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Formulation and Evaluation of Gastroretentive Floating Tablet using Carbopol with Xanthan Gum and Guar Gum

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Abstract: The Floating tablets of Domperidone were prepared by wet granulation process. All tablets were evaluated for their physical parameters for both, pre-compression and post-compression. FTIR and DSC studies proved that no chemical interaction in Domperidone and polymers. All the batches evaluated for swelling and floating properties also, the batches containing combination of Carbopol with natural polymers Guar and Xanthan Gum shows good swelling properties since natural gums swells rapidly and efficiently in water. The *in-vitro* drug release studies revealed the drug release from the formulation depended upon the polymer concentration and the polymer used. The sustained drug release with better floating was achieved with natural polymers. The developed floating tablet of Domperidone used to prolong drug release for more than 12 hrs, thereby improving bioavailability and better patient compliance. All the batches showed Mixed Matrix and Peppas best fitted model for release kinetics, which showed that, the release of the drug from the prepared tablets is sustained by swelling, followed by drug diffusion and slow erosion of the polymer.

Key words: Domperidone, Floating tablets, Carbopol, Natural polymers, Release kinetics.

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