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## Comparative study of superdisintegrants on formulation and design of directly compressible oral fast dissolving tablets of Venlafaxine HCL: An *in-vitro* and *ex-vivo* study

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The main purpose or aim of the present study was to formulate and evaluate Oral Fast Dissolving Venlafaxine HCl tablets (OFDV): Comparative study of different superdisintegrants with various concentrations by direct compression method, which is simple and cost effective method. Venlafaxine HCl is an antidepressant drug to evade the first pass metabolism. Six formulations by using synthetic disintegrants and six by using natural disintegrants in all twelve formulations were conducted for the selection of optimal concentration of superdisintegrant. Oral Fast Dissolving Venlafaxine HCl tablets were evaluated for various pre and post compression parameters like FTIR, XRD, FESEM, particle size analysis, *in-vitro* dissolution and *ex-vivo* permeation study. The optimum formulation chosen and their best possible results were found to be in close agreement with experimental verdict. The batches prepared by using natural disintegrants shown better bioavailability and release profile based upon *ex-vivo* and *in-vivo* studies respectively. Above all studies revealed that fast dissolving tablet using synthetic disintegrants can be successfully replaced by using natural disintegrants retaining all the parameters.

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