

VOLUME 40, NUMBER 11  
NOVEMBER 2023

ISSN 0189 - 160X

---

# WAJM

---

**WEST AFRICAN JOURNAL OF MEDICINE**

ORIGINALITY AND EXCELLENCE IN MEDICINE AND SURGERY



OFFICIAL PUBLICATION OF  
THE WEST AFRICAN COLLEGE OF PHYSICIANS *AND*  
WEST AFRICAN COLLEGE OF SURGEONS



[www.wajmed.org](http://www.wajmed.org)



## TABLE OF CONTENTS

GENERAL INFORMATION	1C
INFORMATION FOR AUTHORS	1F
EDITORIAL NOTES – <b>Stigma in Medicine</b> Ibidunni O. Oloniniyi, Gregory E. Erhabor.....	1137
<b>Time to Treat the Climate and Nature Crisis as One Indivisible Global Health Emergency</b> .....	1139
Kamran Abbasi, Parveen Ali, Virginia Barbour, Thomas Benfield, Kirsten Bibbins-Domingo, Stephen Hancocks, Richard Horton, Laurie Laybourn-Langton, Robert Mash, Peush Sahni, Wadeia Mohammad Sharief, Paul Yonga, Chris Zielinski	
<b>ORIGINAL ARTICLE</b>	
<b>Health Resource Utilization among Patients with Type 2 Diabetes Mellitus In Nigeria: An Analysis from the International Diabetes Management Practice Study (IDMPS)</b> .....	1145
Kolawole B.A., Anumah F.A., Unachukwu C (for the IDMPS 7 investigators)	
<b>Health-Related Quality of Life and Its Determinants Among Hypertensive Patients in Rural Southwest Nigeria</b> .....	1155
E. A. Afolabi-Obe, S. M. Agboola, A. O. Ibrahim, O. E. Gabriel-Alayode, O. E. Omosanya, O. T. Elegbede, A. O. Ajetunmobi, K. O. Sito, T. M. Olanrewaju	
<b>Metabolic Syndrome and its Correlates among Hypertensive Patients in Abuja, North Central Nigeria</b> .....	1164
H. C. Onyegbutulem, P. I. Henry-Onyegbutulem, D. Dogo, P. E.H. Schwarz, S. R. Bornstein	
<b>Oral health and nutritional Status of Preschool-Aged Children in Maiduguri, North-East Nigeria</b> .....	1173
T. O. Ligali, O. O. Orenuga	
<b>Antibody response to Covid-19 vaccine (AstraZeneca) amongst Healthcare Workers in a Tertiary Hospital in Nigeria</b> .....	1181
Z. G. Habib V. G. Kwaghe, B. A. Ekele, A. A. Akor, U. S. Galadima, N. D. Baamlong, E. K. Olateju, P. C. Onyeka	
<b>Sleep Health amongst Patients Attending Adult Neurology Clinic in Abakaliki Nigeria</b> .....	1192
C. O. Eze, F. C. Okoro, M. Okorie	
<b>Stroke Hexagon; Protocol for Reduction of Stroke Burden in Resource-Poor Settings</b> .....	1199
C. O. Eze	
<b>The Stigma of Epilepsy among Patients attending The Epilepsy Clinic at Connaught Hospital, Sierra Leone</b> .....	1209
Durodami R. Lisk, Aliu Kanu, James B.W. Russell	
<b>Food and Aeroallergen Sensitization, Eosinophils Levels and Risk of Atopic Dermatitis in Abuja</b> .....	1216
P. U. Ibeke, T. I. Otu, E. E. Ekop, P. U. Bassi	
<b>Predictors of Surgical Site Infection in Contaminated Abdominal Surgical Wounds: Our Experience in Irrua Specialist Teaching Hospital</b> .....	1223
E. Tagar, J. Kpolugbo, W. Akerele, A. A. Okomayin, C. Odion	
<b>Overview of Early Childhood Caries in Nigeria and Global Recommended Treatment Guidelines</b> .....	1232
N. K. Onyejaka, A. R. Njokanma, A. Ehizele, A. Adewale	
<b>The Effect of Music on Operative Anxiety markers in patients undergoing Cataract Surgery: A dual centre cross-sectional comparative study</b> .....	1240
O. T. Aribaba, A. A. Adenekan, A. A. Alabi, C. C. Emefu, O. T. Ilo, M. O. Kareem, Y. O. Oshodi, A. O. Onakoya, F. B. Akinsola	
<b>Impact of Anemia on The Quality of Life of Chronic Kidney Disease Patients: A Single Institution Experience</b> .....	1253
A. Odeyemi, O. M. Oladimeji, A. O. Ajibare, A. A. Iyayi, A. B. Oladimeji, O. T. Ojo, A. P. Adebola, J. O. Awobusuyi, A. O. Adekoya	
<b>Intestinal Helminthiasis: Risk factors and relationship with Nutritional status and Anaemia among Institutionalised Children in three States of South-East Nigeria</b> .....	1262
M. O. Njoku, K. K. Iloh, C. O. Okike, G. C. Njoku, O. N. Iloh, N. C. Ojinnaka	
<b>CASE REPORT</b>	
<b>Pyoderma Gangrenosum in a Young Nigerian Male with Severe Ulcerative Colitis: A Case Report</b> .....	1274
C. P. Onyia, P. Asogwa W. Adiri, O. Obienu, U. N. Ijoma S. C. Nwokediuko	
<b>INDEX TO VOLUME 40, NO 11, November, 2023</b>	
Author Index .....	1280
Subject Index .....	1281



