

## DAFTAR PUSTAKA

- Agustiani, F.R.T., Sjahid, L.R., dan Nursal, F.K., 2022. Kajian Literatur : Peranan Berbagai Jenis Polimer Sebagai Gelling Agent Terhadap Sifat Fisik Sediaan Gel. *Majalah Farmasetika*, **7**: 270.
- Ajazuddin, Alexander, A., Khichariya, A., Gupta, S., Patel, R.J., Giri, T.K., dkk., 2013. Recent expansions in an emergent novel drug delivery technology: Emulgel. *Journal of Controlled Release*, **171**: 122–132.
- Alhasso, B., Ghorri, M.U., dan Conway, B.R., 2023. Development of Nanoemulsions for Topical Application of Mupirocin. *Pharmaceutics*, **15**: 378.
- Anonim. 2022. Skin Anatomy. <https://medlineplus.gov/>. Diakses pada 20 November Pukul 22.00
- Asgarpanah, J., 2012. Phytochemistry and pharmacologic properties of *Myristica fragrans* Hoyutt.: A review. *AFRICAN JOURNAL OF BIOTECHNOLOGY*, **1**.
- Britannica, T. Editors of Encyclopaedia (2022, September 2). nutmeg. Encyclopedia Britannica. <https://www.britannica.com/topic/nutmeg>
- Chime, S.A., Kenekchukwu, F.C., dan Attama, A.A., 2014. Nanoemulsions — Advances in Formulation, Characterization and Applications in Drug Delivery, dalam: Sezer, A.D. (Editor), *Application of Nanotechnology in Drug Delivery*. InTech.
- De Britto Passos, F.F., Lopes, E.M., De Araújo, J.M., De Sousa, D.P., Veras, L.M.C., Leite, J.R.S.A., dkk., 2015. Involvement of Cholinergic and Opioid System in  $\gamma$ -Terpinene-Mediated Antinociception. *Evidence-Based Complementary and Alternative Medicine*, **2015**: 1–9.
- De Cássia Da Silveira E Sá, R., Andrade, L., Dos Reis Barreto De Oliveira, R., dan De Sousa, D., 2014. A Review on Anti-Inflammatory Activity of Phenylpropanoids Found in Essential Oils. *Molecules*, **19**: 1459–1480.
- Depkes RI. 2020. Farmakope Indonesia edisi VI. In *Departemen Kesehatan Republik Indonesia*.
- Dhont, F., 2022. Of Nutmeg and Forts: Indonesian Pride in the Banda Islands' Unique Natural and Cultural Landscape. *eTropic: electronic journal of studies in the Tropics*, **21**: 83–98.
- DiPiro, J.T., Yee, G.C., Posey, L.M. Haines, S.T., Nolin, T.D. dan Ellingord, V. 2020. *Pharmacotherapy a Pathophysiologic Approach* Eleventh Edition. McGraw Hill. United States of America.

