

DAFTAR PUSTAKA

- Adistya, T., Kumalasari, F., Dewi, Anne H., Rachmawati, M. 2013. The effect of chitosan gel concentration on neutrophil and macrophage in gingival ulcer of Sprague Dawley rat. *Dental Journal*, Vol. 46(3), Hal. 152.
- Ahmed, J., Rahman, M. S. and Roos, Y. H. 2017. *Glass Transition and Phase Transitions in Food and Biological Materials*. Wiley-Blackwell.
- Antonino, R. S. C. M. D. Q. , Fook, B., Lima, V., Rached, R., Lima, E. 2017. Preparation and characterization of chitosan obtained from shells of shrimp (*Litopenaeus vannamei* Boone). *Marine Drugs*, Vol. 15(5), Hal. 1–12.
- Ariyanti, N.K., Darmayasa, I.B.G., dan Sudiraga, S.K. 2012. Daya Hambar Ekstrak Kulit Daun Lidah Buaya Terhadap Pertumbuhan Bakteri *Staphylococcus aureus* ATCC 25923 dan *Escherichia coli* atcc 25922. *Jurnal Biologi*. Vol. 16(1), Hal. 1-4.
- Arzate-vázquez, I., Israel, C.P., José, J. C. D., Georgina, T. R., Eduardo, G. F. and Gustavo F. 2012. *Microstructural characterization of chitosan and alginate films by microscopy techniques and texture image analysis*. Hal. 289–299.
- Barote, M. A., Yyadav, A.A., Chavan, T.V., Masumdar, E.U. 2011. Characterization and photoelectrochemical properties of chemical bath deposited n-PbS thin films. *Digest Journal of Nanomaterials and Biostructures*. Vol. 6(3), Hal. 979-990.
- Boateng, Joshua, S., Kerr, H., Matthews, Howard, N., E., and Gillian, M., Eccleston. 2008. Wound Healing Dressings and Drug Delivery Systems: A Review. *Journal of Pharmaceutical Sciences*, Vol. 97, Hal. 2892-2932.
- Bolton, L. and Rijswijk, L. van. 1991. Wound Dressings: Meeting Clinical and Biological Needs. Hal. 146–161.
- Dai, T., Tanaka, M. and Huang, Y. 2011. Chitosan preparations for wounds and burns: antimicrobial and wound-healing effects. *Expert review anti infection*. Vol. 9(7), Hal. 857–879.

- Departemen Kesehatan RI. 1995. *Farmakope Indonesia Edisi IV*. Jakarta: Departemen Kesehatan Republik Indonesia.
- Dharmawan, R. 2015. Pengaruh Pemberian Sediaan Gel Penyembuh Luka pada Tikus Jantan Galur Wistar dengan Kombinasi Bahan Aktif Kitosan dari Limbah Kulit Udang Windu (*Peneaus ponodon*) dan Ekstrak *Aloe vera*. *Skripsi*. Yogyakarta: Fakultas Farmasi Universitas Sanata Dharma.
- Dhivyaa, S., Padmab, V. V. and Santhina, E. 2015. Wound dressings – a review. *BioMedicine*. Vol.5(4), Hal. 141–156.
- Enoch, S. and Leaper, D. J. 2008. Basic science of wound healing. *Basic science*. Vol.26(2), Hal. 37–42.
- Fernández-Pana, I., Ziania, K., Pedroza-Islasb, R., Matéa, J.2010. Effect of drying conditions on the mechanical and barrier properties of films based on Chitosan. *Drying Technology*, Vol. 28(12), Hal. 1350–1358.
- Garvie-Cook, H., Frederiksen, K., Petersson, K., Richard, G., Gordev, G. 2015. Characterization of topical film-forming systems using atomic force microscopy and Raman microspectroscopy. *Molecular Pharmaceutics*. Vol.12(3), Hal. 751–757.
- Güngör, S., Erdal, M. S. and Özsoy, Y.2012. Plasticizers in Transdermal Drug Delivery Systems. *Recent Advances in Plasticizers*.
- Guo, S. and DiPietro, L. A. 2010. Critical review in oral biology & medicine: Factors affecting wound healing. *Journal of Dental Research*. Vol.89(3), Hal. 219–229.
- Haesler, E. and Ousey, K. 2018. Evolution of the wound infection continuum. *Wounds International*. Vol. 9(4), Hal. 6–10.
- Hashemi, S. A., Madani, S. A. and Abediankenari, S. 2015. The Review on Properties of *Aloe vera* in Healing of Cutaneous Wounds. *Biomed Rresearch International*. Hindawi Publishing Cooperation.
- Islam, S., Bhuiyan, M. A. R. and Islam, M. N. 2017. Chitin and Chitosan: Structure, Properties and Applications in Biomedical Engineering. *Journal of Polymers and the Environment*. Springer US. Vol.25(3).

