

Formulation and Evaluation of Oral Nanosuspension of Antipsychotic Drug

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Abstract

The objective of the present study was to formulate and evaluate oral nanosuspension of Quetiapine to deliver the drug orally for the treatment of Schizophrenia and other mental and bipolar disorders. The oral nanosuspension of Quetiapine was prepared using precipitation method containing Pluronic F127 as stabilizer and Tween 20 as surfactant. Total 9 batches were formulated as per 3^2 factorial design applied to check the effect of Pluronic F127 and Tween 20 on particle size and zeta potential. These formulations were evaluated for particle size and zeta potential. The batch F7 shows particle size 92.12 nm, zeta potential -25.1 mv and increase in saturation solubility of formulation was found to be 133.45% and hence it was selected as the optimized batch. The optimized batch F7 provide good results of all evaluation parameters. Stability studies of the optimized formulation indicates no significant differences in particle size and zeta potential after a period of 1 month. Formulation F7 can provide good results in terms of particle size, zeta potential, drug content, saturation solubility, in vitro drug release and stability studies.

Key words: Quetiapine, Pluronic F 127, Tween 20, Ethanol and Water