Formulation and Evaluation of Fast Dissolving Tablets for Anticonvulsant Drug

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Abstract

The objective of the present study was to prepare and evaluate fast dissolving tablets of Topiramate for the treatment of Convulsion (Epileptic seizure) by using direct compression method using superdisintegrants like crospovidone and sodium starch glycolate at varying concentration range of 2.5-7.5 % w/w. FTIR studies between drug and excipients suggested the absence of chemical interaction between the drug and excipients. Various trail batches were prepared and formulation was optimized using 3^2 factorial design. The amounts of Crospovidone (CP) and Sodium Starch Glycolate (SSG) were taken as independent formulation variables (factors) and disintegration time and % drug release were taken as dependent variables (responses). The prepared batches of tablets were evaluated for hardness, friability, thickness, drug content uniformity, *in vitro* dispersion time, wetting time, disintegration time, % drug release and water absorption ratio. The optimized formulation was chosen based on disintegration time containing 7.5 % crospovidone and 5.0 % sodium starch glycolate. This optimized formulation showed 96.77 % drug release within 5 minutes and disintegration time of 19 seconds. Stability studies on final formulation showed that the formulation was stable at 25±2˚ C and 65±5% RH and also at accelerated conditions (40±2˚C and 75±5% RH). Thus, fast dissolving tablets of Topiramate can be efficiently and successfully formulated to give fast action with increased bioavailability.