

BAB 5

SIMPULAN

5.1. Simpulan

Berdasarkan hasil penelitian yang telah diinterpretasikan, dapat disimpulkan bahwa tablet campuran ekstrak herba seledri (*Apium graveolens* Linn.) dengan ekstrak bawang putih (*Allium sativum* L.) dengan menggunakan metode granulasi basah menghasilkan suatu sediaan tablet yang memenuhi persyaratan kualitas mutu fisik tablet.

5.2. Alur Penelitian Selanjutnya

Dapat dilakukan penelitian tablet campuran ekstrak herba seledri (*Apium graveolens* Linn.) dan ekstrak bawang putih (*Allium sativum* L.) dengan melakukan uji disolusi dan penelitian ini dapat dilanjutkan dengan mengubah formulasi tablet biasa menjadi tablet salut selaput untuk menutupi aroma bawang putih. Selain itu perlu dilakukan penelitian lebih lanjut menggunakan bahan tambahan dan konsentrasi bahan tambahan yang berbeda.

DAFTAR PUSTAKA

- Agoes, G., 2007, **Teknologi Bahan Alam**, Penerbit ITB, Bandung.
- Amagase, H., B.L. Petesch, H. Matsuura, S. Kasuga and Y. Itakura, 2001, **Intake of garlic and bioactive components**. *Journal of Nutrition* 131 (3): 955S– 962S.
- Anonim, 1979, **Farmakope Indonesia**, ed. 3, Departemen Kesehatan RI, Jakarta, 6-8.
- Anonim, 1995^a, **Farmakope Indonesia**, ed. 4, Departemen Kesehatan Republik Indonesia, Jakarta, Indonesia.
- Anonim, 1995^b, **Materia Medika Indonesia**, ed. 4, Departemen Kesehatan Republik Indonesia, Jakarta, Indonesia.
- Anonim, 2000. **Parameter Standar Umum Ekstrak Tumbuhan Obat**, Direktorat Pengawasan Obat Tradisional, Departemen Kesehatan Republik Indonesia, Jakarta, 1-17.
- Anonim, 2005^a, **Bawang Putih**, [Online], http://www.iptek.net.id/ind/pd_tanobat/view.php?mnu=2&id=130, [2010, Oktober 13], Sentra Informasi IPTEK, Jakarta.
- Anonim, 2005^b, **Seledri**, [Online], http://www.iptek.net.id/ind/pd_tanobat/view.php?mnu=2&id=127, [2010, September 21], Sentra Informasi IPTEK, Jakarta.
- Anonim, 2008, **Farmakope Herbal Indonesia**, ed. 1, Departemen Kesehatan Republik Indonesia.
- Anonim, 2010, **Celery**, [Online], <http://www.webmd.com/vitamins-supplements/ingredientmono-882-CELERY.aspx?activeIngredientId=882&activeIngredientName=CELERY>, [2010, September 20].
- Ansel, H., et al., 1990, **Pharmaceutical Dosage Forms and Drug Delivery System**, 5th ed., Lea & Febiger.
- Awang DVC and Fugh-Berman A., 2002, **Herb-drug interactions in chronic conditions**. *Alt Ther Women's Health* 20024(8): 57-60.
- Banerjee, S.K and Maulik, S., 2002. **Effect of Garlic on Cardiovascular Disorders**. *Journal of Nutrition* 1:4.

- Bhat, B. and Agrawal, S.S., 2007, **Pharmaceutical Engineering: Size Reduction and Size Separation**, Delhi Institute of Pharmaceutical Science and Research, New Delhi, 17.
- Block, E., 1985, **The chemistry of garlic and onions**, Scientific American 252 (March): 114-9. [doi:10.1038/scientificamerican0385-114](https://doi.org/10.1038/scientificamerican0385-114). [PMID 3975593](https://pubmed.ncbi.nlm.nih.gov/3975593/).
- Block, E., 2010, **Garlic and Other Alliums: The Lore and the Science**, Royal Society of Chemistry, Cambridge.
- Dalimartha, S., 2000, **Atlas Tumbuhan Obat Indonesia**, jil. 2, PT. Trubus Agrividyia, Jakarta, 172.
- Farooq, M.O., I.P. Varshney and W. Rahman, 1957, **On the glycosides of Apium petroselinum (Parsley)**, Department of Chemistry, Muslim University, Aligarh, India.
- Green, J.M., 1996, **A Practical Guide to Analytical Method Validation**, Analytical Chemistry.
- Gupta, N. and Porter, T.D., 2001, **Garlic and garlic-derived compounds inhibit human squalene monooxygenase**. Journal of Nutrition 131: 1662-1667
- Hansel, R., 1991, **Phytopharmaka (Grundlagen und Praxis)**, vol. 2, Spinger Verlag, Berlin, 192-198.
- Hernawan, U. E., dan Setyawan, A. D., 2003, **Review: Senyawa Organosulfur Bawang Putih (*Allium sativum* L.) dan Aktivitas Biologinya**, Jurnal Biofarmasi 1 (2): 65-76
- Hutapea, J.R., 2000, **Allium sativum Linn: Inventaris Tanaman Obat Indonesia**, jil. 1, Badan Penelitian dan Pengembangan Kesehatan, Departemen Kesehatan dan Kesejahteraan Sosial RI, Jakarta, 15-16
- Isaacsohn, J.L., M. Moser, K. Dudley, J.A. Davey, E. Liskov, and H.R. Black, 1998, **Garlic powder and plasma lipids and lipoproteins: a multicenter, randomized, placebo-controlled trial**, Arch Intern Med, 8:158(11):1189-94.
- Jones, D.S., 2010, **Statistik Farmasi**, terjemahan H.U. Ramadaniati dan H.H. Rivai, Penerbit Buku Kedokteran, Jakarta, 166-178.
- Kemper, K. J., 2000, **Garlic**, The Longwood Herbal Task, [online], <http://www.longwoodherbal.org/garlic/garlic.pdf>, [2011, Oktober 6].
- King, R.E., 1984, **Dispensing of Medication**, ed. 9, Mack Publ. Co.

