



Evaluation of the Effect of Drug Solubility Behaviour on the Rate of Release from the Hydrophilic Matrix System

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SUMMARY. To select the suitable concentration level of controlled release polymer for the formulation of predefined extended release formulation based on the solubility behaviour of active substance, we have formulated and evaluated the extended release matrix tablets of two different antihypertensive drugs having different solubility profile by direct compression process. The selected antihypertensive drugs are metoprolol succinate of freely soluble category and propranolol hydrochloride of soluble category (solubility in terms of water). The selected drugs were formulated with various concentrations of selected highest viscosity grades of controlled release polymers viz. HPMC K200M & Polyox WSR 303 and evaluated for drug release profile. Dissolution methods were conducted using USP official methods. From the studies conducted it was found that drug solubility behavior also plays an important role in selection of controlled release polymer concentration for formulation of extended release formulation and observed that a higher concentration level of controlled release polymer is required for the formulation of freely soluble drug than soluble drug.

KEY WORDS: Extended release, Hypromellose K200M, Metoprolol Succinate, POLYOX WSR-303, Propranolol hydrochloride.

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