**ABSTRACT**

The present work describes the formulation development of mouth dissolving tablets of Paroxetine HCl with an optimum dispersion time along with required hardness. Since Paroxetine HCl is a slightly soluble, a solid dispersion of the drug in mannitol at a ratio of 1: 2, prepared by solvent evaporation method was used for the formulation of fast dissolving tablets. The formulation employed three different superdisintegrants, namely crospovidone (CP), sodium starch glycolate (SSG) and croscarmellose sodium (CCS), each in three different ratios. Microcrystalline cellulose and mannitol were used as binder and diluent respectively. FT-IR and DSC were used to study the drug-excipient compatibility. Preformulation studies were carried out so as to study the compression characteristics and the flow properties of the powder mix, which was within satisfactory limits. Formulations were made by direct compression method and evaluated for in vitro dispersion time (DT), hardness, friability, wetting time, and in vitro dissolution rate. All the formulations showed a DT below 1 min. with hardness of 3.2 kg.cm-2 or above. Tablets containing CP at 4% W/W with a hardness of 3.8 kg.cm-2 and DT of 29 S was chosen as the most satisfactory formulation which released the complete drug in 4 min. The other superdisintegrants yield tablets of nearly lesser hardness (up to 2.9 kg.cm-2) with higher DT (upto136S). An attempt was made to achieve good flow properties by wet granulation technique which resulted in tablets which do not disintegrate in 1 min. It was concluded that, CP at 4-6%W/W can produce harder tablets of Paroxetine HCl which can release the drug rapidly in the mouth.

**Key words:** Fast dissolving tablets, solid dispersion, superdisintegrants, paroxetine

hydrochloride, in vitro dispersion time, wetting time