Preparation and evaluation of Nanosuspension of Erythromycin Stearate.

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Abstract

Objective: To Prepare & Evaluate nanosuspension of Erythromycin Stearate to deliver the drug orally for the treatment of widly spread bacterial infections.

Experimental work: The nanosuspension of Erythromycin Stearate was prepared using Solvent Evaporation method containing Pluronic F68 as stabilizer and Tween 20 as surfactant. Total 9 batches were formulated as per 3^2 factorial design was applied to check the effect of Pluronic F68 and Tween 20 ratio on particle size and zeta potential. These formulations were evaluated for Physical parameters of nanosuspension, drug-excipient compatibility study, Particle Size, Zeta Potential, Drug Content, Saturation Solubility and *In Vitro* drug release study.

Result and Discussion: The Optimized batch F6 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.

Conclusion: Oral drug delivery system of nanosuspension of Erythromycin Stearate formulated using Pluronic F68 as stabilizer and Tween 20 as surfactant. Formulation F6 can provide good results in terms of Particle Size, Zeta Potential, Drug Content, Saturation Solubility, *In Vitro* Drug Release and Stability Studies.

Key words: Erythromycin Stearate, Pluronic F 68, Tween 20, Acetone and Water