**ABSTRACT**

The objective of this investigation was to formulate modified release matrix tablets of Aceclofenac, a BCS class II drug by wet granulation method, using ethyl cellulose (EC) and cellulose acetate phthalate (CAP). This combination was taken into consideration to minimize initial release of the drug in gastric region to avoid irritation. A total of 12 formulations were formulated, among which three were prepared only with EC in three different proportions to know to what an extent initial release of drug takes place in the absence of enteric polymer and the rest were formulated in three different proportions of EC and CAP where, EC acts as sustained release polymer and CAP as a pH dependent polymer. The combination of EC and

CAP gave *in vitro* release profile in such a way that as the concentration of EC increased, the prolongation of drug release was achieved and at the same time as the concentration of CAP increased, there was minimized initial release. Among the formulations, F9 was adjudged as the best formulation since it minimized the initial release of drug to the maximum extent compared to other formulations and prolonged for 14 h. Kinetic models revealed that F9 followed controlled and non-Fickian release mechanism.

**Key words:** Modified release, BCS Class II drug, Aceclofenac.