

## DAFTAR PUSTAKA

- Abidin, T. 2007. Inovasi Perawatan Konservasi Gigi melalui Teknologi Tissue Engineering. *Pidato Pengukuhan Jabatan Guru Besar Tetap bidang Ilmu Konservasi Gigi*. Fakultas Kedokteran Gigi Universitas Sumatera Utara.
- Aboelsaad, N., Abiad, R. 2020. Clinical and radiographic evaluation of periodontal infrabony defects treated with chitosan in periodontitis patients. *BAU Journal - Creative Sustainable Development*: 1 (2): 1-8.
- Afriani, Y., Fadli, A., Maulana, S., Karina, I. 2016. Sintesis, Kinetika Reaksi dan Aplikasi Kitin dari Cangkang Udang: *Review*. Naskah Publikasi. PLL07:184-196.
- Agusnar, H. 2007. Penggunaan kitosan dari tulang rawan cumi cumi untuk menurunkan kadar ion logam. *Jurnal Sains Kimia*. 11(1): 15-20.
- Ansel, 2014. *Pharmaceutical Dosage Form and Drug Delivery Systems 10<sup>th</sup> Edition*. Wolters Kluwer, Philadelphia: 484-486.
- Aranaz, I., Mengibar, M., Harris, R., Panos, I., Miralles, B., Acosta, N., Galed, G. 2009. Functional characterization of chitin and chitosan. *Current Chemical Biology*. 3(2): 203-30.
- Ariani, M.D., Matsuura, A., Hirata, I., Kubo, T., Kato, K., Akagawa, Y. 2013. New development of carbonate apatite-chitosan scaffold based on lyophilization technique for bone tissue engineering. *Dental Material Journal*. 32(2): 317-25.
- Artiningsih, A. 2017. Pembuatan kitosan dari cangkang kepiting menggunakan mikroba. *Journal of Chemical Process Engineering*. 2 (1): 30-35.
- Ayu, K.V. 2014. Pemberian Minyak Biji Rami (*Linum usitatissimum*) Per Oral Meningkatkan Jumlah Osteoblas dan Kepadatan Tulang pada Tikus Putih Jantan (*Rattus norvegicus*) Galur *Sprague dawley* dengan Periodontitis. *Thesis*. Universitas Udayana.
- Boynuegri, D., Ozcan, G., Senel, S., Uc, D., Uraz, A., Ogus, E., Cakilci, B., Karaduman, B. 2008. Clinical and radiographic evaluations of chitosan gel in periodontal intraosseous defects: a pilot study. *Journal of Biomedical Materials Research*. 90B:461-466.
- Calder, P. C. 2006. n-3 Polyunsaturated fatty acids, inflammation, and inflammatory diseases. *American Journal of Clinical Nutrition*. 83: 1505S-1519S.
- Carter, J.S. 1997. *Dispensing for Pharmaceutical Student*. 12th ed. Pitman Medical. London.

