

**Possible immunochemical alterations in the plasma levels of TNF- $\alpha$  and IL-10 in the traditional application of *Vernonia amygdalina* (Ewuro) leaves in the treatment of Diabetes mellitus**Mathew Folaranmi Olaniyan<sup>1</sup>, Alade Aderinto Ogunlade<sup>1</sup> and David Atere<sup>2</sup><sup>1</sup>Edo University Iyamho, Nigeria<sup>2</sup>Achievers University, Nigeria

**Introduction & Objective:** Diabetes mellitus can induce release of free radicals and oxidative stress which can trigger production of cytokines. *Vernonia amygdalina* has anti-diabetic activity due to its phytochemical constituents. The study objective was designed to determine the possible immunochemical alterations in the plasma levels of TNF-  $\alpha$  and IL-10 in the traditional application of *Vernonia amygdalina* (Ewuro) leaves in the treatment of diabetes mellitus.

**Method:** The study populations include all 33 Diabetes mellitus patients (51–67 years; male-21; female-12) who had not commenced any form of medication or treatment and received herbal treatment in 10 herbal homes of Saki-West local government area in Nigeria. 27 age-matched volunteers who were treated on insulin medication in the hospital almost within the same period were also investigated. Patients who were positive to Acid Fast Bacilli Sputum test, *Plasmodium spp.*, identification, HBsAg, anti-HCV and HIV-1 p24 assays were not included. Plasma TNF-  $\alpha$ , IL-10, HBsAg, anti-HCV and HIV-1 p24 were determined in the patients by ELISA while identification of Acid Fast Bacilli and *Plasmodium spp.*, were carried out by Ziehl-Neelsen and Giemsa -Thick blood film staining respectively.

**Results:** There was a significant decrease in the plasma levels of TNF- $\alpha$  , IL-10 and glucose in diabetes mellitus patients after the administration of raw liquid extract of *Vernonia amygdalina* and insulin compared to their basal samples before the commencement of the treatment (p<0.05).

**Conclusion:** The study revealed a significant increase in plasma TNF- $\alpha$ , IL-10 and glucose in diabetes patients which returned to normal plasma values after treatment using raw liquid extract of *Vernonia amygdalina* leaves and insulin.

olaniyanmat@yahoo.com  
olaniyanmat@gmail.com**Notes:**