BAB 5
SIMPULAN

5.1. Simpulan

Berdasarkan data penelitian yang telah diinterpretasikan, dapat ditarik kesimpulan :

- Tablet likuisolid ibuprofen yang menggunakan polimer hidrofilik HPMC K4M dan tween 80 sebagai pelarut *non volatile* dapat meningkatkan disolusi ibuprofen dibandingkan dengan tablet ibuprofenkonvensional.
- Penambahan polimer hidrofilik HPMC K4M dapat meningkatkan persen pelepasan dari laju disolusi tablet likuisolid ibuprofen, tetapi peningkatan konsentrasi HPMC K4M lebih besar dari 2,5% dapat menurunkan persen pelepasan dari laju disolusi

5.2. Alur Penelitian Selanjutnya

Dapat dilakukan penelitian lebih lanjut mengenai formulasi tablet likuisolid dengan mencari formula optimum yang meliputi konsentrasi obat dalam pelarut, konsentrasi polimer, konsentrasi bahan pengisi serta perbandingan antara bahan *carrier* dan *coating.*

DAFTAR PUSTAKA

Anonim, 1979, **Farmakope Indonesia**, ed. III, Departemen Kesehatan RI, Jakarta.

Anonim, 1995, **Farmakope Indonesia**, ed. IV, Departemen Kesehatan RI, Jakarta, 4, 166, 449-450, 488-489, 515, 683, 783-784, 999-1000.

Anonim, 1997, **AHFS**, Drug Information AMERICAN Society of Health System Pharmacist, Inc., Bethesda, 1499-1504.

Anonim, 2007, **US Pharmacopeia XXX**, US Pharmacopeial Convention Inc., Rockville.

Anonim, 2009, **Petunjuk Operasional Penerapan Cara Pembuatan Obat Yang Baik 2006**, Badan Pengawasan Obat dan Makanan RI, Jakarta, 585.

Anonim, 2011, **Microcrystalline Cellulose PH102.** Available at :http://wellspringchem.com/html_products/Microcrystalline-Cellulose-PH102-126.html

Ansel, H. C., 1989, **Pengantar Bentuk Sediaan Farmasi**, ed. 4, terjemahan Farida Ibrahim, Universitas Indonesia, Jakarta, 57.

Banakar, U.V., 1992, **Pharmaceutical Disolution Testing**, Marcel Dekker Inc., New York, 19-25.

Banker, G.S. and N.R. Anderson, 1994, Tablet, in: **The Theory and Practice of Industrial Pharmacy: Tablet**, L. Lachman, H.A. Lieberman, and J.L. Kanig (Eds.), 3rd ed., Lea and Febiger, Philadelphia, 259, 299, 316 – 329.

Bolton, S., 1990, **Pharmaceutical Statistic: Practical and Clinical Applications**, 2nd ed., Marcel Dekker, Inc., New York, 324-427.

Dibbern, H.W., R.M. Muller, and E. Wirbitzki, 2002, **UV and IR Spectra: Pharmaceutical Subtances (UV and IR) and Pharmaceutical and Cosmetic Excipients (IR),** Editio Cantor Verlag, Germany.

Duchene, D., 1983, Tablet Disintegration, In: **Topic in Pharmaceutical Science**, P.D. Breimer, and P. Spesier (Eds.), Proceeding of The 43rd International Congreess of Pharmaceutical, Amsterdam – New York – Oxford, 387 – 399.

Forner, D.E., N.R. Anderson, G.S. Banker, T.W. Rosanske, and R.E. Gordon, 1981, Granulation and Tablet Characteristic, In: **Pharmaceutical Dosage Form,** H. A. Lieberman, L. Lachman, and J.B. Schwartz (Eds.), Vol. 2 ,. Marcel Dekker,Inc., New York, 109 – 143, 188 – 190.

Gothoskar, A. V., 2005, Extended Release Formulation Using Hyrophilic Matrices. **Modified Release Forum**, 4-5.

Green, J.M., 1996, A Practical Guide to Analytical Method Validition, **Analytical Chemistry**, 68, 305-309.

Javadzadeh, Y., B. J. Navimipour, and A. Nokhodchi, 2007, Liquisolid Technique for Dissolution Rate Enhancement of a High Dose Water Insoluble Drug (Carbamazepine), **International Journal of Pharmaceutics**, 341, 26 – 34.

Javadzadeh, Y., H. Shariati, E. Movahhed-Danesh, and A. Nokhodichi, 2009, Effect of some Commercial Grades of Microcrystalline Cellulose on Flowability, Compressibility, and Dissolution Profile of Piroxicam Liquisolid Compacts, Drug Development and Industrial Pharmacy, 35, 243-251.