- Danilchenko S.N. 2009. Chitosan hydroxyapatite composite biomaterials made by a one step coprecipitation method: preparation, characterization and *in vivo* test. *Journal of Biological Physics and Chemistry*. 9(1): 119.
- Dean, R.L. 2002. Kinetic studies with alkaline phosphatase in the presence and absence of inhibitors and divalent cations. *Biochemistry and Molecular Biology Education*. 30 (6): 401-407.
- Depkes RI. 1995. *Farmakope Indonesia*. Edisi IV. Depkes RI: 7 – 8.
- Eka, P.S., Masulili, S.L.C. 2010. Cairan sulkus gingiva sebagai indikator keadaan jaringan periodontal. *Majalah Kedokteran Gigi*. 17(1): 81-86.
- Elnisa, A.R. 2018. Efek Pemberian Ekstrak Kitosan Limbah Kulit Udang *Vannamei (Litopenaeus vannamei)* Secara Oral Terhadap Densitas Tulang Alveolar Pasca Ekstraksi Gigi pada Tikus Wistar Jantan. *Skripsi*. Fakultas Kedokteran Gigi Universitas Jember.
- Fedi, P.F., Vernino, A.R., Grey, J.L. 2015. *Silabus Periodonti* (Amalia, Penerjemah). edisi 4. EGC. Jakarta. 76-96.
- Focher, B., Naggi, A., Tarri, G., Cosami, A. and Terbojevich, M. 1992. Structural differences between chitin polymorphs and their precipitates from solution evidence from CP-MAS 13, FT-IR and FT-Rahman Spectroscopy, charbohidrat polymer. *The National Agricultural Library*. 17(2): 97-102.
- Furoida, Y., Kusumawardani, B., Ermawati, T. 2014. Identifikasi warna koloni bakteri anaerob pada gingival crevicular fluid pasien gingivitis dan periodontitis kronis. *Artikel Ilmiah Hasil Penelitian Mahasiswa*. 1-6.
- Garg, A., Deepika, A., Sanjay, G., & Anil, K. S. 2002. Spreading of Semisolid Formulations: An Update. 178-180. *Pharmaceutical Technology*. USA.
- Guinness World Records. 2001. *Gum Diseases in: Guinness World Records*. Mint Publishers. New York. h.175
- Guyton AC., Hall JE. 2008. *Buku Ajar Fisiologi Kedokteran* (Irawati, Ramadhani D, Indriyani F, Dany F, Nuryanto I, Rianti SSP, Resmisari T, Suyono YJ, Penerjemah). edisi 11. EGC. Jakarta. 1032-1035.
- Hejazi, R, Amiji, M. 2013. Chitosan-based gastrointestinal delivery systems. *Journal of Controlled Release*. 89(2): 151–165.
- Herliana, P. 2010. Potensi kitosan sebagai antibakteri penyebab periodontitis. *Jurnal UI Untuk Bangsa Seri Kesehatan, Sains, dan Teknologi*. 1(12) :12-24.
- Hirano, S. 1996. Chitin biotechnology applications. *Biotechnology Annual Review*. 2: 237-258.

- Husin E., Tjandrawinata R., Juliani M., Roeslan B.O. 2012. Orthodontic force application in correlation with salivary lactatedehydrogenase activity. *Journal of Dentistry Indonesia*. 19(1): 10-13.
- Indahyani, D.E., Santoso, A.S., Utoro, T., Marsetyawan, H.N.E. 2007. Pengaruh induksi lipopolisakarida (LPS) terhadap osteopontin tulang alveolaris tikus pada masa erupsi gigi. *Indonesian Journal of Dentistry*. 14 (1): 2-7.
- Junior, A.A.B., Pallos, D., Cortelli, J.R., Saraceni, C.H.C., Querioz C.S. 2010. Evaluation of organic and inorganic compounds in the saliva of patients with chronic periodontal disease. *Revista Odonto Ciência*. 25 (3): 234-238.
- Kaya, F.A., Arslan, S.G., Kaya, C.A., Arslan, H., Hamamci, O. 2011. The gingival crevicular fluid levels of IL-1B, IL-6 and TNF- $\alpha$  in late adult rats. *International Dental Research*. 1: 7-12.
- Kementerian Kesehatan Republik Indonesia. 2018. Laporan Nasional RISKESDAS: 207.
- Kim, I.Y. 2008. Chitosan and its derivatives for tissue engineering applications. *Biotechnology Advances*. 26(1): 1-21.
- Kunjappu, J.J., Mathew, V.B., Hegde, S., Kashyap, R., Hosadurga, R. 2012. Assessment of the alkaline phosphatase level in gingival crevicular fluid, as a biomarker to evaluate the effect of scaling and root planing on chronic periodontitis: an *In vivo* study. *Journal of Oral and Maxillofacial Pathology*. 16 (1): 54-57.
- Mohammad, C.A., Aziz, H.W. 2018. Effect of scaling and root planing on salivary alkaline phosphatase and acid phosphatase in patients with chronic periodontitis. *Medical Journal of Babylon*. 15: 186-190.
- Muzzarelli, RAA. 2009. Chitins and chitosans for the repair of wounded skin, nerve, cartilage, and bone. *Carbohydrate Polymers*. 76(2): 167-182.
- Newman, M.G., Carranza, F.A., Takel H.H., Klollevoid, P.R. 2019. *Newman & Carranza's Clinical Periodontology 13<sup>th</sup> edition*. Elsevier. Philadelphia.
- Panjaitan, E.N., Saragih, A., Purba, D. 2012. Formulasi gel ekstrak rimpang jahe merah (*Zingiber officinale* roscoe extract). *Journal of Pharmaceutics and Pharmacology*. 1 (1): 9-20.
- Patria, M.A.N. 2019. Optimasi Gel Ekstrak Daun Binahong (*Anredera cordifolia* (ten.) steenis) Dengan Gelling Agent Kitosan Dan Humektan Sorbitol Metode Simplex Lattice Design. *Skripsi*. Fakultas Farmasi Universitas Muhammadiyah Surakarta.
- Perumal, G.C.L., Mythili, R., Kumar, S., Suyambukesan, S. 2014. Serum total alkaline phosphatase enzyme level and severity of chronic periodontitis.

