Abstract cluster Healtcare and Pharmacy

Formulation of *Self-Nanoemulsifying Drug Delivery System* (SNEDDS) Glimepiride with sesame oil, isoproil miristate, and tween 80

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Abstract

Glimepiride is hypoglycemic drugs for Diabetes Mellitus. It has a high permeability and a low solubility in water. Therefore, it has conducted SNEDDS preparation of glimepiride in order to have a better absorption rate. Then aim of the study was to create and optimize the preparation of SNEDDS glimepiride which able to increase the solubility by using sesame oil and isopropil miristate as the oil phase and to determine the stability of SNEDDS glimepride in body fluids. SNEDDS glimepiride made by using the mixture of surfactant are tween 80 by the ratio of sesame oil : Isopropil miristate : tween 80 by the parameters which used such as particle size, zeta potensial, transmitance and emulsification time. The particle size and zeta potensial obtained from the result using PSA. The morphology of particle size could be seen by use TEM. The conclusion of the research show the good replication is the second batch with the results of particle size was 60.2 ± 0.25, zeta potential was -52.57 ± 1.55, the transmitance was 99.371%, emulsification time was 240 seconds and the stable in the artificial gastric fluid, artificial intestinal fluid and aquabidest, and the observation of TEM was less than 200 nm.

***Keywords**: Self-Nanoemulsifying Drug Delivery System (SNEDDS), Glimepiride, sesame oil, Isopropil miristate, Tween 80*

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