

BAB 5

KESIMPULAN

5.1. Kesimpulan

Konsentrasi HPMC yang digunakan sebagai matriks film *buccoadhesive* mempunyai pengaruh terhadap *folding endurance*, *swelling index*, *adhesion time*, dan uji pelepasan. HPMC dapat meningkatkan *folding endurance*, *swelling index* dan *adhesion time*, serta dapat menurunkan pelepasan atenolol. Sedangkan PG dapat menurunkan *adhesion time* dan dapat meningkatkan *folding endurance*, *swelling index*, dan pelepasan atenolol. Interaksi antara HPMC dan PG memberikan pengaruh menurunkan pelepasan atenolol dan menaikkan *folding endurance*, *swelling index*, dan *adhesion time*.

Formula optimum dari film *buccoadhesive* atenolol diperoleh dengan menggunakan konsentrasi HPMC 2,37% dan PG 5,28% yang akan menghasilkan film dengan respon *swelling index* 1,55475, respon *adhesion time* 228,747 menit, dan respon fluks pelepasan 173,079 µg/ml/jam.

5.2. Alur Penelitian Selanjutnya

Dilakukan penelitian terhadap penetrasi film *buccoadhesive* atenolol.

DAFTAR PUSTAKA

- Adhikari, S. N. R., B. S. Nayak, A. K. Nayak, and B. Mohanty, 2009, Formulation and Evaluation of Buccal Patches for Delivery of Atenolol, **AAPS PharmSciTech**, 11(3), 1038-1044.
- Ahuja, A., R. K. Khar, and J. Ali, 1997, Mucoadhesive Drug Delivery Systems, **Drug Dev. Ind. Pharm.**, 23, 489-515.
- Bartlett, J., G. Neil-Dwyer, J. McAinsh, and J. M. Cruickshank, 1981, β -Adrenoceptor Blockers and The Blood Brain Barrier, **Br. J. Clin. Pharmac.**, 11, 549.
- Basalious, E. B., S. A. Yehia, and O. N. El-Gazayerly, 2009, Fluconazole Mucoadhesive Buccal Films: In Vitro/In Vivo Performance, **Current Drug Delivery**, 6(1), 17-27.
- Bolton, S., 1990, **Pharmaceutical Statistic: Practical and Clinical Applications**, 2nd ed., Marcel Dekker, Inc., New York, 324-427.
- Choudhury, A., S. Das, S. Dhangar, S. Kapasiya, and A. Kanango, 2010, Development and Characterization Buccoadhesive Film of Ciprofloxacin Hydrochloride, **Int. J. Pharm. Tech. Res.**, 2(2), 1050, 1053-1054.
- Collet, J. and C. Moreton, 2002, Modified-Release Peroral Dosage Forms, in: **Pharmaceutics: The Science of Dosage Form Design**, M. E. Aulton (Ed.), Churchill Livingstone, United Kingdom, 289-305.
- Departemen Kesehatan Republik Indonesia, 1979, **Farmakope Indonesia**, ed.3, Depkes RI, Jakarta, 15.
- Desai, K. G. H. and T. M. P. Kumar, 2004, Preparation and Evaluation of a Novel Buccal Adhesive System, **AAPS Pharm. Sci. Tech.**, 5(3), 4
- Deshmane, S. V., M. A. Channawar, A. V. Chandewar, U. M. Joshi, and K. R. Biyani, 2009, Chitosan Based Sustained Release Mucoadhesive Buccal Patches Containing Verapamil HCL, **Int. J. Pharm. And Pharmac. Sci.**, 1, 219.

Green, J. M., 1996, A Practical Guide to Analytical Method Validation, **Analytical Chemistry**, 23, 305-306.

Jasti, B. R., V. Marasanapalle, and X. Li, 2005, Modulation of Oral Transmucosal Permeability: Permeation Enhancers, in: **Drug Delivery to the Oral Cavity: Molecules to Market**, W. R. Pfister and T. K. Ghosh (Eds.), CRC Press, New York, 73.

Johnston, T. P., M. Chittchang, and N. S. Miller, 2005, The Use of Mucoadhesive Polymers in Buccal Drug Delivery, **Advanced Drug Delivery Reviews**, 57, 1667-1673, 1683.

Kellaway, I. W., G. Ponchel, and D. Duchêne, 2003, Oral Mucosal Drug Delivery, in: **Modified-Release Drug Delivery Technology**, M. J. Rathbone, J. H. Hadgraft, and M. S. Roberts (Eds.), Marcel Dekker, New York, 349-351, 360.

