

Title: Fabrication and preliminary screening of Eudragit RSPO-LPV NPs suppositories for paediatrics: Effects of bases and molecular weights

***Corresponding author: Babatunde Moses Ojo, Nano-lab 1074, Department of Chemistry, Science building. North-West University, Mafikeng, South Africa. E-mail: jobabst2001@gmail.com. WhatsApp No: +234-7035172488**

Babatunde Moses Ojo^{a,c*}, Lebogang Katata-Seru^a, Rebecca Soremekun^b

Obijole Olumuyiwa^{c,d}, Omodara Niyi Basil^c and Sunday Oluwaseun^e

^aDepartment of Chemistry, Faculty of Natural and Agricultural Sciences, North-West University, Mmabatho, Mafikeng 2735, South Africa

^bDepartment of Clinical Pharmacy and Biopharmacy, Faculty of Pharmacy, University of Lagos, PMB 12003 Lagos, Nigeria

^cDepartment of Chemistry, Schooling of Sciences, Adeyemi Federal University of Education, Ondo, Nigeria

^dDepartment of Ecology and Resources Management, University of Venda, South Africa.

^eDepartment of Computer Engineering, Faculty of Engineering, Federal University of Oye, Oye Ekiti, Ekiti State, Nigeria.

Presentation type: Oral

Abstract

Although, most of the available drugs on the market suffer aqueous solubility, which compounded their bioavailabilities. Lopinavir (LPV), a potent protease inhibitor limited by solubility of 0.01mg/ml, bitter taste, and gastric enzyme degradation, thereby, requires frequent oral dosing which poses challenges in patient's compliances. It falls under these categories of drugs and needs modification for improvement to enhance its solubility and therapeutic effects. The aim of this study is to design Eudragit RSPO-LPV NPs suppositories from three different bases, to improve the bioavailability and overcome the problem encountered through oral administration emanating from poor solubility. Suppositories were fabricated in fattibase and polyethylene glycol (PEG) bases using a fusion method with Eudragit RSPO-LPV NPs. Suppositories were stored at 5°C and 25°C for a period of 3 months. Physicochemical evaluation of the samples were assessed in terms of appearances, drug content, weight uniformity, colour, disintegration time, crushing strength and preliminary in vitro release studies accordingly.

Biography

Ojo B. M. is a Ph.D graduate and researcher with research focus in nanomedicine at department of chemistry, Faculty of Natural and Agricultural Sciences, North-West University, South Africa. He got his B.Tech.(Hons) in Pure and Applied Chemistry (2000), PgD in Education (2021), M.Sc. in Organic Chemistry (2005) and Ph.D in Chemistry (2020). He is a member of Chemical Society of Nigeria (CSN), Nigeria Institute of Food Science and Technology (NIFST), Institute of Chartered Chemist of Nigeria (ICCON), Teachers Registration Council of Nigeria (TRCN). He was formally a food scientific officer but presently a lecturer at department of chemistry, Adeyemi Federal University of Education, Ondo. Nigeria with 13 published research articles,