- Kristanti, A. N., N. S. Aminah, M. Tanjung, dan B. Kurniadi, 2008, **Buku ajar Fitokimia**, Airlangga University Press, Surabaya, 77-78.
- Kurniawan, D.W., dan Sulaiman, T.N.S., 2009, **Teknologi Sediaan Farmasi**, ed. 1, Penerbit Graha Ilmu, Yogyakarta.
- Lachman, L., Lieberman, H. A., and Kanig, J. L., 1994, **Teori dan Praktek Farmasi Industri III**, terjemahan S. Suyatmi, Penerbit Universitas Indonesia, Jakarta, 531-600, 680-697.
- Mancherini, T., A. Cao, G. Bianco, L. R. Della, R. P. Aquino and G. Autore, 2007, **An extract of *Apium graveolens* var. *dulce* leaves: structure of the major constituent, apiin, and its anti-inflammatory properties**, Jurnal Pharmacol Juni 2007, [online], http://www.ncbi.nlm.nih.gov/pubmed/17637182?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum&ordinalpos=4, [2011, November 19].
- Markham, K. R., 1988, **Cara Mengidentifikasi Flavonoid**, Penerbit ITB, Bandung, 32-34.
- Marshall, K., dan Rudnic, E.M.,1990, **Tablet dosage form**. In Banker, G.S., Rhodes, C.T. *Modern Pharmaceutics*, 2nd edition, Marcel Dekker, Inc., New York.
- Mulja, M., dan Suharman, 1995, **Analisis Instrumental**. Airlangga University Press. Surabaya.
- Newall, C.A., L.A. Anderson and J.D. Phillipson, 1996. **Herbal Medicine: A Guide for Health-care Professionals**, The Pharmaceutical Press, London, 129-132.
- O'Neil, M.J., 2006, **The Merck Index: An Encyclopedia of Chemicals, Drugs, and Biologicals**, Merck and Co., INC, Whitehouse Station, NJ, USA, 118-119.
- Osol A., and Farrar GE., 1955, **The Dispensatory of The United States of America**, 25th ed., J.B. Lippincott Co., Philadelphia., USA., 1538.
- Parrot, E. L., 1971, **Pharmaceutical Technology Fundamental Pharmaceutics**, 3rd ed., Burgess Publishing Company, Minneapolis, 1-7.
- Patnaik, P., 2004, **Dean's Analytical Chemistry Handbook**, 2nd ed., McGraw-Hill Comp, New York.

