

ABSTRACT

The Influence of HPMC K15M Concentration as Based Matrix On Physical Properties of Tablet and Release Profile of Ketoprofen From Sustained Release Tablet Dosage Form

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The purpose of this study was to find out the effect of percentage hydroxypropyl methylcellulose K15M on physical properties of tablet and ketoprofen released from sustained release tablets. The tablets were prepared by wet granulation method. This study used four formulas with different percentage of hydroxypropyl methylcellulose K15M on Ketoprofen. Different percentage of hydroxypropyl methylcellulose K15M on Ketoprofen of 25% (FI), 30% (FII), 35% (FIII), and 40% (FIV). The tablets were evaluated for physical characteristics including hardness and friability value. Release test were carried out in release medium which pH 6,8 at temperature $37 \pm 0,5$ °C. The amount of drug release from tablet into release medium was assayed by spectrophotometer UV-Vis. The release rate was expressed as dissolution in 8 hours after release testing conducted. The result was analyzed by statistics program of SPSS using one way analysis of variance in 95% confidence interval. The values of the drug release from tablets were plotted in graphs of drug release versus time. For elucidation of the drug kinetics, dissolution data were analyzed using zero order and first order equation, with linear regression. Whereas the drug mechanism, dissolution data were analyzed using power law equation. The result is Formula 1, 2, and 3 following the zero order and first order. Increase of HPMC K15M concentration will decrease release of Ketoprofen from tablet with erosion mechanism. However, when reliable, detailed information are required, more complex, mechanistic theories must be applied.

Key words: *Ketoprofen, sustained release, matrix tablet, HPMC K15M.*