**ABSTRACT**

Lornoxicam is one of the drugs used for the management of Arthritic pain. The site of absorption of Lornoxicam is in the GIT and it has a short half life of 3-4 h. Therefore, the present investigation was concerned with the development of the floating matrix tablets, which after oral administration are designed to prolong the gastric residence time and thus, improve the bioavailability of the drug as well as its half life. Lornoxicam showed maximum absorption at wavelength 374 nm in 0.1N HCl. Drug-polymer compatibility studies by FT-IR gave confirmation about their purity and showed no interaction between drug and selected polymers. Various formulations were developed by using release rate controlling and gel forming polymers like HPMC (K-4M, K-15M, K-100M) in a single by direct compression method with the incorporation of sodium bicarbonate as gas generating agent. All the formulations had floating lag time below 55 seconds and constantly floated on dissolution medium for more than 24 h. Swelling studies indicated significant water uptake and contributed in drug release. From among all the developed formulations, as formulation F-3 prolonged the drug release for longer period of time and it had less floating lag time as compared to other formulations. So, it was selected as the best formulation. It was concluded that the drug release followed zero order kinetics, as the correlation coefficient (R2 value) was higher for zero order release, so the drugrelease followed controlled release mechanism. The best formulation was found to be stable during stability studies for two months. Thus, the best formulation satisfied physicochemical parameters, floating properties, swelling index and in vitro drug release profile requirements for a floating drug delivery system.

**Key words:** Lornoxicam; floating drug delivery system; floating matrix tablet;HPMC.