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Applications of Newer Technologies in Development of Dosage Forms of Phytoconstituents

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Abstract

An oral route of administration is one of the acceptable routes due to improved patient compliance and convenience. Regularly newly advanced drug candidates are lipophilic. Phytoconstituents such as Curcumin and Quercetin are highly lipophilic hence solubility, dissolution and bioavailability are major issues associated with them. Their medicinal values are restricted due to their solubility issues. Various techniques used to improve solubility are micronization, solid dispersion, nanoparticles, nanosuspension.. Among various strategies, liquisolid technology is one of the most promising and innovative technology which overcome solubility issues. This novel strategy turn the liquid drug into dry free flowing, rapid release powder. This technique enhances major challenges like solubility, bioavailability with low production cost and simple manufacturing process. The antioxidant activity of combination showed a synergistic effect. The optimal dose of the combination of both polyphenols elucidated higher efficacy and safety. Highly potent antioxidants and their combination in Liquisolid technology would show positive effects in the management of diabetes and its complications. This technology has potential to produce liquisolid tablets or capsules with pH independent drug release profiles. Excipient plays a vital role while employing this technology. This study proves that Liquisolid technology can be used effectively for the poorly water soluble drugs and this technique is truly favorable for BCS class II and class IV drugs.

Keywords: Diabetes mellitus; Liquisolid technology; Solubility; Bioavailability; Curcumin; Quercetin

Biography

She is currently working as Assistant Professor in CGC, Landran since 2012 and pursuing Phd in Pharmaceutics from Chandigarh University Gharuan Punjab. She already published seven research article and six review articles in well-known international and national journal of her department. Her master degree research was on Formulation and Evaluation of Topical gel of curcumin from different combination of polymers.



Citation

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