- Jain, N., Singh, V. K. and Chauhan, S. 2017. A review on mechanical and water absorption properties of polyvinyl alcohol based composites / films. *De Gruyter*. Vol. 26, Hal. 213–222.
- Jantrawut, P., Chaiwarit, T., Branchais, Claire H., Chambin, O. 2017. Effect of plasticizer type on tensile property and in vitro indomethacin release of thin films based on low-methoxyl pectin. *Polymers*. Vol.9(7).
- Jayakumar, R., Prabakaran, M., Sudheesh K., P., T., Nair, S., and V., Tamura, H. 2011. Biomaterials Based on Chitin and Kitosan in Wound Dressing Applications. *Biotechnology Advance*, pp.213-215.
- Jin Ki Cha, S. (KR);, Byung Ki Jo, Anyang (KR), B. J. H. and Kunpo .2002. United States Patent Chitosan Derivatives Combined With Poly Propylene Glycol and Method For Preparing The Same. *US Patent*. Vol. 1(12).
- Kathe, K. and Kathpalia, H. 2017. Film forming systems for topical and transdermal drug delivery. *Asian Journal of Pharmaceutical Sciences*. Elsevier B.V. Vol.12(6), Hal. 487–497.
- Kumar, V., Khan, A. A. And Nagarajan, K .2012. Formulation and Evaluation of Transdermal Patches of Salbutamol. *Research Journal of Pharmaceutical Biological and Chemical Sciences*, Vol. 3(3), Hal. 1132–1139.
- Kumar, V., Khan, A. A. And Nagarajan, K.2013. Animal Models for the Evaluation of Radiopharmaceuticals. *Safety and Efficacy of Radiopharmaceuticals*. Vol.3(5), Hal. 93–107.
- Lertsutthiwong, P., Noomun, K., Khunthon, S., Limpanart, S. 2012. Influence of chitosan characteristics on the properties of biopolymeric chitosan–montmorillonite. *Progress in Natural Science: Materials International*. Elsevier. Vol. 22(5), Hal. 502–508.
- Liu, H., Wang, C., Qin, Y., Wang, Z. 2018. A functional chitosan-based hydrogel as a wound dressing and drug delivery system in the treatment of wound healing. *Royal Society of Chemistry*. Vol. 8(14), Hal. 7533–7549.
- Liu, P., Chen, D. and Shi, J. 2013. Chemical constituents, biological activity and agricultural cultivation of *Aloe vera*. *Asian Journal of Chemistry*. Vol. 25(12), Hal. 6477–6485.

