



ALAIYA, TAIWO HILARY, works in the Department of Biochemistry, Faculty of Life Sciences, Ambrose Alli University, EKPOMA, NIGERIA. Currently, he is a Lecturer 1. Mr T. H. Alaiya's research interest spans over 20 years. He has particular interest in clinical biochemistry and molecular biology. He has published many/some peer reviewed articles on his research and some other areas of Biochemistry. He is a member of Nutrition Society of Nigeria (NSN), Nigerian Society of Biochemistry and Molecular Biology (NSBMB), Biotechnology Society of Nigeria (BSN), Science Teachers Association of Nigeria (STAN), Strategic Institute for Natural Resources Human Development (SINRHD). Some responsibilities held include:

1. Course adviser at various levels in the Department of Biochemistry from 1998 to date.
2. Departmental Representative Faculty Time Table committee
3. Departmental Representative Faculty Curriculum committee
4. Taught General Biochemistry (BCH 201 and BCH 211) at 200 level from 1998 to 2014

5. Taught Bioenergetics (BCH 213) at 200 level from 2000 to 2014
6. Taught Amino Acids Metabolism (BCH 302) at 300 level from 1998 to 2000
7. Taught Nucleotides Metabolism (BCH 304) at 300 level from 2000 to 2013
8. Taught Enzymology I (BCH 401) at 400 level from 2001 to 2003
9. Taught Metabolic Regulation (BCH 403) at 400 level from 2000 to 2004
10. Taught Biochemistry of Structural Tissues and Neurochemistry (BCH 420) at 400 level from 2006 to date
11. Taught Molecular Biology I (BCH 402) at 400 level from 1999 to date
12. Taught Molecular Biology II (BCH 414) at 400 level from 2000 to date.

Qualifications

- a. Ph.D. Nutrition Biochemistry (In View)
- b. M.Sc. Biochemistry
- c. B.Sc. (Hons) Biochemistry
- d. Higher School Certificate (HSC, A/L)

Research Focus:

- a. Assessment of the nutrient potentials of some underutilized crops in Nigeria.
- b. Determination of the anti diabetic potentials of *Moringa oleifera*. Lam

Public Lectures

- a. The Nature and Scope of Biochemistry. National Association of Biochemistry Students (NABS) week, 2001.
- b. The Place of Biochemistry in the Nation's Economy. National Association of Biochemistry Students (NABS) week, 2003

Publications.

1. Ugoabunwa, J., and **Alaiya, H. T.** (1998). Effects of local chewing on salivary α -amylase activity. *J. Med. Lab. Sci.*
2. **Alaiya, T. H.,** Esekheigbe, A., and Atoe, K. (2001). Functional properties of African yam bean (*Sphenostylis stenocarpa*) and the effect of processing media. *J. Managt. Technol.*
3. **Alaiya, T. H.,** Azeke, M. A., and Omoyeni, M. E. A. (2001). Studies on polyphenol and phytate content of African yam bean (*Sphenostylis stenocarpa*) as affected by processing media. *Proc. 32nd Ann. Confr. Nutr. Soc. Nig.*
4. Iyawee, H. O. T., and **Alaiya, T. H.** (2001). Improved method of oxalate reduction in some commonly used Nigerian legumes. *Proc. 32nd Ann. Confr. Nutr. Soc. Nig.*
5. Okoror, L. E., **Alaiya, T. H.,** and Aliga, P. (2007). Functional prediction of a newly extracted protein from a newly extracted Lassa virus gene. *BMC Sys. Biol.* **1(1)**: 81
6. Okoror, L. E., **Alaiya, T. H.** And Momodu, I. B. A. (2009). Functional analysis of Lassa virus glycoprotein from a newly identified Lassa virus strain for possible use as vaccine using computational methods. *J. Gen. Mol. Virol.* **1(2)**: 019 – 032.
7. Osagie-Eweka, E. S. D., and **Alaiya, T. H.** (2013). Effect of fermentation and heating on the functional properties of processed flour from African oil bean (*Pentaclethra macrophylla* Benth.) seeds. *AJFAND.* **13(5)**: 8249 – 8257.
8. **Alaiya, T. H.,** Omozokpia, U. M., Omeni, A. A., Adekanle, E., and Olafeide, O. S. (2015). Lipid profile of type 2 diabetic patients attending Irrua Specialist Teaching Hospital, Irrua, Edo State Nigeria. *IJCR.* **4(1)**: 2 – 6.

9. Omeni, A. A., **Alaiya, T. H.**, Nasiru, E. C. Adekanle, E., Omozokpia, U. M., and Ofioghuma, D. O. (2015). Effects of *Moringa oleifera* Lam leaf powder on the plasma glucose levels and some haematological indices of alloxan-induced diabetic rabbits. *IJHPR*. **4(1)**:
10. Omeni, A. A., **Alaiya, T. H.**, Omozokpia, U. M., and Ofioghuma, D. O. (2016). Effects of diabetes mellitus on portal vein reactivity to potassium chloride. *IJHPR*. **In Press**.
11. **Alaiya, T. H.** (2015). Nucleic Acids and their Components. In: Biochemistry for Beginners. A. O. Onigbinde, ed. Ava Graphics, Benin City, Nigeria. Pp. 129 – 179.

