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FORMULATION AND EVALUATION OF GLIPIZIDE MICROEMULSION

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ABSTRACT

Diabetes Mellitus (DM) is a group of endocrinal metabolic disorder that is collectively characterized by the hyperglycemia (increased blood glucose level), hypercholesterolemia (increased level of cholesterol) and polyuria (increased urine frequency). This research focuses on designing, development of Glipizide microemulsion with different and suitable vehicles and surfactant such as Glipizide, Oleic acid, Isopropyl myristate, Propylene Glycol, Tween 80, Ethanol and Span 20 with different ratio of mixing. Firstly, preformulation studies were done to make sure that the raw materials used are of high quality and purity. The micro emulsion of Glipizide was formulated using standard method and evaluated for different parameters such as in-vitro permeation studies. The formulation was also studied for in-vivo parameters such as mechanical stress study, residual drug content, particle size, viscosity, content uniformity and release kinetics. In results, the formulation demonstration a significant mechanical stress study, drug content & uniformity, particle size range, viscosity and release kinetics- following zero & first order kinetics. From the present study it was concluded that microemulsion may have number of advantages such as enhance drug solubility, good thermodynamic stability, ease of manufacturing and enhance the effect on transdermal ability. It would be very impactful with easier, adequate and sustained dosing in individuals to control the hyperglycemia (increased blood sugar level) for longer period of life.

KEYWORDS: Glipizide, Diabetes Mellitus, Hyperglycemia, Micro emulsion.

INTRODUCTION

Diabetes Mellitus (DM) is a group of endocrinal metabolic disorder that is collectively