- Donthi, M.R., Munnangi, S.R., Krishna, K.V., Saha, R.N., Singhvi, G., dan Dubey, S.K., 2023. Nanoemulgel: A Novel Nano Carrier as a Tool for Topical Drug Delivery. *Pharmaceutics*, **15**: 164.
- Eid, A.M., Issa, L., Al-kharouf, O., Jaber, R., dan Hreash, F., 2021. Development of *Coriandrum sativum* Oil Nanoemulgel and Evaluation of Its Antimicrobial and Anticancer Activity. *BioMed Research International*, **2021**: 1–10.
- Gledovic, A., Janosevic Lezaic, A., Krstonosic, V., Djokovic, J., Nikolic, I., Bajuk-Bogdanovic, D., dkk., 2020. Low-energy nanoemulsions as carriers for red raspberry seed oil: Formulation approach based on Raman spectroscopy and textural analysis, physicochemical properties, stability and in vitro antioxidant/ biological activity. *PLOS ONE*, **15**: e0230993.
- GSK. 2020. *Global Pain Index Report 4th edition – 2020*. 1–110. <https://www.gsk.com/media/6351/2020-global-pain-index-report.pdf>
- Gurpret, K. dan Singh, S. K., 2018. Review of Nanoemulsion Formulation and Characterization Techniques. *Indian Journal of Pharmaceutical Sciences*, **80**: .
- Han, J., Sun, M., Guo, X., Li, Z., Yang, J., Zhang, Y., 2011, Design, Preparation, and In-vitro Evaluation of Paclitaxel-loaded Self-nanoemulsifying Drug Delivery System, *Asian Journal of Pharmaceutical Sciences*, 6 (1): 18-25.
- Hu, M., Xie, F., Zhang, S., Qi, B., dan Li, Y., 2021. Effect of nanoemulsion particle size on the bioavailability and bioactivity of perilla oil in rats. *Journal of Food Science*, **86**: 206–214.
- Imanto, T., Prasetiawan, R., dan Wikantyasning, E.R., 2019. Formulasi dan Karakterisasi Sediaan Nanoemulgel Serbuk Lidah Buaya (*Aloe Vera L.*). *Pharmacon: Jurnal Farmasi Indonesia*, **16**: 28–37.
- Indalifiany, A., Malaka, M.H., Fristiody, A., dan Andriani, R., 2021. NANOEMULGEL CONTAINING *Petrosia Sp.* *Jurnal Farmasi Sains Dan Praktis (JFSP)*. 7(3):321–331.
- Indrati, O., Martien, R., Rohman, A., dan Nugroho, A., 2020. Development of nanoemulsion-based hydrogel containing andrographolide: physical properties and stability evaluation. *Journal of Pharmacy And Bioallied Sciences*, **12**: 816.
- International Association for the Study of Pain. 2022. Terminology. <https://www.iasp-pain.org/resources/terminology/>. Diakses pada 20 November 2022 Pukul 10.00 WIB.

- Jaiswal, M., Dudhe, R., dan Sharma, P.K., 2015. Nanoemulsion: an advanced mode of drug delivery system. *3 Biotech*, **5**: 123–127.
- Jeengar, M.K., Rompicharla, S.V.K., Shrivastava, S., Chella, N., Shastri, N.R., Naidu, V.G.M., dkk., 2016. Emu oil based nano-emulgel for topical delivery of curcumin. *International Journal of Pharmaceutics*, **506**: 222–236.
- Jhawar, V., Gulia, M., dan Sharma, A.K., 2021. Pseudoternary phase diagrams used in emulsion preparation, dalam: *Chemoinformatics and Bioinformatics in the Pharmaceutical Sciences*. Elsevier, hal. 455–481.
- Kementerian Kesehatan. 2022. Manajemen Nyeri. [https://yankes.kemkes.go.id/view\\_artikel/1052/manajemen-nyeri](https://yankes.kemkes.go.id/view_artikel/1052/manajemen-nyeri). Diakses pada 20 November 2022 Pukul 10.15 WIB.
- Kotta, S., Khan, A.W., Ansari, S.H., Sharma, R.K., dan Ali, J., 2014. Anti HIV nanoemulsion formulation: Optimization and in vitro–in vivo evaluation. *International Journal of Pharmaceutics*, **462**: 129–134.
- Lal, D.K., Kumar, B., Saeedan, A.S., dan Ansari, M.N., 2023. An Overview of Nanoemulgels for Bioavailability Enhancement in Inflammatory Conditions via Topical Delivery. *Pharmaceutics*, **15**: 1187.
- McClements, D.J. 2013. Nanoemulsion-based oral delivery systems for lipophilic bioactive components: nutraceuticals and pharmaceuticals. *Therapeutic Delivery*, **4**: 841–857.
- Morteza-Semnani, K., Saeedi, M., Akbari, J., Eghbali, M., Babaei, A., Hashemi, S. M. H., dan Nokhodchi, A. 2022. Development of a novel nanoemulgel formulation containing cumin essential oil as skin permeation enhancer. In *Drug Delivery and Translational Research* **12** (6): 1455–1465.
- Motilal, S., dan Maharaj, R. G. 2013. Nutmeg extracts for painful diabetic neuropathy: A randomized, double-blind, controlled study. *Journal of Alternative and Complementary Medicine*, **19**(4): 347–352.
- Muchtaridi, Subarnas A., Apriyantono A., Mustarichie R., 2010. Identification of Compounds in the Essential Oil of Nutmeg Seeds (*Myristica fragrans* Houtt.) That Inhibit Locomotor Activity in Mice. *IJMS*, **11** (11): 4771–4781.
- Narawi, M., Chiu, H.I., Yong, Y.K., Mohamad Zain, N.N., Ramachandran, M.R., Tham, C.L., dkk., 2020. Biocompatible Nutmeg Oil-Loaded Nanoemulsion as Phyto-Repellent. *Frontiers in Pharmacology*, **11**: 214.

