BAB V

KESIMPULAN DAN SARAN-SARAN

5.1. Kesimpulan

Konsentrasi Tween 80 sebagai *enhance*r yang dikombinasi dengan propilenglikol mempengaruhi penetrasi hidrokortison asetat dalam sedian gel carbopol®934 dengan % obat terpenetrasi pada jam ke-8 adalah F_C (23,55%) > F_B (17,07%) > F_D (12,34%) > F_A (8,33%) pada jam ke 8.

5.2. Saran – saran

Pelepasan optimum terdapat pada formula gel Tween 80 dengan konsentrasi 1% yang dikombinasi dengan propilenglikol 5% sehingga tidak perlu dilakukan peningkatan konsentrasi Tween 80. Hal itu dikarenakan peningkatan konsentrasi Tween 80 akan menimbulkan terbentuknya *micelle*.

DAFTAR PUSTAKA

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Addicks, W.J., Weiner, N.D., Curl, R.L., Flynn, G.L., 1990. Drug delivery from topical formulation: Theoretical prediction and experimental assessment. In: Osborne, D.W. & Amann, A.H. (Eds), *Topical Drug Delivery Formulation,* volume 42, Marcel Dekker, Inc., New York, pp 237-241.

Ansel, H.C., 1989. *Pengantar Bentuk Sediaan Farmasi,* edisi keempat, (Ibrahim , F., Asmanizar, Aisyah, I., Penerjemah), UI Press, Jakarta, hal 390-393, 489-494.

Association of Official Analical Chemistry (AOAC), 1984. *Infrared and Ultraviolet Spectra of Some Compound of Pharmaceutical Interest,* volume 1, 2nd ed, Marcel Dekker, Inc., New York, pp 251.

Aulton, M.E., 2002. *Pharmaceutics*: *The Science of Dosage From Design,* 2nd ed, Churchill Livingstone, London, pp 500-516.

Barry, B.W., 1983. *Dermatological Formulations: Percutaneous Absorption,* volume 18, Marcel Dekker, Inc., New York, pp 106-107, 160-161, 234-329.

Bronaught, R.L. & Maibach, H.I., 2002. *Topical Absorption of Dermatological Product,* Marcel Dekker, Inc., New York, pp 157-161, 283-287.

Cooper & Gunn's, 1975. *Dispensing for Pharmaceutical Student,* 12th ed, Mack Publishing Company, Easton, pp 109-110, 216-217.

Devissaquet, J. & Aiache, J.M., 1993. *Biofarmasi,* edisi kedua, (Soeratri, W., penerjemah). Penerbit Airlangga University Press, Surabaya, hal 443-483.

Farmakope Indonesia, edisi IV, 1995. Departemen Kesehatan Republik Indonesia, Jakarta, hal 7-8, 384-385.

Green, J.M., 1996, Practical guide to analytical methode validation. *Analytical Chemistry,* volume **23**, 305-309.

Harahap, M, 1996. *Penyakit Kulit,* PT. Gramedia, Jakarta, hal. 1-4, 12-15.

Idson, B. & Lasarus, J., 1994 . Semisolids. In: Lachman, L., Lieberman, H. A., Kaning, J. L. (Eds), *The Theory and Practice of Industrial Pharmacy*, 3rd ed, Lea and Febiger, Philadelphia, pp 534-539.

Lund, W., 1994. *The Pharmaceutical Codex, Principles Practice of Pharmaceutics,* 12th ed, The Pharmaceutical Press, London, pp 134-135.

Malick, A.W, & Smith, R.E., 1982. Topical drug delivery systems (Skin). In Banker. G. S. & Charmers, R.K (Ed), *Pharmaceutics and Pharmacy Practice,* J. B. Lippincott Company, Philadelphia, pp 279-294.

Martin, A., Swarbrick, J., Commarata, A., 1993. *Farmasi Fisik: Dasar-dasar Farmasi Fisik Dalam Ilmu Farmasetik*, edisi ketiga, jilid kedua, (Yoshita, penerjemah), UI Press, Jakara, hal. 827-849, 888-896.

Mursyidi, A., 1985. *Statistika Farmasi dan Biologi*, Ghalia Indonesia, Jakarta, hal. 34, 57-72.

Mortazavi, S.A. & Aboofazeli, R., 2003. An investigation into the effect of various penetration enhancers on percutaneous absorption of piroxicam. *Iranian Journal of Pharmaceutical* Research, 135-140.

