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Formulation of Fluconazole as topical antifungal gels by micro-sponge based delivery systems

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The purpose of present work was to formulate fluconazole loaded micro-sponge-based topical delivery system for modified release. Micro-sponges with varied drug-polymer ratios were prepared by emulsion solvent diffusion technique using ethyl cellulose as release retard material. Prepared micro-sponges were studied for particle size and physical characterization. Scanning Electron Microscopy (SEM) images showed the micro-sponges porous and spherical in shape. The micro-sponges were then incorporated in carbopol gel and evaluated for pH, viscosity, spreadability, drug content, *in vitro* release. The *in vitro* drug release showed that micro-sponges with 1:1.5 drug-polymer ratios (F3) were more efficient to give sustained release of 74.2% at the end of 8 hrs. All the micro-sponge gel formulations (i.e. F1-F10) showed better results like pH between 6.5-7.0, viscosity between 25,030-47,390 cps, spreadability 2-4 cm/s and drug content of $76.20 \pm 0.02\%$ to $96.41 \pm 0.01\%$. Hence, the fabricated micro-sponge based formulation of fluconazole would be anticipation and promising substitute to conventional therapy of skin infections.

Biography

V Rama Mohan Gupta has his expertise in the development of spherical agglomerates, co-crystals, proniosomes, microspheres and different types of nanocarrier systems to target different organs. He has worked on many solubility enhancement techniques, formulation development and *in vitro-in vivo* characterization studies for various drugs during his PhD research work. He is serving as a Principal and HOD of pharmacy colleges from past 15 years. He is serving as the President-Elect of India-Telangana ISPOR Regional chapter, involved in disseminating the knowledge of pharmaco-economics, drug use and patient centered outcomes. He has published nearly 84 research publications in various national and international journals.

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