



## EDITORIAL

# Overcoming The Worsening Global Health Situation: The Contribution of Biomedical Research

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## Introduction

Global health is under siege by an orchestra of factors ranging from aging human population and its attendant disease vulnerabilities, food insecurity and its attendant malnutrition, onslaught of environmentally-unfriendly human activities that have given rise to climate change and its many debilitating effects on mankind, the emerged drug resistance problem secondary to emergence of resistant pathogens, and the generally weak global healthcare response system which was recently exposed by the Covid-19 pandemic. Further, global health suffers from disproportionate global investments in the area of funding for health research and its attendant widening knowledge gap with respect to risk factors of communicable and non-communicable diseases, poor disease diagnosis, lack of effective strategies (drug development, vector control, vaccine development etc) for managing human diseases as well as inadequate data-driven health policies to inform practice. Additionally, global health is negatively impacted by the unavoidable exposure of humans and animals to diverse xenobiotics including but not limited to metals and metalloids through various matrices such as air, water, soil, and food. Such xenobiotic exposures put humans and animals at a high risk of exposure-related toxicity and health consequences. For instance, many health commentators have remotely (scientific evidence still lacking) linked recent surge in the cases of kidney and liver diseases in Ghana to consumption of locally manufactured unapproved alcohol-based aphrodisiacs as well as possible repercussions from 'galamsey' activities. To deal with the worsening global health situation requires intense enquiry into all the afore mentioned health precipitating factors through cutting-edge biomedical research. Such research efforts will expand understanding and knowledge as well as provide data-driven basis for improvement of global health. As indicated earlier in the first issue of integrated

health research journal (IHRJ, vol. 1, issue 1, 2023), the IHRJ provides a platform for medical and biomedical scientist/researchers to disseminate their research findings, with the hope that these findings will reach the targeted audience to generate appropriate responses to stem the worsening global health situation. The current issue (Vol. 1, Issue 2, 2023) captured interesting findings across a number of critical topics in health ranging from malaria, chronic kidney disease, mental health and pregnancy just to mention but a sample. Although malaria has been a major global health threat over many decades nonetheless knowledge on its pathogenesis remain limited, particularly the pathogenesis of *Plasmodium falciparum* (*P. falciparum*) malaria. A study elaborated the role of repetitive interspersed family (RIFIN) genes in the pathogenesis of *P. falciparum* malaria and its potential as a target for the development of anti-malaria pharmacotherapeutics (Duntu PE et al, 2023). Globally, chronic kidney disease (CKD) keeps increasing and there is growing suspicion of a probable involvement of non-traditional risk factors. Sowah and colleagues synthesized existing literature to etch-out the possible underpinnings of CKD of unknown origin in Africa (Sowah SO et al, 2023). It is often held that physical activity greatly impacts on human health. Indeed, regular physical activity is directly linked with improved general health and longevity. In a study, Opoku-Antwi and colleagues have shown that body mass and physical activity improved endurance and strength of both male and female teenagers (Opoku-Antwi E et al, 2023). Postpartum is a unique period in the lives of women with childbirth but presents with a high risk of postpartum depression (PD), which affects the mother, infants, and their families. In the global and Ghanaian setting, PD is considered a mental disorder that impairs maternal function; however, PD remains an indistinct concept. Yeboa and colleagues posit that defining a clear attributes and characteristics of PD will facilitate easy diagnosis of PD to inform timely identification

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and management (Yeboa NK et al, 2023). Despite the adoption of prophylactic programs of iron and folate supplementation (IFAS) to prevent nutritional and iron deficiency anemia (IDA) in pregnancy, IDA continues to remain a major public health concern, especially among pregnant mothers in developing countries such as Ghana. An efficient strategy that may be helpful in establishing objectives for nutrition-based intervention may require knowledge, attitude, and practice (KAP) assessment of pregnant mothers in order to inform effective intervention. A study from a University hospital conducted by Abudulai and colleagues have shown that knowledge deficit among pregnant mothers with regards to nutrition and iron supplementation during pregnancy render such pregnant mothers highly vulnerable to risk of IDA in pregnancy (Abdulai K et al, 2023). Admittedly, the greatest threat confronting mankind is health insecurity. Although the World Health Organization (WHO) together with its sister organizations have provided frameworks and recommendations on how governments through their health ministries can establish resilient health systems to deal with health issues, nonetheless country-by-country response to these frameworks/recommendations have so far been mixed. In fact, the nature of health care system resiliency in tackling and dealing with health concerns and general improvement in health across countries sadly reflect the usual developed/under-developed dichotomy. Quest to improve global health can only be guaranteed through safe-guarding of sound and sustainable interaction between humans and the environment. This all important humane and sustainable interaction between humans and the environment can be shaped by quality and scientifically sound biomedical research. And such research efforts may yield findings good enough to elicit new scientific questions, contribute meaningfully to health education, expand understanding on health issues, inform new health policies and practices, and finally form the basis for developing new health interventions. But these outcomes hoped for will require huge health investments in the area of health research funding, removal of barriers to scientific research such as elimination of racial tendencies in scientific research/publishing, promotion of inclusivity and diversity in scientific research/publishing, promotion of open access and curtailing of exorbitant article processing charges. Biomedical research given the needed support will significantly provide the impetus to remedy the worsening global health situation.

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