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Development and study in vitro release of diclofenac sodium pallets prepared by using natural gum

Vaibhav M Darvhekar[1], **Shriramji G Jyotishi**[2] and **D Vijaykumar**[1]
[1]Kannur Medical college, India
[2]Shri Ayurvedic College, India

In the present study, the effect of gum extracted from natural source was evaluated on the release profile of drug from sustained release pellet. Diclofenac sodium was used as a model drug to evaluate its release characteristics from different matrices. Diclofenac sodium sustained release pellets were prepared by drug loading (drug binder solution) on neutral pellets followed by spraying coating solution using different concentrations of natural gums. The in vitro dissolution studies of diclofenac sodium from these sustained release pellets were carried out in pH7.2 phosphate buffer up to 12hrs using USP-I method. The release mechanism was explored and explained with zero order, first order, Higuchi, Hixson Crowell and Korsmeyer equations. Finally, the results generated in this study showed that the profile and kinetics of drug release were significantly controlled by natural gums as good as marketed drugs so these gums may be the better alternative for synthetic polymers.

vaibhav1109@gmail.com