Ms. Deidre Shepherd
MPhil Pharmacology

Biography

Ms. Deidre Shepherd comes from a science background where she acquired a Bachelor's degree in Chemistry with honours at theUniversity of the West Indies. She is pursuing a master's degree inPharmacology to explore new treatments for non-communicable diseases. Ms. Shepherd is currently focusing her research incardiovascular pharmacology where she has a keen interest in using cannabinoids and medicinal plants for therapeutic purposes. Apart from her academics, she is very passionate about volleyball and has dedicated time to representing the UWI with the Blackbirds volleyball team.

The Use of Cannabinoids to Modulate Endothelial Dysfunction

MPhil Pharmacology: Ms. Deidre Shepherd

Abstract

Endothelial dysfunction can be characterized by a reduced production and bioavailability of nitric oxide and an imbalance of endothelial derived relaxing and contracting factors. This leads to impaired functionality of blood vessels within the vascular system. The endothelium is responsible for many of the mechanisms involved in the regulation and maintenance of vascular tone and homeostasis. Changesin endothelial function can lead to the development of hypertensionand atherosclerosis. This study will focus on the impact of synthetic cannabinoids on endothelial dysfunction to investigate their ability to modulate the condition. It will consist of in vitro studies using human aortic endothelial cells to examine biochemical marker activity and cell signaling pathways which would be followed by animal studies. Male Sprague-Dawley rats will be fed with a high fat diet to induceendothelial dysfunction and will be treated with the cannabinoids to determine the effect it would have on the integrity of the blood vessels through vascular reactivity studies at the end of the treatment period.