Karmarkar, A.B., I.D.Gonjari, A.H. Hosmani, P.N. Dhabale, and S.B. Bhise, 2009, Liquisolid Tablets: A Novel Approach for Drug Delivery, **International Journal of Health Research,** 2(1), 45-50.

Khan, K.A., 1975, The Concept of Dissolution Efficiency. **J. Pharm**, 27(1), 48-49.

Kibbe, A.H. , 2000, **Handbook of Pharmaceutical Excipients**, 3rd ed., The Pharmaceutical Press, London, 102, 143, 305, 501, 555.

Langenbucher, F., 1972, Linearization of Dissolution Rate Curve by Weibull Distribution, **Journal of Pharmaceutical Sciences**, 24, 979-981.

Liao, C.C. and C.I. Jarowski, 2006, Dissolution Rates of Corticoid Solutions Dispersed on Silicas, **Journal of Pharmaceutical Sciences**, 73(3), 401-403.

Lund, W., 1994, **The Pharmaceutical Codex Principles and Practices of Pharmaceutic,** 12th ed., The Pharmaceutical Press, London, 908-911.

Martin, A., J. Swarbrick, and A. Cammarata, 1983, **Physical Pharmacy**, 3rd ed., Lea and Febiger, Philadelpia,845-850.

Mellisa, F., 2011, **Formulasi Tablet Likuisolid Ibuprofen Menggunakan Gliserin sebagai Pelarut non volatile dan HPMC K4M sebagai Polimer**, 39,55.

Parrott, E.L., 1971, **Pharmaceutical Technology Fundamental Pharmaceutics**, 3rd ed., Burgess Publishing Company, Minneapolis, 17-19, 82, 160-162.

Reynolds, J.E.F., 1982, **Martindale: The Extra Pharmacopoeia**, 28th ed. The Pharmaceutical Press, London, 349.
Rowe, R.C., P.J. Sheskey, and M. E. Quinn, 2009, **Handbook of Pharmaceuticals Excipient**, 6th ed., The Pharmaceutical Press, London, 283, 581.

Schefler, C.W., 1987, **Statisstik untuk Biologi, Farmasi, Kedokteran, dan Ilmu Bertautan**, terjemahan Suroso, Institut Teknologi Bandung, Bandung.

Shargel, L. and A. B. C. Yu, 1999, **Applied Biopharmaceutics and Pharmacokinetics**, 4th ed. McGraw – Hill. New York, 8, 132, 169-200.

Siepmann J. and N.A. Peppas, 2001, Modeling of Drug Release from Delivery Systems Based on Hydroxypropyl Methylcellulose (HPMC). **Adv.Drug Deliv.Rev.**, 48, 139-157.

Siregar, C. J. P.,1992, **Proses Validasi Manufaktur Sediaan Tablet**, Institut Teknologi Bandung, Bandung, 29-31.

Soedigdo, S. dan P.Soedigdo, 1977, **Pengantar Cara Statistika Kimia,** Institut Teknologi Bandung, Bandung.

Spireas, S., 2002, Liquisolid System and Methods of Preparation Same, **Pharmaceutical Research**, vol 9, 1-6.

Sweetman, S. C., 2009, **Martindale The Complete Drug Reference**, 36th ed., The Pharmaceutical Press, London, 64.

Vazquez M.J., B. Perez-Marcos, J.L. Gomez-Amoza, R. Matinez-Pacheco, C. Souto, and A. Concheiro, 1992, Influence of Technological Variables on Drug Release of Drug from Hydrophilic Matrices, **Drug Development and Industrial Pharmacy**, 18, 1355-1375.

Voigt, R., 1995, **Buku Pelajaran Teknologi Farmasi**, Terjemahan S. Noerono dan M. S. Reksohardiprojo, Gadjah Mada University Press, Yogyakarta, 163-210.

Wagner, J. G., 1971, **Biopharmaceutics and Relevant Pharmacokinetics**, 1st ed., Drug Intelligence Publications, Illinois, 64-110.

Wells, J.T., 1988, **Pharmaceutical Formulation: The Physicochemical Properties of Drug Substance**, Ellis Howard, Ltd., Chester, 209-211.

Williams, R O., M.A. Sykora, and V. Mahaguna, 2001, Method to Recover a Lipophilic Drug from Hydroxypropyl Methylcellulose Matrix Tablets, **AAPS PharmSciTech**, 8, 1-9.

Wilmana, P. F., 1995, Analgesik – Antipiretik Analgesik Anti-Inflamasi Nonsteroid dan Obat Pirai, dalam: **Farmakologi dan Terapi**, Sulistia G. Ganiswarna (Ed.), edisi 4, Gaya Baru, Jakarta, 207-218.

Yadav, A.V., A. S. Shete, and A. P. Dabke, 2010, Formulation and Evaluation of Orodispersible Liquisolid Compacts of Aceclofenac, **Indian Journal of Pharmaceutical Education and Research**, 227 – 235.