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Review Article

SELF EMULSIFYING DRUG DELIVERY SYSTEM: AN APPROACH TO ENHANCE ORAL BIOAVAILABILITY

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ABSTRACT

Self-emulsifying drug delivery systems (SEDDSs) have gained exposure for their ability to increase solubility and bioavailability of poorly soluble drugs. SEDDSs are mixtures of oils, surfactants, and co surfactants, which are emulsified in aqueous media under conditions of gentle stirring and digestive motility that are encountered in the gastrointestinal (GI) tract. We found that SEDDSs could efficiently improve oral absorption of the sparingly soluble drugs by rapid self-emulsification and, subsequently, dispersion in the absorption sites. SEDDSs possess unparalleled potential in improving oral bioavailability of poorly water soluble drugs. Following their oral administration, these systems rapidly disperse in GI fluids, yielding micro-or nano emulsions containing the solubilized drug. Owing to its miniscule globule size, the micro/nanoemulsifed drug can easily be absorbed through lymphatic pathways, bypassing the hepatic first-pass effect.

KEYWORDS:*Co-solvents, Excipients, Poorly soluble, Self-emulsifying drug delivery systems, Self-micro emulsifying drug delivery system, Solid carriers.*