ABSTRACT

Diclofenac sodium was known as an effective NSAIDs to relieve joint pain. There are some disadvantages in several drug administrations (oral, rectal, parenteral) of diclofenac sodium, so the topically route has been chosen as alternative drug administrations. Recently, solid lipid nanoparticles (SLN) was greatly investigated as a new drug delivery system. SLN had several benefits as a topical drug carrier. The aim of this study was to observe the characteristic of SLN-diclofenac sodium-stearic acid which was formulated by different concentration of Tween 80 (4%, 6%, 8%) and determined SLN with best characteristic at certain concentration of Tween 80. SLN was prepared using high shear homogenization method at 25000 rpm for 8 minutes. The result showed SLN with Tween 80 6% had the best characteristic. SLN with Tween 80 6% had high percent drugs entrapment (mean 86,84%) and smaller size (mean 143,6 nm) than others.

Keyword (s): diclofenac sodium, Solid lipid nanoparticles, stearic acid, Tween 80, High shear homogenization