- Mahandaru, D. and Dachlan, I. 2012. The Effect Of *Aloe vera* On Healing Process Of Incision Wound. *Jurnal plastik rekonstruksi*. Hal. 82–87.
- Mandapalli, Praveen K., Labala, S., Chawla, S., Janupally, R., Sriram, D., Venuganti, V.V.K. 2015. Polymer–Gold Nanoparticle Composite Films for Topical Application: Evaluation of Physical Properties and Antibacterial Activity. *Polymer Composites*.
- Masamba, K., Lie, Y., Hategekimana, J., Liu, F. 2016. Effect of Type of Plasticizers on Mechanical and Water Barrier Properties of Transglutaminase Cross-Linked Zein-Oleic Acid Composite Films. *International Journal of Food Engineering*. Vol. 12(4), Hal. 365–376.
- Menda, J. P., Reddy, T., Deepika R., Dewi, Pandima M., Sastry T.P. 2014. Preparation and Characterization of Wound Healing Composites of Chitosan, *Aloe vera* and *Calendula officinalis*-A Comparative Study. *American Journal of Phytomedicine and Clinical Therapeutics*. Vol. 2(1), Hal. 61–76.
- Nayeri, F. 2016. Occlusive bandaging of wounds with decreased circulation promotes growth of anaerobic bacteria and necrosis: Case report. *BMC Research Notes*. Vol. 9(1), Hal. 10–12.
- Patel, D., Chaudary, S., Phamar, B., Bhura, N. 2012. Transdermal Drug Delivery System: A Review. *The Pharma Innovation*. Vol. 1(4).
- Permanasari, A. R., Saripudin, S., Saputra, Tri Reksa. and Fahmi, Muhammad. 2019. Pembuatan Serbuk *Aloe Vera* sebagai Bahan Baku Kosmetik Masker Wajah Menggunakan Metode Vacuum Drying, *Teknik Kimia dan Lingkungan*, Vol. 3(2), Hal. 62–70.
- Pratama, Y., Miranda, M., Hintono, A. 2018. Karakteristik *Edible Film Aloe vera* dengan Emulsi *Extra Virgin Olive Oil* dan Kitosan. *Agritech*. Vol. 38(4), Hal. 381–387.
- PubChem. 2020. <https://pubchem.ncbi.nlm.nih.gov/compound/chitosan>. Diakses pada tanggal 27 Juli 2020.
- Rafieian, S., Mahdavi, H. and Masoumi, M. E. 2019. Improved mechanical, physical and biological properties of chitosan

films using Aloe vera and electrospun PVA nanofibers for wound dressing applications. *Journal of Industrial Textiles*.

- Rajbhoj, S. R., Bhalsinge, R.R., Limaye, M.V., Vaidya, M.U., Rane, P.S., Tilak, A.V. 2018. Anti-Inflammatory And Immunomodulatory Activity Of Ethanol Extract Of *Aloe vera* Gel. *International Journal of Pharmaceutical Sciences and Research*. Vol. 9(2), Hal. 832–835.
- Razali, R. M., Ganeson, K. and Mubarak, A. 2017. Preparation and characterization of edible *Aloe vera* films incorporated with cinnamon oil for fruits and vegetables coating. *Malaysian Applied Biology*. Vol. 46(4), Hal. 171-178.
- Roberts, C. D., Leaper, D. J. and Assadian, O. 2017. The Role of Topical Antiseptic Agents Within Antimicrobial Stewardship Strategies for Prevention and Treatment of Surgical Site and Chronic Open Wound Infection. *Advances in Wound Care*. Vol. 6(2), Hal. 63–71.
- Rowe, R., C., Sheskey, P., J., and Owen, S., C. 2009. *Handbook of Pharmaceutical Excipient 6th Edition*. London: Pharmaceutical Press.
- Rytting, H., Shaw, S., Thakker, K., Yacobi, A. 2009. Topical and Transdermal Drug Products. *Pharmacoepial Forum*. Vol. 35(3), Hal. 750-751.
- Sanyang, M. L., Sapuan, S.M., Jawaid, M., Ishak, M.R., Sahari, R. 2016. Effect of plasticizer type and concentration on physical properties of biodegradable films based on sugar palm (*arenga pinnata*) starch for food packaging. *Journal of Food Science and Technology*. Vol. 53(1), Hal. 326–336.
- Sayare, A. S., Pithe, A. R., Prashant, D. and Khandelwal, K. R. 2019. Formulation and Evaluation of Gabapentin Loaded Chitosan Transdermal Films. *Journal of Pharmaceutical Sciences and Research*. Vol. 11(8), Hal. 2872–2877.
- Saxena, A., Tewari, G. and Saraf, S. A. 2011. Formulation and evaluation of mucoadhesive buccal patch of acyclovir utilizing inclusion phenomenon. *Brazilian Journal of Pharmaceutical Sciences*, Vol. 47(4), Hal. 887–897.
- Setiani, W., Sudiarti, T. and Rahmidar, L. 2013. Preparasi Dan

Karakterisasi Edible *Film* Dari Poliblend Pati Sukun-Kitosan.
Jurnal Kimia Valensi. Vol.3(2).

