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propranolol HCl was used as a model drug. The formulations were subjected to various evaluation parameters such as hardness, friability, assay and in vitro release studies. The addition of organic acids was found to maintain an acidic micro environmental pH inside the polymer matrices during drug release in phosphate buffer pH 7.4. On the other hand, the amount of organic acid added to the system had no effect on the drug release in acidic solution. So, the micro environmental conditions for dissolution and diffusion of drug were almost kept constant. Thus, the release of Propranolol hydrochloride tablets containing HPMC and organic acids was found to be pH independent.

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# PREPARATION AND CHARACTERIZATION OF CRYSTALLO-CO-AGGLOMERATES OF ANTI-HYPERLIPIDEMIC DRUG EZETIMIBE FOR THE IMPROVEMENT OF PHYSICOCHEMICAL PROPERTIES

Arti V. Yerne\*, Monika A. Nimbalkar, Nilesh Mahajan, Purushottam Gangane Dept. of Pharmaceutics, Dadasaheb Balpande College of Pharmacy, Besa, Nagpur

#### **ABSTRACT**

The purpose of this research was to obtain agglomerates of Ezetimibe containing diluents by a novel crystallo-co-agglomeration (CCA) technique. Acetone-water containing hydroxypropylcellulose (HPC), polyethylene glycol 6000 (PEG-6000) was used as the crystallization medium. Acetone acted as a good solvent for ezetimibe as well as a bridging liquid for agglomeration of crystallized drug with diluents and aqueous phase as non-solvent. The agglomerates were characterized by differential scanning calorimetry (DSC), powder X-ray diffraction (XRPD) and scanning electron microscopy (SEM). The growth of particles and the spherical form of the agglomerates resulted in formation of products with good flow and compressibility. DSC and XRPD studies showed that ezetimibe particles, crystallized in the presence of HPC, PEG-6000 and diluents did not undergo structural modifications. The dissolution rate of ezetimibe from the agglomerates could be controlled by the amount of included diluents, being enhanced as the latter was increased. Moreover, the results showed that when the diluents were included both intra-granularly and extra-granularly during agglomeration of ezetimibe particles, The properties of CCA of ezetimibe, such as flowability, compactibility and dissolution rate were improved profoundly by this novel technique.

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## DESIGN, DEVELOPMENT AND COMPARATIVE EVALUATION OF MEDICATED ANTIDANDRUFF SHAMPOO WITH MARKETED FORMULATIONS Pranay D. Burle\*, Lalit G. Rathi

Department of Quality Assurance, Institute of Pharmaceutical Education and Research,
Borgaon (M), Wardha

#### **ABSTRACT**

Hair is an important part of human body. The problems associated with it includes hair loss, dandruff, thinning of hair, dullness etc. Dandruff is small white pieces of dead skin in someone's hair or fallen from someone's hair. It is apparently caused by a fungus called Malassezia restricta and Globosa malassezia. Sertaconazole nitrate is a drug used in fungal infections of skin. The aim of the study is to prepare and determine the medicated shampoo's inhibitory effects on dandruff causing microorganism. Sertaconazole nitrate shampoo was prepared and evaluated in terms of physical (clarity and colour), performance (pH, % solid content, viscosity, dirt dispersion, cleaning, surface tension and foaming) and chemical characteristics (non-volatile alcohol soluble matter, active detergent content). All characteristics of all batches of shampoo were found in limit as specified in Indian standard. Stability study revealed that the formulated shampoo was stable for a prolong period of time as compared to marketed shampoo. The antifungal activity of shampoo was studied against selected fungal strain (Mallassezia furfur) using Sertaconazole as a positive control by cup plate diffusion method and was found to be effective against the selected fungal species. Hence Sertaconazole nitrate can be used as an anti-dandruff agent apart from other fungal skin infections.