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A review of the evidence linking Zika virus to the developmental abnormalities that lead to microcephaly in view of recent cases of birth defects in Africa

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Statement of the problem: The World Health Organization (WHO) in May 2016 confirmed an outbreak of the Zika virus on the African island chain of Cape Verde, linking it to cases of the brain disease, microcephaly. This finding is of concern because Zika was first discovered in East Africa in 1947 with no known link to brain or birth disorders until the WHO reported findings. The question, therefore, is: if the Zika virus has been in Africa for 70 years, why wasn't any association to microcephaly detected before the recent WHO findings? This paper reviews the evidence linking Zika to microcephaly in view of recent cases of birth defects, with the aim of providing vital clues as to why there was no documented case of such birth defects in Africa, where the Zika virus originated.

Review methodology: The literature for this review was gathered through internet searches, including the websites of the European Centre for Disease Prevention and Control (ECDC), the United States Centre for Disease Control and Prevention (CDC), the World Health Organization (WHO) and Public Health England (PHE).

Findings: Materials from these sources were reviewed on the link between the Zika virus and microcephaly in relation to the recent cases of birth defects in Africa. Two possible explanations emerged from the review. The first explanation suggests that the phenomenon called herd immunity may have taken place in Africa. The Zika virus cannot infect the same person twice because it reaches a stage where there are too few people left to be infected for transmission to be sustained. The second explanation suggests that microcephaly linked to birth defects is caused by other conditions, especially exposure to chemical spraying.

In conclusion: The findings of this review opens up the debate on the connection between the Zika virus and the birth defect attributed to mosquito-borne microcephaly, given that there is no documented case of birth defect in Africa 70 years after the discovery of the Zika virus. Large-scale research is recommended on the Zika virus and pregnancy for better understanding of the ecology and epidemiology of the virus.

Biography

Vincent Icheku BSc (Hons), M.Phil., PhD is a senior lecturer in the School of health and social care, London South Bank University, United Kingdom. He received a senior fellowship award in 2014; a national award for his contribution to UK higher education and reaching worldwide audience with my work by the UK Higher Education Academy. He is also a nominee for the London South Bank University Best Teacher's Award for 2015 and 2016 respectively. His subject teaching expertise includes research methods, Public health/Health promotion, Social policies, Concept of interprofessional working in practice, Ethics and law. His research interest is in community and public health, published books and many Journal articles. He has presented his research papers in many international conferences and currently an Editor of UK Research Journal.

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