### Metabolic Syndrome and its Correlates among Hypertensive Patients in Abuja, North Central Nigeria.

### *Syndrome Métabolique et ses Corrélats chez les Patients Hypertendus à Abuja, dans le Centre-Nord du Nigéria*

<sup>1,2\*</sup>H. C. Onyegbutulem, <sup>3</sup>P. I. Henry-Onyegbutulem, <sup>4</sup>D. Dogo, <sup>5</sup>P. E.H. Schwarz, <sup>5,6</sup>S. R. Bornstein

#### ABSTRACT

**BACKGROUND:** Metabolic syndrome is a constellation of abnormalities which includes central obesity, dyslipidaemia, elevated blood pressure and hyperglycemia. Hypertension, (which is a very common component of metabolic syndrome), and diabetes mellitus, are independently associated. Also, studies examining metabolic syndrome in Abuja, a city with affluence-driven lifestyle, are not available. This study aimed to investigate the prevalence of metabolic syndrome among hypertensive patients in Abuja, Nigeria, as well as to examine the associations between metabolic syndrome and certain factors in that cohort of hypertensive patients.

**METHODS:** This was a retrospective study that used data from hypertensive patients who attended clinic over a period of five years. Eight-hundred and fifty-eight, (858-combined), case files of pre-treated, (previously known hypertensive patients) and newly diagnosed hypertensive participants were used for the study. The student t-tests were used to compare continuous variables, while Chi-square ( $\chi^2$ ) tests were used for relationship between qualitative variables. The likelihood ratio test was employed to further confirm the statistical significance of certain independent variables relating with metabolic syndrome. A P value of  $< 0.05$  was considered statistically significant.

**RESULTS:** The mean ages were  $48.70 \pm 12.18$ ,  $49.19 \pm 11.06$  and  $48.2 \pm 13.3$  years for combined group, the pre-treated and the newly-diagnosed groups respectively. The pre-treated, group consists of those previously known hypertensive patients, while the new group consists of those who were newly diagnosed hypertensive patients and were treatment naïve. The prevalence of metabolic syndrome in this study was 45.5% in the combined group, 47.23% in the pre-treated group and 37.3% in the newly diagnosed group. The commonest component of metabolic syndrome was reduced high density lipoprotein cholesterol, HDL-C.

**CONCLUSION:** Metabolic syndrome is prevalent among hypertensive patients in Abuja, Nigeria. Some correlates of metabolic syndrome include; elevated BMI, truncal obesity, elevated total cholesterol, the use of thiazide diuretics and beta blockers as antihypertensives.