- Pizorno, J.E. and Murray. M.T., 2000, **A Textbook of Natural Medicine: Allium sativum**, ed. 2, Bastyr University, Washington.
- Rouessac F., and Rouessac, A., 2007, **Chemical Analysis: Modern Instrumentation Methods and Techniques**. 2nd ed.. John Wiley & Sons, Ltd., West Sussex.
- Rowe, R. C., P. J. Sheskey and S. C. Owen, 2006, **Handbook of Pharmaceutical Excipients**, ed. 5, Pharmaceutical Press, USA.
- Rowe, R. C., P. J. Sheskey and M. E. Quinn, 2009, **Handbook of Pharmaceutical Excipients**, ed. 6, Pharmaceutical Press, USA.
- Ruchaniyanti, I., 1989, **Allium Sativum L.**, Penelitian Tanaman Obat di Beberapa Perguruan Tinggi di Indonesia, Fakultas Farmasi UGM, Jakarta.
- Rukmana, R., 1995, **Budidaya Bawang Putih**, ed. 1, Kanisius, Yogyakarta.
- Russell, J. and Lantz, Jr., 1990, Size Reduction In: Lachmann, L., Lieberman, H.A., Kanig, J.L., (Eds.), **The Theory and Practice of Industrial Pharmacy**, 2nd ed, Marcell Dekker, Inc., New York.
- Saifudin, A., V. Rahayu dan H.Y. Teruna, 2011, **Standarisasi Bahan Obat Alam**, Graha Ilmu, Yogyakarta.
- Santoso, H.B., 2000, **Bawang Putih**, ed. 12, Kanisius, Yogyakarta.
- Sastrahidayat, I.R., dan Soemarno, 1991, **Budidaya Berbagai Jenis Tanaman Tropika**, Fakultas Pertanian Universitas Brawijaya, Malang, 386-387.
- Settle, F (Editor), 1997, **Handbook of Instrumental Techniques for Analytical Chemistry**, Prentice Hall PTR, New Jersey, USA.
- Siswono, H., 2008, **Isolasi dan Identifikasi Komponen Kimia Ekstrak Etanol 95% dari Apium Graveolens Linn. Var Secalinum Alef**, [Online], <http://digilib.itb.ac.id/gdl.php?mod=browse&op=read&id=jbptitbpp-gdl-hadisiswon-27826>, [2011, November 19], Perpustakaan Institut Teknologi Bandung.
- Siregar, C. J. P., G. Agoes dan B. Logawa, 1992. Proses validasi manufaktur sediaan tablet. Dalam: Sukmadjaja, A., Mar'u, U. U., Badruzzman, S., (Eds.) **Proceedings Seminar Validasi di Industri Farmasi**. Jurusan Farmasi FMIPA, ITB, Bandung, 26-41.

- Siregar, C. J. P. dan Wikarsa, S., 2010, **Teknologi Farmasi Sediaan Tablet Dasar-Dasar Praktis**, EGC, Jakarta.
- Soesetyo, S., 2009, **Pengaruh Penambahan PVP K-30 Pada Berbagai Konsentrasi Terhadap Mutu Tablet Seledri (*Apium graveolens*)**, skripsi sarjana, Fakultas Farmasi Unika Widya Mandala, Surabaya.
- Song, K. and Milner, J. A., 2001, **The influence of heating on the anticancer properties of garlic**, Journal of Nutrition 131: 1054S–1057S.
- Stecher, P.G. (Editor), 1968, **The Merck Index: an Encyclopedia of Chemicals and Drug.**, Merck and Co., Inc, USA.
- Sudarsono, A. Pudjoanto, D. Gunawan, S. Wahyuono, I. A. Donatus, M. Drajad, S. Wibowo, dan Ngatidjan, 1996, **Tumbuhan Obat, Hasil Penelitian, Sifat-sifat dan Penggunaan**, Pusat Penelitian Obat Tradisional, UGM, Yogyakarta, 44-52.
- Sugati, S. dan Hutapea, J.R., 1991, **Inventaris Tanaman Obat Indonesia.**, jil. 1, Balitbang Kesehatan., DepKes RI. Jakarta, 26-27.
- Sumarno, 2001, **Kromatografi Teori Dasar**, Bagian Kimia Farmasi, Universitas Gadjah Mada, Yogyakarta.
- Sunarto, P. dan Susetyo, B., 1995, **Pengaruh garlic terhadap penyakit jantung koroner**. Cermin Dunia Kedokteran. No: 102. hal: 28-31.
- Syamsuni, H., 2006, **Farmasetika Dasar dan Farmasi Hitung**, Penerbit Buku Kedokteran EGC, Jakarta, 71-72.
- Thomas, A.N.S., 2000, **Tanaman Obat Tradisional I**, ed. 13, Penerbit Kanisius, Yogyakarta.
- Voigt, R., 1995. **Buku Pelajaran Teknologi Farmasi**, terjemahan Noerono, S. dan Reksohadiprojo, M. S., ed. 5, UGM Press, Yogyakarta, 565-571.
- Watson, D. G., 2010, **Analisis Farmasi: Buku Ajar untuk Mahasiswa Farmasi dan Praktisi Kimia Farmasi**, ed. 2, Penerbit Buku Kedokteran, Jakarta, 368-373.
- Watt J.M., and Breyer-BrandWijk, M. G., 1962, **The Medicinal and Poisonous Plants of Southern and Eastern Africa.**, ed. 2, E. S. Livingstone Ltd, London, 1033-1034.
- Wibowo, S., 1994, **Budidaya Bawang : Bawang Putih, Bawang Merah, Bawang Bombay**, Panebar Swadaya, Jakarta.,1-84.

Yeh, Y.Y., and Liu, L., 2001, **Cholestrol-lowering effects of garlic extracts and organosulfur compounds: human and animal studies**, *Journal of Nutrition* 131: 989S– 993S.

Zhang, X., 1999, **WHO Monographs on Selected Medicinal Plants: Bulbus Allii Sativii**, World Health Organization, Geneva.

Zwaving, 1989, **Mid Career Training in Pharmacochemistry**, Joint Project between Fakultas Farmasi UGM, Yogyakarta and the Department of Pharmacochemistry Vrij Universiteit, Amsterdam, 46-47.