- Nurman, S., Yulia, R., Irmayanti, Noor, E., dan Candra Sunarti, T., 2019. The Optimization of Gel Preparations Using the Active Compounds of Arabica Coffee Ground Nanoparticles. *Scientia Pharmaceutica*, **87**: 32.
- National Center for Biotechnology Information. 2022. *PubChem Compound Summary for CID 7456, Methylparaben*. <https://pubchem.ncbi.nlm.nih.gov/compound/Methylparaben>. Diakses pada 30 November 2022 Pukul 18.00 WIB
- National Center for Biotechnology Information. 2022. *PubChem Compound Summary for CID 6581, Acrylic acid*. <https://pubchem.ncbi.nlm.nih.gov/compound/Acrylic-acid>. Diakses pada 30 November 2022 Pukul 18.15 WIB.
- National Center for Biotechnology Information. 2022. *PubChem Compound Summary for CID 753, Glycerol*. <https://pubchem.ncbi.nlm.nih.gov/compound/Glycerol>. Diakses pada 20 November 2022 Pukul 18.00 WIB.
- National Center for Biotechnology Information. 2022. *PubChem Compound Summary for CID 5284448, Polyoxyethylene 20 sorbitan monooleate*. <https://pubchem.ncbi.nlm.nih.gov/compound/Polyoxyethylene-20-sorbitan-monooleate>. Diakses pada 20 November 2022 Pukul 18.05 WIB.
- National Center for Biotechnology Information. 2022. *PubChem Compound Summary for CID 1030, Propylene Glycol*. from <https://pubchem.ncbi.nlm.nih.gov/compound/Propylene-Glycol>. Diakses pada 20 November 2022 Pukul 18.10.
- National Center for Biotechnology Information. 2022. *PubChem Compound Summary for CID 7618, Triethanolamine*. <https://pubchem.ncbi.nlm.nih.gov/compound/Triethanolamine>. Diakses pada 20 November 2022 Pukul 18.15.
- National Center for Biotechnology Information. 2022. *PubChem Compound Summary for CID 962, Water*. <https://pubchem.ncbi.nlm.nih.gov/compound/Water>. Diakses pada 20 November 2022 Pukul 18.17 WIB.
- Nikolic, V., Nikolic, L., Dinic, A., Gajic, I., Urosevic, M., Stanojevic, L., Stanojevic, J., dan Danilovic, B. 2021. Chemical Composition, Antioxidant and Antimicrobial Activity of Nutmeg (*Myristica fragrans* Houtt.) Seed Essential Oil. *Journal of Essential Oil-Bearing Plants*. **24**(2): 218–227.
- Odriozola-Serrano, I., Oms-Oliu, G., dan MartÃ-n-Belloso, O., 2014. Nanoemulsion-Based Delivery Systems to Improve Functionality of Lipophilic Components. *Frontiers in Nutrition*, **1**:
- Ojeda, W.L., Pandey, A., Alhaji, M., dan Oakley, A. M. 2022. Anatomy, Skin (Integument). StatPearls Publishing. Treasure Island (FL).

