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Formulation and evaluation of Tramadol HCl sustained release matrix tablets

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The present work was based on "formulation and evaluation of Tramadol HCl sustained release matrix tablets" by using different polymers viz. Hydroxypropylmethyl cellulose (HPMC) and natural gums like Kondagogu. Varying ratios of drug and polymer like 1:2, 1:1.75, 1:1.5,1:1.25,1:1, 1:0.75, and 1:0.5were selected for the study. After fixing the ratio of drug and polymer for control the release of drug up to desired time, the release rates were modulated by combination of two different type of controlling material. After evaluation of physical properties of tablet, the in vitro release study was performed in 0.1 N HCl pH 1.2 for 10 hrs. The effect of polymer concentration and polymer blend concentration to be studied. It was observed that matrix tablets contained polymer blend of HPMC/kondagogu were successfully sustained the release of drug up to 10 hrs. The final optimized batch was kept for 3 months of stability study according to ICH guidelines and formulation was found to be stable after 3 months of study. The optimized batch was studied for the dissolution kinetic modeling.

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