Nairn, J.G., 1990. Topical preparation. In. Swarbick, J. & Boylan, J.C. (Ed), *Encyclopedia of Pharmaceutical Technology,* volume 15, Marcel Dekker, Inc., New York, pp 213-235.

Nairn, J.G., 1997. Solution, emulsion, suspensions and extracts. In: Gennaro, A. R. (Eds), *Remington's Pharmaceutical Science*, 18th ed, Mack Publishing Company, Easton, pp 964, 4359-1540-1605.

Nokhodochi, A., Shokri, J., Barzegar-Jalali, M.,2004. The enhancement effect on the penetration of lorazepam through rat skin. *Tabriz Medical Sciences University* Iran, volume 23, 404-405.

Ostrenga, J., Steinmentz, C., Poulsen, B., 1971. Significance of vehicle composition I: Relationship between topical vehicle composition, skin penetrability and clinical efficacy. *Journal of Pharmaceutical Sciences*, volume **60**, 1175-1185.

Pena., L.E., 1990. Gel dosage form: Theory formulation and processing. In. Osborne, D.W. & Amann, A. H. (Ed), *Topical Drug Delivery Formulation*, Marcel Dekker, Inc., New York, pp 381-387.

Permegear.,*Inc*.[2005].Permegear Franz Cells. [Online]. http://www.Permegear.com/franzcells.htm. [2006, July 2004]

Pratiwi, U., 1999. Pengaruh konsentrasi propilenglikol terhadap pelepasan hidrokortison asetat dalam sediaan gel dengan basis carbopol secara *in vitro. Skripsi Sarjana Farmasi*. Fakultas Farmasi, Universitas Katolik Widya Mandala, Surabaya, hal 47-50.

Reynold, J.E.F., 1982. Martindale *The Extra Pharmacopoeia*, 30th ed, Pharmaceutical Press, London, hal 473-475.

Ritchel, W. A., 1986 Handbook of Basic Farmakokinetik, 3th drug intelegen obligation In: Hamilton illinois. hal.448.

Rowe, R. C., Shekey, P. J., Weller, P.J., 2003. *Handbook of Pharmaceutical Exipients*, 4th ed., Pharmaceutical press, London, pp 89-92, 289-293, 297-300, 390-394, 521-523, 526-528, 663-664.

Scott, H., 1990. *Remington's Pharmaceutical Science*, 18th ed, Merck Publishing co., Easton, 324.

Schefler, W.C., 1987. *Statistika untuk biologi, farmasi. Kedokteran dan ilmu yang bertautan (*Suroso, penerjemah), ITB, Bandung, hal.250, 265.

Sumali, H. I., 2002. Pengaruh konsentrasi tween 80 sebagai surfaktan terhadap laju pelepasan flusinolon asetonida dalam gel carbopol®ULTREZ^{TM} 10 secara *in vitro*. *Skripsi Sarjana Farmas*i. Fakultas Farmasi , Universitas Katolok Widya Mandala, Surabaya.

Sweetman, S.C., 2005. *Martindale: The Complete Drug References*, 34th ed., Pharmaceutical Press, London, pp. 1068-1075, 1101-1105

United States Pharmacopeia XXIII, 1995. The United States Pharmacopeial Convention, Inc., Rockville, pp 6-7, 1114, 1797-1798, 1982-1984.

Voigt, R., 1994. *Buku Pelajaran Teknologi Farmasi*, edisi kelima, (Noerono, S., penerjemah), UGM Press, Yogyakarta, hal 848-857.

Wade, A. & Weller, P.J.,1994. *Handbook Pharmaceutical Excipients*, 2th ed. Pharmaceutical Press, London, pp. 191-193, 304-305, 325-326, 327-328, 407-410, 411-413, 448-450.

Walters, K. A. & Hadgraft, J., 1993. *Pharmaceutical Skin Penetration Enhancement*, Marcel Dekker, Inc., New York, pp 57-58.

Williams, A. 2003. *Transdermal and Topical Drug Delivery*, Pharmaceutical Press, London, pp. 1-10, 60-64.

Wurster, D.E., Taylor, P.W., 1965. Dissolution kinetics of certain crystalline forms of prednisolone. J. Pharm. Sci., **54**(5), 673.

Zatz, J.L. & Kushla, G.P., 1989. Gels. In: Lieberman, H. A., Rieger, M.M., Banker, G.S. (Ed), *Pharmaceutical Dosage Form*, volume 2, Marcel Dekker, Inc., New York, pp 495-508.