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PhD Dissertation Defense

Entitled

THE EFFECT OF SPICES POWDER ON BLOOD GLUCOSE, LIPID PROFILE AND BODY COMPOSITION ON ADULTS AT RISK FOR CARDIOVASCULAR DISEASES: A CONTROLLED, RANDOMIZED, SINGLE BLIND, PARALLEL – DESIGN STUDY

by

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Date & Venue

8:30 AM

Tuesday, 20 November 2018

Room 1028, E1 Building

Abstract

This research study aims to assess the macronutrient, micronutrient, sugar, lipids and vitamins content for seven commonly consumed spices. Moreover, this study aims to measure the effect of ginger (*Zingiber officinale*), cinnamon (*Cinnamomum*) and black seed (*Nigella sativa*) consumption on blood glucose, lipid profile and body composition in participants at risk of cardiovascular diseases. 7 spices were analyzed to investigate their proximate content, minerals, sugars, lipids and vitamins. Furthermore, 120 participants with risk of cardiovascular diseases were randomly distributed into four treatment groups. A 12-week clinical randomized intervention was conducted by comparing participants from three treatment groups (ginger, cinnamon and black seed) with those from the control group (placebo). Each participant consumed 3 g/day of powder (spice or placebo). Data related to different parameters were collected from participants at baseline, midpoint and at endpoint of the intervention. Analysis of the chemical composition of spices showed that the spices had considerable amount of macronutrients (especially oils) and micronutrients. Therefore, spices' active compounds could be used in drugs, nutritional supplements and for treatments considering their decent source of valuable nutrients. Furthermore, consumption of spices powder significantly improved WC, BFM, weight, BMI, PBF, FBG and TG when compared to placebo group ($P \leq 0.05$). Ingestion of 3 grams per day for 12 weeks of spices powder showed significant improvement in body composition, blood glucose and lipid profile. Overall, this study demonstrates that the consumption of ginger, cinnamon and black seed powder could help in the management of cardiovascular risk factors.

Keywords: Ginger, Cinnamon, Black seed, Metabolic syndrome, Lipid profile, Body composition, Proximate analysis, Blood glucose.