"**Formulation and Evaluation of Microemulsion for the Treatment of Hypertension**"

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Abstract

The aim of present investigation was to devlop microemulsion of anti hypertensive agent Spironolactone for oral delivery with an objective to increase the solubility and Bioavailability. Spironolactone microemulsion made by water titration method. Spironolactone is a poorly water soluble drug and lower bioavailability. The study was also undertaken to overcome the drawbacks associated with oral drug delivery systems such as poor solubility of drugs, On the basis of solubility study, castor oil, tween 80 and polyethylene glycol 600 were selected as oil, surfactant and co-surfactant respectively for preparation of microemulsion. Pseudoternary phase diagrams were constructed at various tween 80 and PEG 600 ratios. The 3:1 ratio represented greater area of microemulsification. Hence, it was selected for preparation of microemulsion.

The prepared microemulsion was optimized on the basis of droplet size, zeta potential and drug release. The optimized microemulsion was further evaluated for %transmittance, dilutability, pH, viscosity, conductivity, drug content and stability study. The optimized formulation had a composition of 5% castor oil, 65% Smix and 30% of water. Particle size and zeta potential of the optimized microemulsion formulation were found to be 11.08nm and -9.51 mV respectively. Drug content was found to be 96.94%. Drug release at the end of 80 min was found to be 94.21%. Thus

the, solubility of Spironolactone was successfully enhanced and microemulsion was successfully formulated for oral delivery to treat hypertension.