

## Congenital Zika Infection: A Challenge for Resource Poor Settings

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### Introduction

Zika virus is causing alarm in the South American continent. Viral transmission is rapid, and the clinical disease is often asymptomatic or a mild self-limiting condition. However, there has been recent evidence of antenatal infection in the mother causing severe brain abnormalities in the fetus [1]. Infected fetuses have been found with a spectrum of anomalies, including impaired brain growth, microcephaly, ocular problems and even intrauterine fetal death [1,2].

A recent study from Brazil show evidence of severe structural brain involvement in infants with presumed congenital Zika infection; MRI / CT scanning of these infants have shown cerebral calcification, lissencephally, atrophy of white matter, corpus callosum defects and atrophy of frontal lobes among others [3]. Thus it is being presumed that affected infants would have a spectrum of severe neurological disabilities. These abnormalities have also been identified in some congenitally infected infants whose head circumferences were within normal limits-11 [3]. The complete picture of congenital anomalies that may result is still unclear, but it is now known that infection in late pregnancy appears to have a less deleterious effect [4].

### Challenges in Management of Zika Infected Mothers and Infants

If Zika infection is suspected antenatally, serial ultrasound scanning (USS) will be needed for early detection and follow up of microcephaly. Since pregnant patients could be asymptomatic, routine USS will have to be commenced to screen all pregnancies. This is not a freely available in many developing countries. Additional staff would also have to be recruited and trained in the use of USS.

Affected infants may have a spectrum of neurological handicap with requirements ranging from intensive rehabilitation to special educational needs and behavioral therapy. Therefore, relevant health care workers will need training in neurological and developmental assessment, as well as in rehabilitation of the neurologically challenged. Special schooling facilities may need expansion to accommodate these mentally/neurologically handicapped children with concurrent improvement of the social services.

Since neurological problems could be a feature of infants even with a normal head circumference, serial neuroimaging (CT/MRI scans) will be needed in all infants of mothers with suspected or confirmed antenatal infection. This again is not freely available specially in resource restricted settings and procurement will involve a major financial commitment.

### Family Planning and Termination of Pregnancy

If a reproductive age female has been exposed to Zika infection, the current WHO recommendation is to postpone pregnancy for two months [5]. This may cause problems in communities where birth control is taboo for varied reasons. Male partners who have had clinical symptoms have been advised to refrain from attempting conception till 6 months after infection [5]. Once pregnancy had occurred, the option of termination of affected fetuses will be also be problematic for countries where abortion is illegal. In these situations, mothers will be forced to carry on the pregnancy knowing that her fetus is affected, causing them much psychological distress.

### Counseling Services

Index families will need intensive counseling and support, especially if the infant is neurologically affected. In resource poor settings, counseling services could be rudimentary, and substantial investments will have to be made in staff training and recruitment to improve the situation.

### Conclusion

The Zika virus epidemic is currently a “Public Health Emergency of International Concern” (PHEIC) [6]. Difficult vector control, rapid viral transmission and the mild clinical nature of the disease makes Zika a difficult epidemic to control. Resource restricted countries may be ill prepared to face such a situation, with disastrous consequences for its child population. Managing these children, would be a major drain on already stretched health budgets. The lack of evidence based information on the virus’ long term implications for the fetus, is a cause for major concern. Thus, it would be pertinent for policy makers especially in resource restricted settings to make haste to take proactive action to prevent the spread of Zika, while urgent research should be a priority for all at a global level [7].

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