

Zika Virus, Microcephaly and collaboration in psychosocial interventions

On 1st February 2016 the World Health Organization (WHO) declared that the recent association of Zika infection with microcephaly and other neurological disorders constituted a Public Health Emergency of International Concern. As of 10 August 2016, 69 countries and territories had reported mosquito-related Zika transmissionⁱ. **Zika virus is known only to cause mild illness, with the exception of potential serious complications for pregnant women and babies.**

As a Public Health Professional and a mother, with a heart particularly for children, young people and vulnerable groups, the impact of the Zika Virus is a concern. To learn more, I registered for a course: *Preventing the Zika Virus: Understanding and Controlling the Aedes Mosquito*, lead by Dr James Logan, Director of the Arthropod Control Product Test Centre at The London School of Hygiene and Tropical Medicine (LSHTM). The course was unique as it was delivered as a 'MOOC' (Massive Open Online Course) via Future Learnⁱⁱ. Learners registered worldwide, with compelling insights from participants in Zika-affected communities including Brazil and Colombia.

If you have followed the news recently, you have most likely heard of Zika and Microcephaly in relation to Brazil, although the virus has a much wider geographic spread, and is not new. In this article I aim to share some reflections from my recent studies, wider research, and suggestions for psychosocial interventions. It is evident that a collaborative approach to prevention and treatment is needed.

What is Zika and how is it transmitted?

Zika is a virus which is transmitted to people through the bite of an infected mosquito from the *Aedes* genus, mainly *Aedes aegypti* in tropical regions. This is the same mosquito that transmits dengue, chikungunya and yellow feverⁱⁱⁱ. Zika can also be transmitted through:

- Mother to child (trans-placental) transmission.
- Sexual transmission.
- Through blood (including transfusion and needles).



Credit: Entomology Today

A key learning point from the course is the fact that **many homes in tropical areas are ideal breeding grounds for mosquitos**. This is due to factors including **climate** and **availability of containers**, such as plant-pots, and even tyres, which serve as breeding habitats. Prevention may appear simple in terms of household clean-ups, mosquito nets and repellent, however these rely on funding, education, empowerment, motivation and behaviour-change. As some of the most vulnerable communities are most affected by Zika and pregnancy-related complications, **the burden of disease has a disproportionate effect. There is currently no vaccine for Zika virus.** Travel advice is available through WHO- <http://www.who.int/csr/disease/zika/information-for-travelers/en/>.

Where has Zika been identified?

Zika dates back to 1947, first identified in Uganda, in Rhesus monkeys, then in humans in 1952 in both Uganda and Tanzania. Concluding from the course teaching, and various World Health Organization (WHO) summaries, it appears that Zika was not previously brought to public attention as it did not result in health complications. It is possible that previously affected populations developed immunity due to regular exposure, and according to WHO, possible under-reporting due to mild illness and similar outcomes to other diseases.

From 1969 - 1983, Zika was detected in mosquitoes found in Asia, including India, Indonesia, Malaysia and Pakistan.



(Government and healthcare officials next to a potential container
© MCTI, Brasil)

The first large outbreak of disease caused by Zika infection was reported from the Pacific Island of Yap in the Federated States of Micronesia in 2007. WHO estimated that 73 per cent of Yap residents were infected with Zika virus, suggesting a lack of immunity in the island's population^{iv}.



Credit: United States Air Force. A U.S. Air Force service man interviews a family on Yap island in Micronesia as part of the investigation of an outbreak of Zika virus.



Credit: World Health Organization

In 2008, an American scientist completing field work in Senegal became infected with Zika. On return home to Colorado, he infected his wife, in what was the **first documented case of sexual transmission**. For an overview I recommend the WHO timeline- www.who.int/emergencies/zika-virus/history/en/. 66 cases of Zika have also been reported in the UK acquired through travel¹.

Zika and newborn infants

The spread of Zika virus has been accompanied by a rise in cases of Microcephaly and Guillain-Barré syndrome. The conditions can cause severe complications in-utero and in newborn babies, particularly when mothers are infected in the first trimester of pregnancy^v. Microcephaly, which is defined as a head size much smaller than other babies of the same age and sex, has a visible impact. If this combines with poor brain growth, babies with Microcephaly can experience developmental disabilities. **At present there is no specific treatment for Microcephaly, although multi-disciplinary care has been highlighted as vital^{vi}. The outbreaks in Brazil have been featured in global news.** On 30th October 2015 Brazil reported an increase in Microcephaly among newborns and on 11th November 2015, **Brazil declared a national public health emergency due to this trend.**



Credit: Reuters. A baby boy with Microcephaly in Brazil.



Credit: Getty. A mother in Brazil with her baby, who has Microcephaly.

