to Acid Tolerance, *Oral Microbiology and Immunology Issue*, 6(2), 65-71
- Hasanah, A.N., 2013, *Sintesis Perak Nanopartikel (Ag-NP) Menggunakan Ekstrak Daun Sirih Hijau (Piper betle L.) Serta Uji Aktivitasnya Terhadap Bakteri E.Coli dan S.Aureus* (Skripsi), Universitas Gadjah Mada, Yogyakarta.
- Hernández-Sierra, J. F., Ruiz, F., Cruz Pena, D. C., Martínez-Gutiérrez, F., Martínez, A. E., de Jesús Pozos Guillén, A.,Martínez Castañón, G., 2008, The antimicrobial sensitivity of *Streptococcus mutans* to nanoparticles of silver, zinc oxide, and gold. *Nanomedicine: Nanotechnology, Biology, and Medicine*, 4(3), 237–240.
- Ismail, M., Gul, S., Khan, M. A., Khan, M. I.,2016 , Plant Mediated Green Synthesis of Anti- Microbial Silver Nanoparticles — A Review on Recent Trends. *Reviews in Nanoscience and Nanotechnology*, 5(January), 119–135.
- Khaydarov, R. R., Estrin, Y., Evgrafova, S., Scheper, T., Endres, C. and Cho, S. Y., 2009, Silver Nanoparticles, *Nanomaterials: Risks and Benefits*, 4, 287-297.
- Kim, S. J., 2007, Antibacterial Activity of Ag⁺ Ion-Containing Silver Nanoparticles Prepared Using the Alchol Reduction Method, *J. Ind. Eng. Chem.*, 13, 718-722.
- Mahamad, I.K., Neela, P.K., 2012, White Spot Lesions: An Iatrogenic Damage after Orthodontic Treatment Its Prevention and Management- *An Overview Dentistry*, 2(3), 2–4.
- McCabe JF, Walls AW. 2008. *Applied dental materials*. 9th ed. Blackwell Publishing: 258-260.
- Mitra,S.B., Wu,D., Holmes, B.N., 2003, An application of nanotechnology in advanced dental materials, *Journal American Dental Association*, Vol.134 (10).
- Moreira, D. M., Oei, J., Rawls, H. R., Wagner, J., Chu, L., Li, Y.,Whang, K., 2015, A novel antimicrobial orthodontic band cement with in situ-generated silver nanoparticles. *Angle Orthodontist*, 85(2), 175–183.

- Mota, S., Enoki, C., Ito, I., Elias, A., Matsumoto, M., 2008, *Streptococcus mutans* Counts in Plaque Adjacent to Orthodontic Brackets Bonded with Resin-Modified Glass Ionomer Cement or Resin-based Composite, *Braz Oral Res*, 22(1):55-60
- Mubarak, A.D., Sasikala, M. and Thajuddin, N., 2011, Biosynthesis and Characterization of Silver Nanoparticles Using Marine Cyanobacterium, *Oscillatoria willei* Ntdm01, *Dig. J. Nanomater. Bios.*, 6, 385-390.
- Nakano, K., Nomura, R., Nakagawa, I., Hamada, S., Ooshima, T., 2004, Demonstration of *Streptococcus mutans* with a cell wall polysaccharide specific to a new serotype in the human oral cavity, *J. Clin. Microbiol*, 42:198–202.
- Odegaard, J. dan Segner, D. J., 1990, The Use of Visible Light Cured Composite in Bonding Porselen Bracket, *Am. J. Orthod. Dentofacial Orthop.*, 97(3):188-93
- Ogaard B, 2008, White spot lesions during orthodontic treatment: mechanisms and fluoride preventive aspects. *Semin Orthod.*;14(3):183–93.
- Oesterle L.J. dan Shellhart WC. 2001, Bracket bond strength with transillumination of a light-activated orthodontic adhesive, *Angle Orthod* (71) :307-11.
- Otake, S., 2005, Aktivitas antibakteri flavonoid propolis *Trigona* sp terhadap bakteri *Streptococcus mutans* (in vitro), *Dent J*, 38(3):135- 141.
- Pradhan, D., Suri, K. A., Pradhan, D. K. and Biswaroy, P., 2013, Golden Heart of the Nature: Piper betle L., *J. Pharmacognosy of Phytochemistry.*, 1, 147-165.
- Proffit, W. R., 2013, *Contemporary Orthodontics*, 5th ed, St. Louis, Mosby, 128-141.
- Reddy, A. K., Kambalyal, P. B., Patil, S. R., Vankhre, M., Khan, M. Y. A., dan Kumar, T. R., 2016, Comparative Evaluation and Influence on Shear Bond Strength of Incorporating Silver, Zinc Oxide, and Titanium Dioxide Nanoparticles in Orthodontic Adhesive. *J Orthod Sci*, 5(4):127–131.
- Sajadi, S.F., Moradi, M., Pardakhty, A., Yazdizadeh, R., Madani, F., 2015, Effect of Fluoride, Chlorhexidine and Fluoride-chlorhexidine Mouthwashes on Salivary *Streptococcus mutans* Count and the Prevalence of Oral Side Effects. *Journal of Dental Research, Dental Clinics, Dental Prospects*, 9(1), 49–52.

