

Development of Antibiotic Drug Loaded Psyllium-Moringa Gum and Alginate based Bead Formulations for use in Gastro-retentive Drug Delivery

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Abstract—Keeping in view the importance of natural polysaccharides in oral drug delivery applications, in the present work an attempt has been made to design the antibiotic drug ciprofloxacin loaded psyllium-moringa gum and alginate based bead formulations for use in gastro-retentive drug delivery. In the present study, almost all the floating beads exhibited buoyant behaviour and hence these beads are considered to be floating in nature. The release of drug from beads occurred through non-Fickian type diffusion mechanism in pH 2.2 buffer. The release profile data was applied to the different kinetic models and release profile was best fitted in the Korsmeyer-Peppas kinetic model. Further, the drug carrier itself has anti-ulcer activity. So, therapeutic potential of the drug, released from these carriers may be enhanced.