*International Journal of Current Research and Review*. 6(17): 41-44

- Popa, D.L., Ghica, M.W., Cristinaelena, D.P. 2013. Periodontal chitosan-gels designed for improved local intra-pocket drug. *Farmacia*. 61(2): 240-250.
- Pratiwi, F.R.N.I. 2016. Formulasi Sediaan Gel Pasta Gigi Minyak Atsiri Kemangi (*Ocimum Basilicum L.*) dan Uji Aktivitas Antibakteri Terhadap Bakteri *Streptococcus mutans*. *Publikasi Ilmiah*. Fakultas Farmasi Universitas Muhammadiyah Surakarta.
- Priyana, A. 2007. Peran pertanda tulang dalam serum pada tatalaksana osteoporosis. *Universa Medicina*. 26 (3): 152-159.
- Przekora, A., Ginalska, G. 2014. Enhanced differentiation of osteoblastic cells on novel chitosan/  $\beta$ -1,3 glucan/ bioceramic scaffolds for bone tissue regeneration. *Bio-medical Materials*. 10(1): 1-13.
- Putra, D.A.C., Lutfiyati, H., Pribadi, P. 2017. Efektifitas gel ekstrak daun pisang (*Musa paradisiaca L.*) untuk penyembuhan luka. *Pharmaciana* vol. 7(2), Fakultas Ilmu Kesehatan. Universitas Muhammadiyah Magelang: 177-184.
- Ratnasari, W. 2017. Pengaruh Pemberian Ekstrak Kulit Kentang (*Solanum tuberosum L.*) Terhadap Kadar *Alkaline Phosphatase* (ALP) Pada Tikus *Sprague Dawley* Model Periodontitis. *Skripsi*. Jurusan Kedokteran Gigi Fakultas Kedokteran Universitas Jenderal Soedirman. Purwokerto.
- Reddy, S. 2011. *Essentials of Clinical Periodontology and Periodontics*. Jaypee Brothers Medical Publisher. India: 201-211.
- Ridwan, E. 2013. Etika pemanfaatan hewan percobaan dalam penelitian kesehatan. *Journal of Indonesian Medical Association*. 63(3): 112-116.
- Rostiny, Kuntjoro, M., Sitalaksmi, R.M., Salim, S. 2014. Spirulina chitosan gel induction on healing process of cavia cobaya post extraction socket. *Dental Journal*. 47(1): 19-24.
- Rowe, RC., PJ., Sheskey, S.O. Owen. 2009. *Handbook of Pharmaceutical Excipients*. 5th ed. Pharmaceutical Press. London.
- Rowis, R., Moharib, H., Mubarak, A., Bhaskardoss, J., Preethanath, R.S., Anil, S. 2014. Oral fluid-based biomarkers in periodontal disease – part 2, gingival crevicular fluid. *Journal of International Oral Health*. 6(5): 126-135.
- Saito, T., Tabata, Y. 2012. Preparation of gelatin hydrogels incorporating low-molecular-weight heparin for anti-fibrotic therapy *acta biomaterialia*. 8(2): 646-652.
- Sanikop, S., Patil, S., Agrawal, P. 2012. Gingival crevicular fluid alkaline phosphatase as a potential diagnostic marker of periodontal disease. *Journal Indian Society of Periodontology*. 16 (4): 513-518.