- Shemesh, M., Steinberg, D., Tam, A., 2007, Expression of biofilm associated genes of *Streptococcus mutans* in response to glucose and sucrose, *J of Med Microb*, 56(1):1528-1535.
- Singh, G., 2007, *Fixed Orthodontic Appliances, Text Book of Orthodontics* (Second Edition), New Delhi: Jaypee Publishers, 449.
- Sodagar, A., Akhavan, A., Hashemi, E., Arab, S., Pourhajibagher, M., Sodagar, K., Bahador, A., 2016, Evaluation of the antibacterial activity of a conventional orthodontic composite containing silver/hydroxyapatite nanoparticles. *Progress in Orthodontics*, 17(1), 40.
- , Sadegh, M., Akhondi, A., & Bahador, A. (2017). Effect of TiO₂ nanoparticles incorporation on antibacterial properties and shear bond strength of dental composite used in Orthodontics, 22(5), 67–74
- Soedjono-Aswin, 2001, *Metodologi Penelitian Kedokteran*, Fakultas Kedokteran Universitas Gadjah Mada, Yogyakarta, p.6
- Sondi, I and Sondi, B. S., 2004, Perak Nanoparticle as Antimicrobial Agent: a case Study on *E.coli* as a Model for Gram-Negative Bacteria, *J. Colloid Interface Sci.*, 275, 177-182.
- Sukontapatipark, W., el-Agroudi, M.A., Selliseth, N. J., Thunold, K., dan Selvig, K.A., 2001, Bacterial Colonization Associated with Fixed Orthodontic Appliances : A Scanning Electron Microscopy Study. *European Journal of Orthodontics*, 23(5), 475–84.
- Sudjalim, T.R., Woods, M.G., Manton, D.J., 2006, Prevention of white spot lesions in orthodontic practice: A contemporary review. *Aust Dent J*, 51:284–9
- Taheri S, Vasilev K, Majewski P., 2015, Silver nanoparticles: synthesis, antimicrobial coatings, and applications for medical devices, *Recent Pat Mater Sci*, 8:166- 75.
- Tanzer, J.M., 1992, Microbiology of dental caries. *In: contemporary oral microbiology and immunology*. St Louis, Missouri: Mosby Year Book. p. 377–422.
- Toledano, M., Osorio, E., Romeo. A., Higuera, B., Garcia-Godoy, F., 2003, Bond Strength of Orthodontic Brackets using Different Light and Self-Curing Cements, *Angle Orthod*, 73(1) : 56-63.

- Velazquez, E.U., Scougall-Vilchis, R.J., Contreras-Bulnes, R., Flores-Estrada J., Uematsu, S., Yamaguchi, R., 2013, Adhesion of Stretococci to various orthodontic composite resins. *Aus Dent J.*, 58:101–5.
- Warongan, M.S.J., Anindita, P.S dan Mintjelungan, C.N., 2015, Perbedaan Indeks Plak Pengguna Obat Kumur Beralkohol dan Non Alkohol pada Pengguna Alat Ortodontik Cekat, *Jurnal e-Gigi*, 3(2): 527-533.
- Williams, J.K., Cook, P.A., Isaacson, K.G., dan Thom, A.R., 1998, *Fixed Orthodontic Appliances Principles and Practice*, Wright, London, 46-47.
- Xiu, Zong-ming, Zhang, Qing-bo, Puppala, H. L., Colvin, V. L. and Alvarez, P. J. J., 2012, Negligible Particle-Specific Antibacterial Activity of Silver Nanoparticles, *Nano Lett.*, 12, 4271-4275.
- Zhang, K., Melo, M.A., Cheng, L., Weir, M.D., Bai, Y., Xu, H.H., 2012, Effect of quaternary ammonium and silver nanoparticles-containing adhesives on dentin bond strength and dental plaque microcosm biofilms. *Den. Mater.* 2012, 28, 842–852