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FORMULATION AND EVALUATION OF PARACETAMOL SOLID DISPERSION TO ENHANCE THE SOLUBILITY AND DISSOLUTION CHARACTERISTICS

D. Christopher Vimalson [(1)*] S. Anbazhagan [(2)] E. Punitha [(3)] N. Sri Durga Devi [(4)]

[(1)] Department of Pharmaceutics, Surya School Of Pharmacy, Vikravandi, Villupuram, India.
[(2)] Department of Pharmaceutical Chemistry, Surya School Of Pharmacy, Vikravandi, Villupuram, India.
[(3)] Department of Pharmaceutics, Surya School Of Pharmacy, Vikravandi, Villupuram, India.
[(4)] Department of Biotechnology, Anna University, Chennai, India.

*** Corresponding author**

Abstract

Paracetamol is an analgesic and anti pyretic drug, used in treatment to relieve the pain and regulate the body temperature. The study was conducted to enhance the solubility of Paracetamol drug by Solid Dispersion technique by using Poly Ethylene Glycol 6000 (PEG 6000) and Hydroxy Propyl Methyl Cellulose (HPMC) as carriers. Three Drug: Carrier ratios (1:1, 1:2 and 1:3) were prepared by solvent evaporation, Physical mixture and Melting method. The prepared Solid Dispersions were evaluated for Estimation of drug content, FTIR study, Thermal studies, Aqueous solubility studies and Determination of Dissolution. Solid dispersion prepared by Solvent evaporation method using PEG 6000 at 1:3 drug : carrier ratio has shown highest improvement in the dissolution profile of Paracetamol. The carrier used and the techniques explored are relatively easy, simple, quick, inexpensive, and reproducible suggesting that solid dispersion is a trustworthy alternative for solubility enhancement of poorly water soluble drug.

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Paracetamol, Solubility Enhancement, Solid Dispersion

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