Completed Research.

1. Effect of *Moringa oleifera* leaf powder on aminotransferase , γ -glutamyl transferase, creatine kinase, lactate dehydrogenase, and glucose-6-phosphate dehydrogenase levels of alloxan- and streptozotocin-induced diabetic rabbits.
2. Effect of *Moringa oleifera* leaf powder on protein and bilirubin profiles of alloxan- and streptozotocin-induced diabetic rabbits.
3. Effect of *Moringa oleifera* leaf powder on haematological indices of alloxan- and streptozotocin-induced diabetic rabbits
4. Effect of *Moringa oleifera* leaf powder on lipid profiles of alloxan- and streptozotocin-induced rabbits
5. Effects of African oil bean seed (*Pentaclethra macrophylla* Bent.) based diet on aminotransferase, γ -glutamyl transferase, creatine kinase, lactate dehydrogenase, and glucose-6-phosphate dehydrogenase levels of albino rats.
6. Effects of African oil bean seed (*Pentaclethra macrophylla* Bent.) based diet on protein and bilirubin profiles of albino rats.

7. Effects of African oil bean seed (*Pentaclethra macrophylla* Bent.) based diet on haematological indices of albino rats
8. Effects of African oil bean seed (*Pentaclethra macrophylla* Bent.) based diet on lipid profiles of albino rats.

ABSTRACTS

GENE ANALYSIS OF A NEWLY ISOLATED LASSA VIRUS STRAIN

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Background

Lassa virus is the cause of Lassa fever which has been a leading cause of morbidity and mortality in many parts of West Africa. It usually occurs in epidemic form where the spread could be more than HIV/AIDS in seasons of epidemics. Recently, two new strains of the virus were isolated from Ekpoma Nigeria. Gene analysis was carried out with strain “Nig04-02” and the function prediction of the corresponding protein. There have been no reason adduced for these yearly outbreak of Lassa virus infection despite high level of circulating antibodies in the population. And still no vaccine in sight.

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LIPID PROFILE OF TYPE 2 DIABETES PATIENTS ATTENDING IRRUA SPECIALIST TEACHING HOSPITAL IRRUA, EDO STATE, NIGERIA

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ABSTRACT

This study investigated the lipid profile (LP) of type-2 diabetics and non-diabetic patients presenting at Irrua Specialist Teaching Hospital, Irrua, Edo State, Nigeria, with a view to assessing the risk of cardiovascular disease among the diabetics. Twenty (20) diabetic and 20 non-diabetic patients (control) formed the study population. Total cholesterol (TC), triacylglycerol (TG), high density lipoprotein-cholesterol (HDL-C), and low density lipoproteincholesterol (LDL-C) were assayed for each group using standard biochemical methods, while the fasting blood glucose levels of the patients were assayed using the glucose oxidase method. The results showed higher mean TC and HDL-C levels among the diabetic patients than their non-diabetic counterparts and the observed

differences were statistically significant ($p < 0.05$). The mean glucose, TG, and LDL-C were equally higher among the diabetics than their non-diabetic counterparts, but in this instance, the differences were not statistically significant ($P > 0.05$). Regardless of the high lipid profile levels among the diabetics, the values obtained fell within acceptable range; suggesting that the patients were responding to treatment or life style changes.

Keywords: Lipid Profile, Type-2 Diabetes, Cardiovascular Disease, Teaching Hospital.

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RESEARCH PAPER

THE EFFECTS MORINGA OLEIFERA LAM LEAF POWDER ON THE PLASMA GLUCOSE LEVELS AND SOME HEMATOLOGICAL INDICES OF ALLOXANINDUCED DIABETIC RABBITS.

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ABSTRACT

The study examined the effect of treated *Moringa oleifera* leaf on the plasma glucose levels of alloxan-induced diabetes mellitus in rabbits. Other parameters examined include: body weight, mean corpuscular hemoglobin concentration (MCHC), mean cell hemoglobin (MCH), mean hemoglobin concentration, mean packed cell volume, and mean corpuscular volume (MCV). At least 10g of this leaf powder was fed to a set of test rabbits for 28 days. Diabetes was induced by intramuscular injection of alloxan, dissolved in 0.9% NaCl solution at a dose of 150mg/kg body weight. Blood was collected for analyses intravenously from the larger vein at the back of the ear of the rabbits. Standard methods of analyses were used in all the analyses. From the results obtained, it was observed that plasma glucose concentration was significantly ($p < 0.05$) different in the diabetic rabbits treated with *Moringa* leaf as compared to the diabetic rabbits untreated with the leaf. The red blood cell (RBC) and its associated parameters were not significant ($p > 0.05$) at the end of the treatment. The results suggest that while the treated leaf had effect on the plasma glucose concentration, it had no effect on other parameters examined. This may therefore justify its potential use as an anti-diabetic substance.

Key words: *Moringa oleifera*, Plasma Glucose, Diabetes, Hematological indices

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