As of 10 August 2016, **15 countries reported Microcephaly and other central nervous system malformations potentially associated with Zika virus.** Countries reporting associations are: Brazil, Colombia, U.S*, Cabo Verde, French Polynesia, Martinique, Panama, El Salvador, French Guiana, Paraguay, Spain*, Puerto Rico, Canada*, Marshall Islands and Slovenia* (**In countries marked, Zika infection was acquired in a different country. Note very small numbers in the latter please view the original data source*)¹. Interesting studies have been published including **research from Colombia, which acknowledges that although more surveillance is needed, the high incidence of Zika in females between the ages of 15 and 29 who account for the majority of births in the country, is a major concern^{vii}.**

On 9th August 2016, Harris County Public Health Department confirmed the **first U.S. Zika-associated death** of a baby in Texas.



No country can be complacent. Research highlights that **Zika virus does not lead to complications in every case**, and Microcephaly and Guillain-Barré syndrome are normally rare. WHO guidance on managing Zika in pregnancy provides more detailed advice^{viii}.

Collaboration in psychosocial interventions

The **need for psychosocial interventions, which aim to alleviate social and psychological impacts**, were highlighted in the Zika course. With many conditions, **families often report that the impact of stigma and social/emotional pressures, are more challenging than the condition itself**. Anxiety can exist over a child's longer term outcomes. With added caring responsibilities particularly affecting mothers, the global burden of disease can displace women from the workforce, with the financial pressure causing additional stress. Dr Hannah Kuper, of the LSHTM International Centre for Evidence on Disability (ICED)^{ix} and Professor Laura Rodrigues, LSHTM, who is working with the Microcephaly Epidemic Research Group in Brazil, discussed this throughout the course^x.

Effective solutions to any condition, are often initiated by people who are directly affected. **Concientization** (*conscientização*), proposed by Brazilian educational theorist Paulo Freire, advocates that people develop a critical awareness of their own social reality. The theory proposes that **reflection and awareness are central to action, and it is action that changes reality**^{xi}. In a recent presentation by the ICED, it was highlighted that there has been **limited mention of support available for mothers and carers of babies with Zika** Congenital syndrome, and **limited evidence on the psychosocial impact**. Comparisons were made with Zika and Cerebral Palsy, there was hope of transferability, of a parent-led approach adopted in Ghana, Bangladesh and Uganda, shown to have a positive effect on children's health and wellbeing^{xii}.

The **experiences of two affected families**, documented on video, are extremely moving. One mother of two daughters with Microcephaly in Brazil, established **WhatsApp support groups**, with over 150 women messaging her for advice- <http://www.bbc.co.uk/news/world-latin-america-35414506>. Two parents from Brazil, of a boy recently born with Zika-related Microcephaly, state that despite initial concern, **their aim is for their son to be happy and achieve life goals in his own time**- <http://www.bbc.co.uk/news/world-latin-america-35406933>. These are important messages and we must remember **that people need hope, every life is valuable, and professionals should be mindful of the language they adopt**, when discussing outcomes of babies, who will one day grow up and potentially read their prognosis. In terms of other models which could be applied, in the UK there is a National Network of Parent Carer Forums (NNPCF), funded by central government. The forums operate a parent-participation model and state that "our strength is our shared experience"^{xiii}. Originally developed for disability, they now incorporate social, emotional and behavioural needs. A rights and inclusion-based approach to Zika complications, focusing on dignity in care, appears to be appropriate. **Approaches suggested by those affected however, must be considered seriously**.

Psychosocial approaches towards Zika and associated conditions, will benefit from collaboration.

The knowledge of entomologists is essential in understanding transmission. Medical knowledge is vital for the treatment of Zika and related complications, however psychosocial considerations must be factored in to ensure interventions are sustainable and culturally appropriate. WHO's Zika strategic response framework and joint operations plan advocates that a **global response is required involving surveillance, community engagement, vector control, care for those affected, research and coordination**. The framework estimates that **\$56 million is required across 23 partners. Health organizations and political decision makers need to collaborate**^{xiv}. As an example, on 2nd August 2016 the U.S. Centers for Disease Control and Prevention announced \$16 million of funding while a decision is made by Congress^{xv}. Research has provided much content for consideration. As a starting point for those interested in Zika, I recommend the LSHTM course available in English, Spanish and Portuguese at- www.futurelearn.com/courses/preventing-zika.

References

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Having worked in Public Health for over a decade, with experience including re-design of Health Visiting and School Nursing specifications, I have a particular interest in the health and wellbeing of children, young people and vulnerable groups. Global knowledge was acquired as a Youth Committee Coordinator with United Nations Associations in various countries. My career started in a HIV charity, later inspiring research into the psychosocial impact of HIV diagnosis in pregnancy (dissertation for an MSc, Health, Community and Development, LSE, 2009) which was used as evidence in parliamentary question time, to advocate for social care support for women living with HIV. I strongly believe in 'service user' and community participation, and recently designed The Wellbeing Alphabet™, a new parent and child-led approach to teaching emotional wellbeing. www.lalinguistica.com www.thewellbeingalphabet.com

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