- Sezer, A. D., Hatipoglu, F., Cevher, E., Ogurtan, Z., Bas, A. L., Akbuga, J. 2007. Chitosan film containing fucoidan as a wound dressing for dermal burn healing: Preparation and in vitro/in vivo evaluation. *AAPS PharmSciTech*, Vol. 8(2), Hal. 1–8.
- Shi, Lu-E., and Tang, Zhen-Xing. 2009. Adsorption of Nuclease P1 on Chitosan Nanoparticles. *Brazilian Journal of Chemical Engineering*. Vol 26, Hal. 435-443.
- Sinha, V. R., Banik, R., Haldar, C., Maiti, P. 2004. Chitosan microspheres as a potential carrier for drugs. *International Journal of Pharmaceutics*. Vol. 274(1–2), Hal. 1–33.
- Sivaselvi, K. and Ghosh, P. 2017. Characterization of modified Chitosan thin film. *Materials Today: Proceedings*. Elsevier Ltd. Vol. 4(2), Hal. 442–451.
- Srinivasa, P., Baskaran, R., Ramesh, M., Prashanth, K., Harish, R. and Tharanathan. 2002. Storage studies of mango packed using biodegradable chitosan film. *European Food Research and Technology*. Vol. 215(6), Hal. 504–508.
- Suderman, N., Isa, M. I. N. and Sarbon, N. M. 2018. The effect of plasticizers on the functional properties of biodegradable gelatin-based film: A review. *Food Bioscience*. Hal. 111–119.
- Sugiaman, V. K. 2011. Peningkatan Penyembuhan Luka di Mukosa Oral Melalui Pemberian *Aloe vera* (Linn .) Secara Topikal Topikal. *Maranatha Journal of Medicine and Health*. Vol. 11(1), Hal. 70–79.
- Sui Chin, S., Han Lyn, F. and Nur Hanani, Z. A. 2017. Effect of Aloe vera (*Aloe barbadensis* Miller) gel on the physical and functional properties of fish gelatin films as active packaging. *Food Packaging and Shelf Life*. Elsevier. Hal. 128–134.
- Suyatma, N. E., Nugraha, E., Copinet, A. 2005. Effects of hydrophilic plasticizers on mechanical, thermal, and surface properties of chitosan films. *Journal of Agricultural and Food Chemistry*. Vol. 53(10), hal. 3950–3957.
- Tang, F., Debon, F., Testa, R. 2016. Preparation and characterization of

- N-chitosan as a wound healing accelerator. *International Journal of Biological Macromolecules*. Elsevier B.V. Vol. 93, Hal. 1295–1303.
- Üstündağ Okur, N., Hokenek, N., Okur, M.E., Ayla, S., Yoltas, A., Siafaka, P.I., Cevher, E. 2019. An alternative approach to wound healing field; new composite films from natural polymers for mupirocin dermal delivery. *Saudi Pharmaceutical Journal*. Vol. 27(5), hal. 738–752.
- Verma, S., Malviya, R. and Kumar Sharma, P. 2014. Extraction, Characterization and Evaluation of *Film* Forming Capacity of Natural Polymer. *Drug Delivery Letters*. Vol. 4(3), hal. 244–253.
- Vieira, M. G. A., M. Dal sival, L. Dos santos. 2011. Natural-based plasticizers and biopolymer *films*: A review. *European Polymer Journal*. Elsevier Ltd, Vol. 47(3), hal. 254–263.
- Wardono, A. P., Pramono, B.H., Husein, R.A., Tasminatun, S. 2012. Pengaruh Kitosan secara Topikal terhadap Penyembuhan Luka Bakar Kimiawi pada Kulit *Rattus norvegicus*. *Mutiara Medika*. Vol. 12(3), hal. 177–187.
- Yulia, R. 2018. *Pengaruh konsentrasi Aloe vera terhadap karakteristik fisik dan aktivitas wound healing sediaan spray gel kitosan- Aloe vera*. Skripsi. Surabaya. Fakkultas Farmasi Universitas Airlangga.