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Formulation and *In Vitro* Evaluation of Fast Dissolving Film of Metoclopramide Hydrochloride

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Abstract: Objective: The goal of this study was to formulate and *In vitro* evaluate fast dissolving oral film of metoclopramide hydrochloride (MCP HCl) in order to supply valuable and acceptable dosage form for patients who are suffering from difficulties in swallowing like children and geriatric patient or patients who are unable to swallow like unconscious patients.
Methods: Solvent casting methodwas used to prepareMTC HCl fast dissolving films using different types of film forming polymers including hydroxy ethyl cellulose (HEC), hydroxy propyl methyl cellulose 15 cp (HPMC 15 cp) and sodium carboxy methyl cellulose (SCMC) in different concentration .Different types of plasticizer are employed including glycerin (Gly), polyethylene glycol 400 (PEG 400) and propylene glycol (PG) to enhance the film forming properties of polymer.
Results: The prepared films were evaluated for visual homogeneity, thickness, weight variation, surface pH, drug content, folding endurance, *In vitro* disintegration time (DT) and *In vitro* release profile. The optimized formula was subjected to comparison in release profile with marketed product as well as Fourier Transform Infrared Spectroscopy(FTIR).Among the prepared formulations, F12 which was prepared using 54% (w/w) SCMC and 20% (w/w) Gly showed satisfactory physicochemical parameters, disintegration time (DT) 14 seconds, and the highest dissolution rate as 68.3 % of drug released in 2 minutes and 80% of drug is released in 4 minutes.
Conclusion: The resultsreveled thatfast dissolving film of MTC HCl can be prepared successfully and to be considered as a encouraging drug delivery system.
Keywords: Fast dissolving film, Metoclopramide HCl,Sodiumcarboxy methyl cellulose, Glycerin.

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