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NANOEMULSION BASED INTRANASAL DELIVERY OF RISPERIDONE FOR NOSE TO BRAIN TARGETING

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Risperidone nanoemulsion using different mucoadhesive agent as nasal drug delivery system was prepared to produce quick effect as compared to that of oral route. Solubility of drug was determined in different vehicles. Pseudo ternary phase diagram were generated using Acrysol K 150 as oil, tween 80 as a co-surfactant, and caproyl PGMC as a surfactant. The four formulations were prepared by the spontaneous emulsification method and were further characterized for their percentage transmittance, droplet size and zeta potential. *Ex vivo* diffusion study of the optimized batch was carried out using goat nasal mucosa. Histopathological study of the optimized batch was studied. Optimized formulation was found to possess the mean globule size 149 nm and zeta potential -17.3 mV. *Ex vivo* study revealed that at the end of 4 h, 93.76% of the dose was diffused successfully. In histpathological study, formulation treated mucosa did not show any damage to the epithelium layer.

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