Kharenko, E. A., N. I. Larionova, and N. B. Demina, 2009, Mucoadhesive Drug Delivery System (Review), **Pharm. Chem. J.**, 43(4), 200.

Martin, A., J. Swarbrick, and A. Cammarata, 2008, **Farmasi Fisik: Dasar-Dasar Kimia Fisik Dalam Ilmu Farmasetik**, ed. 3, terjemahan Yoshita, Universitas Indonesia, Jakarta, 827, 830-833.

Mathiowitz, E., 1999, **Encyclopedia of Controlled Drug Delivery**, John Wiley & Sons, Inc., New York, 11.

McEvoy, G. K., 1997, **AHFS**, Drug Information AMERICAN Society of Health System Pharmacist, Inc., Bethesda, 1211-1212.

Mortazavi, S. A. and R. Aboofazeli, 2000, Preparation and In Vitro Assessment of Various Mucosa-Adhesive Films for Buccal Delivery, **Daru**, 8(1&2), 9-18.

Nafrialdi, 2007, Antihipertensi, dalam: **Farmakologi dan Terapi**, S. G. Gunawan, R. Setiabudy, Nafrialdi dan Elysabeth (Eds.), ed. 5, Gaya Baru, Jakarta, 346.

Patel, V. M., B. G. Prajapati, and M. M. Patel, 2006, Formulation, Evaluation, and Comparison of Bilayered and Multilayered Mucoadhesive

Buccal Devices of Propanolol Hydrochloride, **AAPS PharmSciTech.**, 8(1), E3.

Pfister, W. R. And T. K. Ghosh, 2005, Intraoral Delivery Systems: An Overview, Current Status, and Future Trends, in: **Drug Delivery to the Oral Cavity: Molecules to Market**, W. R. Pfister and T. K. Ghosh (Eds.), CRC Press, New York, 2, 6.

Raghavendra, R. N. G., V. B. Suryakar, and K. Thube, 2010, Development of Mucoadhesive Films for Buccal Administration of Montelukast, **Int. J. Pharm. & Tech.**, 2(1), 1-15.

Rowe, R. C., P. J. Sheskey, and P. J. Weller, 2003, **Handbook of Pharmaceutical Excipients**, 4th ed. The Pharmaceutical Press, London, 297-299.

Rowe, R. C., P. J. Sheskey, and S. C. Owen, 2006, **Handbook of Pharmaceutical Excipients**, 5th ed., The Pharmaceutical Press, London, 346-348, 624-625.

Sainz, C. B., R. J. A. B. D. F. Wood, T. G. Williams, and T. H. McHugh, 2010, Composite Edible Films Based on Hydroxypropyl Methylcellulose Reinforced with Microcrystallin Cellulose Nanoparticles, **J. Agric. Food Chem.**, 58(6), 3759.

Satishbabu, B. K. and B. P. Srinivasan, 2008, Preparation and Evaluation of Buccoadhesive Films of Atenolol, **Ind. J. Pharm. Sci.**, 70(2), 175-179.

Setiawati, A. dan S. Gan, 2007, Penghambat Adrenergik, dalam: **Farmakologi dan Terapi**, S. G. Gu nawan, R. Setiabudy, Nafrialdi dan Elysabeth (Eds.), ed. 5, Gaya Baru, Jakarta, 95.

Shin, S. C. and J. Y. Kim, 2000, Enhanced Permeation of Triamcinolone Acetonid Through the Buccal Mucosa, **EJPB**, 50, 218.

Shojaei, A. H., R. K. Chang, X. Guo, B. A. Burnside, and R. A. Couch, 2001, Systemic Drug Delivery via the Buccal Mucosal Route, **Pharm. Tech.**, 70-71.

Sweetman, S. C., 2007, **Martindale: The Complete Drug Reference**, 35th ed., The Pharmaceutical Press, London, 1093.

United State Pharmacopeial Convention, 2005, **US Pharmacopeia XXVIII**, US Pharmacopeial Convention, Inc., Rockville, 2749-2751.

Williams, A., 2003, **Transdermal and Topical Drug Delivery**, The Pharm. Press, London, 42-44.

Winek, C. L., W. W. Wahba, C. L. Winek, Jr., and T. W. Balzer, 2001, **Winek's Drug & Chemical Blood-Level Data 2001**, 2.