

**Anti-inflammatory, anthropometric and lipomodulatory effects  
Dyglomera® (hydroethanolic extract of *Dichrostachys glomerata*) in obese  
patients with metabolic syndrome**

**Dieudonne Kuate<sup>abd</sup>, Blanche C. Etoundi<sup>ac</sup>, Judith L. Ngondi,<sup>a</sup> Wan Abdul Manan  
Bin Wan Muda<sup>d</sup> and Julius E. Oben<sup>a\*</sup>**

<sup>a</sup>Laboratory of Nutrition and Nutritional Biochemistry, Department of Biochemistry, Faculty of Science, University of Yaounde 1, Yaounde, Cameroon; <sup>b</sup>Department of biochemistry, Faculty of science, University of Dschang; <sup>c</sup>Department of biochemistry, Faculty of science, University of Douala; <sup>d</sup>Program in Nutrition, School of Health Sciences Universiti Sains Malaysia, 16150 Kubang Kerian Kelantan, Malaysia

**\*Corresponding author:** Julius E. Oben: Laboratory of Nutrition and Nutritional Biochemistry, Department of Biochemistry, Faculty of Science, University of Yaounde 1, PO Box 812 Yaounde, Cameroon.

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**Running Title:** Anti metabolic syndrome effects of Dyglomera®

**ABSTRACT**

**Background:** Increased visceral fat, dyslipidemia and increased markers of inflammation and coagulation are cardiovascular risk factors commonly encountered in obese people with metabolic syndrome. Previous studies have shown that ground *Dichrostachys glomerata* (DG), a spice used in Western Cameroon, can have beneficial effects on inflammation and various other cardiovascular disease risk factors. The purpose of the present study was to evaluate the effects of Dyglomera®, an hydroethanolic extract of DG (standardized to NLT 10% polyphenols) on certain anthropometric, biochemical (including pro-inflammatory and pro-thrombotic states) and hemodynamic parameters in obese patients with metabolic syndrome.

**Methods:** The study was an 8-week randomized, double-blind, placebo-controlled trial involving 116 males and 202 females aged between 24 and 58 years. Participants were randomly divided into two groups: treatment and placebo. Capsules containing the active treatment (200 mg Dyglomera®) or placebo (200 mg maize powder) were administered 30–60 minutes before lunch and dinner throughout the study period. Various biochemical (namely, blood glucose, lipid profile, pro-inflammatory and pro-thrombotic markers), anthropometric and hemodynamic parameters were measured at baseline and after 4 and 8 weeks of treatment.

**Results:** At the end of the study, the Dyglomera® group showed statistically significant differences in all 16 parameters compared to baseline values. Changes in BMI and waist circumference were accompanied by changes in biochemical parameters, with the exception of adiponectin levels which were not correlated to waist circumference and PAI-1 values. The results confirm the hypothesis that Dyglomera®, the hydroethanolic extract of DG, has anti-inflammatory properties, and is effective in reducing cardiovascular disease risk factors associated with metabolic syndrome in obese human subjects.

**Key words:** *Dichrostachys glomerata* extract, inflammation, obesity, metabolic syndrome