- Septiani, S., N. Wathoni, dan S. R. Mita. 2011. Formulasi sediaan masker gel antioksidan dari ekstrak etanol biji melinjo (*Gnetum gnemon Linn.*). *Jurnal Unpad*. 1(1): 4-24.
- Shinwari, M.S., Tanwir, F., Hyder, P.R., Saeed, M.H.B., 2014, Host modulation therapeutics in periodontics: role as an adjunctive periodontal therapy. *Journal of the College of Physicians and Surgeons Pakistan*. 24(9): 676-684.
- Soeratri, W., Purwanti, T. 2004. Pengaruh penambahan asam glikolat terhadap efektifitas sediaan tabir surya kombinasi anti UV-A dan anti UV-B dalam basis gel. *Majalah Farmasi Airlangga*. 4(3).
- Soeroso, Y., Bachtiar, E., Bachtiar, B. M., Sulijaya, B., Prayitno, S. 2016. The Prospect of chitosan on the osteogenesis of periodontal ligament stem cells. *Journal of International Dental and Medical Research*. 5: 93-97.
- Su, Y., Su, Q., Liu, W., Lim, M., Venugopal, J.R., Mo, X., Ramakhrisna, S., Aldeyab, S.S., Elnwehy, M. 2012. Controlled release of bone morphogenetic protein 2 and dexamethasone loaded in core-shell PLLACL-collagen fibers for use in bone tissue engineering. *Acta Biomaterialia*. 763-771.
- Sungwoo, K., Helen, T., Yunqing, K., Daniel, A.Y., Milan, S., Joseph, C.W., Yunzhi, Y. 2011. In vitro evaluation of an injectable chitosan gel for sustained local delivery of BMP-2 for osteoblastic differentiation. *Journal of Biomedical Materials Research B: Applied Biomaterials*. 99B (2): 380-390.
- Swastika, A, Mufrod & Purwanto. 2013. Aktivitas antioksidan krim ekstrak sari tomat (*Solanum lycopersicum L.*). *Trad Med Journal*. 18(3): 132-140.
- Travade S. M., Ramkrishna S., 2015. Skeletal maturity indicators. *Journal of Orthodontics and Dentofacial Orthopedics*. 3(3): 158-161.
- Tunjungsari. 2012. Formulasi Sediaan Gel Ekstrak Etanolik Buah Mahkota Dewa (*Phaleria macrocarpa (Scheff) Boerl.*) dengan Basis Carbomer. *Skripsi*. Fakultas Farmasi Universitas Muhammadiyah Surakarta. Surakarta.
- Uitto, V.J. 2003. Gingival crevice fluid an introduction. *Journal of Periodontology* 2000. 31: 9-11.
- Vidyahayati, I.L. 2016. Pengaruh substitusi tulang dengan hidroksiapatit (hap) terhadap proses remodeling tulang. *Media Medika Muda*. 1(3): 157-163.
- Virnanto, D.I., Setyari, W., Budi, H.S., Devijanti, R. 2014. Pengaruh induksi protein adhesin *Actinobacillus actinomycetemcomitans* terhadap jumlah sel limfosit pada periodontitis agresif. *Oral Biology Journal*. 6(1): 18-24.
- Wang, B., Guo, Y., Chen, X., Zeng, C., Hu, Q., Yin, W., ... Yu, F. 2018.

Nanoparticle-modified chitosan-agarose-gelatin scaffold for sustained release of SDF-1 and BMP-2. *International Journal of Nanomedicine*. 13:7395–7408.

Yudaniayanti, I.S., Salami, N.R., Arifin, M.Z., Galijono, D., Arimbi, Sukamto, R. 2012. Kadar alkaline fosfatase darah kelinci sebelum dan setelah rekonstruksi tulang mandibula dengan teknik blok autograft dekortikasi dan non dekortikasi. *Jurnal Klinik Veteriner*. 1 (1): 27-32

Zath, J. L., Kushla, G. P., 1996, Gels, in Lieberman, H. A., Lachman, L., and Schwatz, J. B. *Pharmaceutical Dosage Form: Dysperse System*. 2. 2nd Ed. New York: Marcell Dekker, Inc. 399- 417

Zats, J.L., Gregory P.K. 1996. Gel, in Lieberman, H.A., Rieger, M.M., Banker, G.S. *Pharmaceutical Dosage Forms: Disperse Systems*. 2. Marcel Dekker Inc. New York. 400-403. 405-415.

Zulfa, L., Mustaqimah, DN. 2011. Terapi periodontal non-bedah. *Dentofasial*. 10 (1): 36-41.

