



## Ms. Marriana Shepherd MPhil Pharmacology

### **Biography**

Background/ Previous Education – Bachelors (with honors) in Chemistry and Biochemistry From The University of The West Indies, Barbados and Masters in Business, from Edinburgh Napier University, Scotland.

I aspire to pursue a career in Academia and Research with a focus in Reproductive Health.

My vision in life is to be successful in whatever I am assigned to do, whether small or large and to share my success with others. Teaching the importance of science, and good quality of work while providing knowledge for the enhancement of persons and their environment. Science is not just a subject taken in school or a body of knowledge; it is a way of life.

# The Effects of Herbal Cocktails on KNDy Neuropeptides and Reproductive Hormones in PCOS Induced Female Sprague Dawley Rats

MPhil Pharmacology: Ms. Marriana Shepherd

## Abstract

Infertility is an emotional and physical roller coaster that many couples face. Although no official numbers have been released, from discussions with various health personnel, infertility in the Caribbean has become more prominent. PCOS is one of the leading causes of infertility in women, and although many studies have been completed on this disorder, it remains elusive. Due to this, PCOS is treated base on symptoms, and as such, each case may vary. This study seeks to find a herbal treatment, not only for one particular symptom but to promote an overall rebalance of endocrine hormones in the female reproductive system. The focus will be made on the KNDy neuropeptides, (kisspeptin, neurokinin B and dynorphin) which are now known to control the regulation of GnRH. The study will also observe the overall changes in most of the reproductive hormones such as GnRH, LH, FSH, Prolactin, Insulin, Estrogen, Progesterone, and Testosterone as it also seeks to identify any new pathways to the formation of the syndrome.

# The Effects of Herbal Cocktails on KNDy Neuropeptides and Reproductive Hormones in PCOS Induced Female Sprague Dawley Rats

MPhil Pharmacology: Ms. Marriana Shepherd

## Abstract (Cont'd)

Two herbal cocktails will be prepared using Vitex Agnus Castus (Chasteberry), Angelica Sinensis (Dong Quai), Rubus Idaeus (Red Raspberry Leaf) and Lepidium meyenii (Maca Root); which are popular herbs proven to aid with reproductive health. Rat Hypothalamic Cell lines will be first used to access the mechanism and cytotoxicity of these cocktails in phase one of the study. Due to ethical restrictions, Sprague-Dawley rats will be used for phase two of the experiment. The Letrozole PCOS induced rats will be used to observe and measure the effects of the herbal cocktail on KNDy neuropeptides' levels, their receptor expression, and reproductive hormones levels. Metformin, a drug well-known for its success in fertility treatment, will be used as a comparison to validate the potency of the herbal cocktail. Data from this study will also aid in the eventual development of a cure for the syndrome.