- Ojha, B., Jain, V.K., Gupta, S., Talegaonkar, S., dan Jain, K., 2022. Nanoemulgel: a promising novel formulation for treatment of skin ailments. *Polymer Bulletin*, **79**: 4441–4465.
- Polii, F., 2018. PENELITIAN PENYULINGAN MINYAK PALA "SIAUW" METODE UAP BERTEKANAN DAN KARAKTERISTIK MUTU MINYAK PALA. *Jurnal Penelitian Teknologi Industri*, **8**: 25.
- Priya, S. dan Koland, M., 2015. NANOEMULSION COMPONENTS SCREENING OF QUETIAPINE FUMARATE: EFFECT OF SURFACTANT AND CO SURFACTANT **8**: 1-6.
- Rai, V.K., Mishra, N., Yadav, K.S., dan Yadav, N.P., 2018. Nanoemulsion as pharmaceutical carrier for dermal and transdermal drug delivery: Formulation development, stability issues, basic considerations and applications. *Journal of Controlled Release*, **270**: 203–225.
- Rowe, R. C., Sheskey, P. J., dan Quinn, M. E. 2009. *Handbook of Pharmaceutical Excipients* 6th Edition. Pharmaceutical Press RPS Publishing. London.
- Salim, N., Ahmad, N., Musa, S. H., Hashim, R., Tadros, T. F., dan Basri, M. 2016. Nanoemulsion as a topical delivery system of antipsoriatic drugs. *RSC Advances*, **6**(8): 6234–6250.
- Seneme, E.F., Dos Santos, D.C., Silva, E.M.R., Franco, Y.E.M., dan Longato, G.B., 2021. Pharmacological and Therapeutic Potential of Myristicin: A Literature Review. *Molecules*, **26**: 5914
- Ševčíková, P., Vltavská, P., Kašpárková, V., dan Krejčí, J. 2011. Formation, characterization and stability of nanoemulsions prepared by phase inversion. *Mathematical Methods and Techniques in Engineering and Environmental Science*. 132-137.
- Shah, P., Bhalodia, D., dan Shelat, P., 2010, Nanoemulsion: A Pharmaceutical Review, *Systematic Reviews in Pharmacy*. 1: 24-32.
- Shaker, D. S., Ishak, R. A. H., Ghoneim, A., dan Elhuoni, M. A. (2019). Nanoemulsion: A review on mechanisms for the transdermal delivery of hydrophobic and hydrophilic drugs. *Scientia Pharmaceutica*, **87**(3).
- Sugumar, S., Ghosh, V., Nirmala, M.J., Mukherjee, A., dan Chandrasekaran, N., 2014. Ultrasonic emulsification of eucalyptus oil nanoemulsion: Antibacterial activity against *Staphylococcus aureus* and wound healing activity in Wistar rats. *Ultrasonics Sonochemistry*, **21**: 1044–1049.
- Tang, S.Y., Shridharan, P. dan Sivakumar, M. 2013. Impact of process parameters in the generation of novel aspirin nanoemulsions – comparative studies

between ultrasound cavitation and microfluidizer, *Ultrason. Sonochem.* 20(1): 485–497.

- Ting, T. C., Amat Rahim, N. F., Che Zaudin, N. A., Abdullah, N. H., Mohamad, M., Shoparwe, N. F., Mhd Ramle, S. F., Aimi, Z., Abdul Hamid, Z. A., dan Yusof, A. H. 2020. Development and Characterization of Nanoemulgel Containing Piper betle Essential Oil as Active Ingredient. *IOP Conference Series: Earth and Environmental Science*, 596(1).
- Warsito, M. F. 2021. A review on chemical composition, bioactivity, and toxicity of *Myristica fragrans* Houtt. essential oil. *Indonesian Journal of Pharmacy*, 32(3): 304–313.
- World Integrated Trade Solution. 2019. Nutmeg Exports by Country in 2019. <https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2019/trade/flow/Exports/partner/WLD/product/090810>. Diakses pada 20 September 2022 Pukul 19.00 WIB.
- Yusuf, A.L., Nurawaliah, E., dan Harun, N., 2017. Uji efektivitas gel ekstrak etanol daun kelor (*Moringa oleifera* L.) sebagai antijamur *Malassezia furfur*. *Kartika : Jurnal Ilmiah Farmasi*, 5: 62.
- Zhang, W. K., Tao, S. S., Li, T. T., Li, Y. S., Li, X. J., Tang, H. Bin, Cong, R. H., Ma, F. L., dan Wan, C. J. 2016. Nutmeg oil alleviates chronic inflammatory pain through inhibition of COX-2 expression and substance P release in vivo. *Food and Nutrition Research*. 60: 1–10.