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## TABLE OF CONTENTS

GENERAL INFORMATION	1C
INFORMATION FOR AUTHORS	1F
EDITORIAL NOTES – <b>Climate Change and the Global Impact</b> by Prof. Gregory E. Erhabor .....	991
<b>COP27 Climate Change Conference: Urgent Action Needed for Africa and the World</b> .....	993
L. Atwoli, G. E. Erhabor, A. A. Gbakima, A. Haileamlak, J-M K. Ntumba, J. Kigera, L. Laybourn-Langton, B. Mash, J. Muhia, F. M. Mulaudzi, D. Ofori-Adjei, F. Okonofua, A. Rashidian, M. El-Adawy, S. Sidibé, A. Snouber, J. Tumwine, M. Sahar Yassien, P. Yonga, L. Zakhama, C. Zielinski	
<b>ORIGINAL ARTICLES</b>	
<b>Acute Pulmonary Embolism in an Intensive Care Unit Setting in Sierra Leone</b> .....	997
J. B. W. Russell, S. Baio, T. R. Koroma, V. Conteh, S. Conteh, M. Smith, K. Bharat, J. M. Coker, L. Gordon-Harris, D. R. Lisk	
<b>Association of Diabetes Mellitus with Coronavirus Disease 2019 Severity: A Retrospective Study from a Center in South-Western Nigeria</b> .....	1007
A. Esan, T. A. Azeez, O. Adekanmbi, Y. R. Raji, O. Idowu, A. Fowotade	
<b>Cross-Sectional Study of Trichoscopy Features, Prevalence, Types of Hair Loss and Hair Care Practices at a Lagos Urban Market</b> .....	1013
E. L. Anaba, E. OtofanoWei, A. O. Akinkugbe, O. Ayanlowo, O. M. Cole-Adeife, I. R. Oaku, I. Akwara	
<b>Burden of COVID-19 Pandemic on Adolescents' Quality of Life: A Cross-Sectional Study among Secondary School Students in North-Central Nigeria</b> .....	1021
P. Esegbe, S. Asuke, C. G. Nwankwo, I. E. Ibbi, A. A. G. Chima, E. E. Esegbe	
<b>Serum Ferritin Levels amongst Individuals with Androgenetic Alopecia in Ile-Ife, Nigeria</b> .....	1026
A. O. Enitan, O. A. Olasode, E. O. Onayemi, A. A. Ajani, F. O. Olanrewaju, M. M. Oripelaye, O. A. Oninla, A. O. Akinboro	
<b>An Epidemiological Analysis of the Recipients of the First Dose of the First Phase of COVID-19 Vaccination in Oyo State, South-Western Nigeria</b> .....	1032
M.B. Olatunji, O.A. Babatunde, S.T. Sola, D.B. Olarinloye, M. O. Akanni, S. A. Shittu, Z. Hamzat, A. M. Babatunde, G. F. Patrick, S. O. Olarewaju	
<b>Dental Caries, Traumatic Dental Injuries and Gingivitis among Street-Children in Kano, Nigeria</b> .....	1040
C. C. Okolo, F. A. Oredugba, O. O. Denloye, Y. I. Adeyemo	
<b>Effect of Health Education on the Knowledge of Cervical Cancer and Uptake of Papanicolaou Smear Test among Teachers in Uyo, Akwa Ibom State Nigeria: An Interventional Study</b> .....	1045
A. E. Ijezie, O. E. Johnson, E. Ijezie, Q. M. Umoren	
<b>Impact of Parity on Cardiac Structure and Function in Apparently Healthy Pregnant Nigerian Women</b> .....	1057
H. Saidu, I. Y. Mohammed, N. A. Ishaq, S. A. Balarabe, J. Tukur, T. A. Adedeji, O. N. Makinde, R. A. Adebayo, H. Umar, S. A. Isezuo, K. M. Karaye	
<b>Relationship between Glycaemic Control and Oral Immunologic Proteins</b> .....	1062
O. A. Olayanju, I. N. Mba, O. O. Akinmola, N. E. Awah, E. Ofagbor, O. Okonkwo, O.E. Olasehinde, M. John-Okah, F. Abbiyesuku	
<b>Trends in Eye Removal Surgeries at a Tertiary Care Hospital over three decades</b> .....	1068
B. A. Adewara, S. A. Badmus, B. O. Adegbehingbe, O. O. Awe, O. H. Onakpoya, A. O. Adeoye	
<b>Neuronal Cell Mechanisms of Pain</b> .....	1075
C. N. S. Nwonu	
<b>Seroprevalence of Hepatitis B, and C Viruses and HIV Infections among Antenatal Women in a Secondary Health Facility in Lagos, Nigeria</b> .....	1084
A. O. Ugwu, C. C. Makwe, A. A. Oluwole, K. S. Okunade, C. C. Odo, C. D. Ezeoke, O. Ogunfolaji, O. O. Abiloye, A. Egba, E. O. Ugwu, N. K. Ani-Ugwu, M. Hamji, U. C. Ifezue, A. O. Ajose, I. B. Azuka, G. S. Akinmola	
<b>Occupational Hand Dermatitis amongst Cassava Processors in Rural Communities in Southwest Nigeria</b> .....	1089
O. O. Ayanlowo, T. J. Okwor, E. OtofanoWei	
<b>Left Ventricular Function and Geometry of Children with Chronic Kidney Disease (CKD) in a Resource-Poor Setting of Africa</b> .....	1095
D. K. Adiele, H. U. Okafor, N. C. Ojinnaka	
<b>CASE REPORTS</b>	
<b>Impact of Climate Change on Management of Systemic Hypertension in North-Eastern Nigeria</b> .....	1104
M. A. Talle, F. Buba, M. M. Baba	
<b>INDEX TO VOLUME 39, NO. 10, 2022</b>	
<b>Author Index</b> .....	1108
<b>Subject Index</b> .....	1109



## EDITORIAL

### Climate Change and the Global Impact

This October Edition of the West African Journal of Medicine (WAJM) forays into diverse fields of research including a special focus on the impact of the environment on health and humanity.

