OPTIMIZATION AND CHARACTERIZATION OF FAST DISSOLVING TABLETS OF CANDESARTAN CILEXETIL PREPARED FROM SPHERICAL AGGLOMERATES

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ABSTRACT

The primary objective of this study was to develop a rapidly dissolving tablet containing an antihypertensive drug, candesartan cilexetil (CAND). The research work focused on improving solubility and *in vitro* dissolution of drugs using spherical agglomeration technique. Spherical agglomerates of CAND were developed using PVPK-30 as polymer and dichloromethane as bridging liquid. A spherical agglomerate of CAND was used to formulate fast dissolving tablet (FDT) with different superdisintegrants like Crospovidone and Cross carmellose sodium. The prepared powder blend was evaluated for different pre-compression parameters like solubility, compressibility index, Hausner's ratio and flow property and post-compression parameters including *in vitro* dissolution study. The solubility of prepared agglomerates was found to be 0.15 to 0.91 mg mL^{-1}, and it was higher than the pure drug (0.00071 mg mL^{-1}). *In vitro* drug release study of optimized batch of FDT has shown 95.47 % of drug release. From the results, it was revealed that the prepared FDT using the agglomeration technique might be used to enhance the solubility and bioavailability of CAND to augment acute and chronic hypertension therapy.