WAJM 2023; 40(11): 1164 - 1172

**Key words.** Metabolic-syndrome, Correlates, Hypertensive-patients, Abuja-Nigeria

#### RÉSUMÉ

**CONTEXTE:** Le syndrome métabolique est une constellation d'anomalies qui comprend l'obésité centrale, la dyslipidémie, l'élévation de la pression artérielle et l'hyperglycémie. L'hypertension, qui est un composant très courant du syndrome métabolique, et le diabète sucré sont indépendamment associés. De plus, des études examinant le syndrome métabolique à Abuja, une ville au mode de vie axé sur l'aisance, ne sont pas disponibles. Cette étude visait à enquêter sur la prévalence du syndrome métabolique parmi les patients hypertendus à Abuja, au Nigeria, ainsi qu'à examiner les associations entre le syndrome métabolique et certains facteurs dans cette cohorte de patients hypertendus.

**MÉTHODES:** Il s'agissait d'une étude rétrospective utilisant des données de patients hypertendus ayant fréquenté la clinique sur une période de cinq ans. Huit cent cinquante-huit (858 - combinés) dossiers de cas de patients hypertendus préalablement traités (patients hypertendus connus) et nouvellement diagnostiqués ont été utilisés pour l'étude. Les tests t de Student ont été utilisés pour comparer les variables continues, tandis que les tests du chi-carré ( $\chi^2$ ) ont été utilisés pour examiner la relation entre les variables qualitatives. Le test du rapport de vraisemblance a été utilisé pour confirmer davantage la signification statistique de certaines variables indépendantes liées au syndrome métabolique. Une valeur  $P < 0,05$  était considérée comme statistiquement significative.

**RÉSULTATS:** Les âges moyens étaient de  $48,70 \pm 12,18$ ,  $49,19 \pm 11,06$  et  $48,21 \pm 13,3$  ans pour le groupe combiné, le groupe prétraité et le groupe nouvellement diagnostiqué, respectivement. La prévalence du syndrome métabolique dans cette étude était de 45,5% dans le groupe combiné, 47,23% dans le groupe prétraité et 37,3% dans le groupe nouvellement diagnostiqué. Le composant le plus courant du syndrome métabolique était une diminution du cholestérol lipoprotéique de haute densité, le HDL-C.

**CONCLUSION:** Le syndrome métabolique est prévalent parmi les patients hypertendus à Abuja, au Nigeria. Certains corrélats du syndrome métabolique comprennent un IMC élevé, une obésité tronculaire, une augmentation du cholestérol total, l'utilisation de diurétiques thiazidiques et de bêta-bloquants comme antihypertenseurs. WAJM 2023; 40(11): 1164 - 1172

**Mots-clés:** Syndrome métabolique, Corrélats, Patients hypertendus, Abuja-Nigeria

<sup>1</sup>Department of Internal Medicine, Faculty of Clinical Sciences, College of Health Sciences, Nile University of Nigeria, Abuja, Nigeria. <sup>2</sup>Department of Internal Medicine, Nile University of Nigeria Teaching Hospital (Asokoro District Hospital), Abuja, Nigeria. <sup>3</sup>Department of MFU, Maitama General Hospital, Abuja, Nigeria. <sup>4</sup>Department of Surgery, Faculty of Clinical Sciences, College of Health Sciences, Nile University of Nigeria, Abuja, Nigeria. <sup>5</sup>Department of Medicine III, University Hospital Carl Gustav Carus, Technische Universität Dresden, Dresden, Germany. <sup>6</sup>School of Cardiovascular and Metabolic Medicine and Sciences, Faculty of Life Sciences & Medicine, King's College London, London, UK

\*Corresponding Author: Dr. Henry Chijioke Onyegbutulem. Department of Internal Medicine, Faculty of Clinical Sciences, College of Health Sciences, Nile University of Nigeria, Abuja, Nigeria  
henry.onyegbutulem@nileuniversity.edu.ng, drhenryonye@yahoo.com, +234805777573

**Abbreviations:** TCHOL: Total cholesterol; TG: Triglycerides; HDL: High density lipoprotein; LDL: Low density lipoprotein; BMI: Body Mass Index; IDF: International Diabetes Federation; FCT: Federal Capital Territory; FCTA: Federal Capital Territory Administration; SSA: Sub Saharan Africa; WC: Waist circumference; SEC: Socio-economic class; MS: Metabolic Syndrome; HIV: Human immunodeficiency Virus; NCEP: ATP III-Third National Cholesterol Education Program Adult Treatment Panel; NHANES III: Third United States National Health and Nutrition Evaluation Study; MVS: Metabolic-Vascular Syndrome