I welcome the editorial from the COP27 Climate Change Conference written by distinguished scholars and Editors-in-Chief of reputable journals in the world. The editorial provides a succinct insight on the impact of climate change on Africa, with an alarming lack of response that has precipitated catastrophic health effects. Droughts, cyclones, severe flooding and changes in vector ecology have plagued the African continent with resultant forced migration, food insecurity, diseases and deaths. Considering the fact that the impact of climate change crisis is mostly borne by continents with the least cumulative emissions, like Africa, a coordinated global response must be orchestrated to combat this existential threat to humanity.

This edition also presents Case Reports on the impact of climate change on systemic hypertension in North Eastern Nigeria by Talle, *et al.* The article featured three cases of symptomatic orthostatic hypotension, a heat-related complication, among hypertensives during the peak of heat season in Maiduguri, Nigeria. The impact of climate change is particularly more pronounced in hot semi-arid regions of the world, sometimes with temperatures rising to as high as forty degrees centigrade.

Climate change refers to changes in the average weather experienced in a particular region or location, which occurs over decades or even millennia, leading to more extreme weather events.<sup>1</sup> Climate change and global warming are often used interchangeably. That's because both describe changes in the earth's climate.<sup>2</sup> While global warming

focuses on the rising average temperature of the planet, climate change usually refers to the shifts in things like precipitation, wind patterns, and temperatures over a given period.<sup>3</sup> Any variations in the frequency and amount of rainfall received, and increasing temperatures, forms climate variability. Measured changes in climate could last a few years, decades, or even millions of years.<sup>2,3</sup>

The major evidence of climate change are variations in global temperature (summers getting hotter and winters getting warmer, increasing heat waves, etc.), changing wind patterns and fluctuations in the timing and amount of rainfall received (for instance excess rainfall in areas that normally experiences low rainfall and reduced rainfall in areas which normally experiences a high amount of rainfall in time past, and unpredictability of rainfall timing) in most areas in the world.<sup>4</sup>

Climate change is caused by either natural or anthropogenic (man-made) forces. The natural causes include the frequent shifts in the Earth's orbit resulting in the glacial meltdown, changes in oceanic temperature, varying solar output, and the El Niño-Southern Oscillation.<sup>5</sup> The anthropogenic driving forces include the burning of fossil fuels for heat, industries and, transportation, modernization, indiscriminate emission of fumes, over-grazing, over-cropping, and deforestation, all of which have consistently increased the level of greenhouse gases in the atmosphere. Such gases include carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, hydro-fluorocarbons, carbon monoxide, and, nitrogen oxide. These gases contribute to the greenhouse effect, by trapping outgoing heat in the earth's atmosphere, leading to increases in average global temperature.<sup>2,3,5</sup>

The impacts of climate change on

human health are diverse. Estimates from the World Health Organisation revealed that heat waves in Sub-Saharan Africa, South-East Asia and Latin America will result in about 92,000 deaths in 2030.<sup>6</sup> Climate change is characterized by frequent and extreme heat events, resulting from increasing temperature. This has led to an increase in heat-related deaths and illnesses such as cerebrospinal meningitis, malaria, heat stroke, heat exhaustion, orthostatic hypotension, rhabdomyolysis, heat syncope, heat cramps, and heat rash, amongst others.<sup>7</sup> Moreover, unusual changes in seasons favour the multiplication and growth of pathogens (like salmonella) that infest food, causing an increase in prevalence of food-related infection.

Climate change has also resulted in decline of air quality resulting from the depletion of the ozone layer and increase in dust particulates. This complicates the risk of cardiovascular, respiratory and mental illnesses, which can result in death.<sup>8</sup> One major indicator of climate change is flooding which results from changes in the size and frequency of heavy precipitation. Many cities of the world currently experience floods and this is often associated with displacements, water borne diseases, drowning and deaths.<sup>9</sup> One clear instance is the recent torrential monsoon rains and melting glaciers resulting in torrential flooding, the worst ever in the history of Pakistan. Over one-third of the country, about 33 million people were affected, killing over a thousand people as at this writing. Entire villages have been washed away, public health infrastructures are destroyed and many people are facing feeding and health challenges, especially the risk of waterborne diseases such as cholera.<sup>10</sup>

While the issue of climate change has been politicized by governments, many action groups have become climate

change ‘engineers’ albeit with minimal discernible effect or results. The issue of climate change is however real. Scientists and politicians must therefore unite and save our world from destruction. The devastating effects on life and properties calls for more global action and policy changes to forestall future crisis.

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