ABSTRACT

Effect of polymer sodium alginate, HPMC E15, and ethyl cellulose combinations to physical and chemical characteristics of matrix type-meloxicam patch

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Meloxicam is an NSAID drug that can cause gastric irritation in oral administration. Transdermal drug delivery system can avoid its side effect and avoid first pass metabolism in hepar.This study aimed to determine the effect of hydrophilic and hydrophobic polymer combinations to physical and chemical characteristics of matrix typed-meloxicam patch. Two formulations of meloxicam patches were composed of sodium alginate, hydroxyl propyl methyl cellulose (HPMC E15), and ethyl cellulose (EC) in ratios of 6: 4: 1 and 4: 4: 3. The transdermal patch of meloxicam were prepared by mixing all dispersion polymers matrix and meloxicam. The patches were evaluated for physicohemical evaluation. The result showed there were differences of both formula that is moisture content and mass variation. % MC and mass variation will elevated as hydrophilic polymer increases. Formula 4:4:3 has the best characteristics because it has small % MC but still need further studies i.e stability, drug release, and penetration.

Keyword : transdermal patch; meloxicam; sodium alginate; HPMC E15; EC; moisture content