

Evidences from epidemiological surveillance to the advancement of knowledge regarding Zika virus epidemics

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Epidemiological surveillance actions have been essential for monitoring the evolution of Zika virus epidemics in Brazil, as well as for better understanding the disease's manifestations and its potential consequences for pregnant women, their children and other adults. Brazil has been the first large country to experience a fast spread of Zika virus, which led its health authorities to communicate this emergency health situation to the World Health Organization (WHO) and to confirm the relation between this virus and microcephaly.^{1,2,3}

Since the confirmation of the autochthonous transmission of Zika virus in Brazil, in April 2015, until July 9, 2016 (27th epidemiological week), 174,003 suspect cases of Zika virus fever have been registered, distributed into 2,251 Brazilian municipalities.⁴ The number of pregnant women with the disease is also high. There has been 14,739 suspect cases of Zika virus infection in pregnant women, of which, 6,903 were confirmed by clinical-epidemiological or laboratory criteria.⁴

Monitoring pregnant women who have probably been infected by Zika virus is extremely important, taking into consideration the severe consequences that may result from the congenital infection, especially microcephaly and other neurological anomalies. Infection due to Zika virus during embryonic and fetal development results in a still unclear medical condition, with characteristics different from those observed in microcephaly due to other congenital infections, which has been described as "Zika virus congenital syndrome".⁵

Up to August 2, 2016 (31st epidemiological week), 8,890 suspect cases of this syndrome have been registered in Brazil, of which 1,806 were confirmed for microcephaly and/or alteration into the central nervous system due to congenital infection, 2,978 were still under investigation and 4,106 had been discarded.⁶

It is important to highlight that Zika virus fever became a notifiable disease after the Ministry of Health published the Ordinance No. 204, in February 17, 2016.⁷ The National List of Notifiable diseases, conditions and public health events was updated and included the following classifications "Acute disease due to Zika virus", "Acute disease due to Zika virus in pregnant women" and "Death suspect of Zika virus disease", in order to enhance epidemiological surveillance of all diseases and conditions related to Zika virus epidemics in Brazil.

Regardless of the great number of papers published on Zika virus, its epidemiology and clinical manifestations since the epidemics detection in Brazil, there are still many knowledge gaps. In this scenario, data produced within epidemiological surveillance are important tools to better understand the characteristics of Zika virus fever and the associated diseases. In this present issue, the *Epidemiology and Health Services: journal of the Brazilian National Health System (RESS)* highlights the publishing of three papers that reported pioneering studies with data on epidemiological surveillance of Zika virus in Brazil.

The first paper brings the description of the first cases of Zika virus fever confirmed in an investigation conducted in four municipalities of the Northeast region of the country – Natal-RN, Barra do Corda-MA, São Luís-MA e João Pessoa-PB –, in May 2015. Symptoms compatible to Zika virus fever were observed and there was laboratory confirmation on the presence of this agent.⁸

The second paper advises on the characteristics of the first cases of microcephaly possibly related to congenital infection by Zika virus, in live births from the Metropolitan region of Recife, Pernambuco. The study points that the majority of the mothers of children with microcephaly reported clinical conditions suggestive of Zika virus infection during pregnancy.⁹

In turn, the third paper presents prevalence coefficients and the characteristics of microcephaly cases in Brazil, in the period 2000-2015, using the analysis of data from the Information System on Live Births (Sinasc). The study highlights the significant growth in the number of cases of microcephaly registered in 2015, especially in the Northeast region of the country, and reinforces the important role of Sinasc on the surveillance of the outcomes at birth.¹⁰

These articles open the Ahead of Print (AOP) publication mode at RESS, meaning the advanced or anticipated edition of articles that can be published in their electronic version right after their approval by the Editorial Committee, before the closing of the issue they are part of. Thus, the results of studies can be published faster, and potentially contribute to speed up scientific advances and timely support the consolidation of evidences that can support decision making, not only in clinics but also in public health.

AOP papers do not present data concerning volume, issue, number of pages or publication date. These data are attributed later, when the complete issue is published. However, the Digital Object Identifier – DOI – is registered in the AOP version and kept in its final version.

With the adoption of AOP publication mode, RESS reaffirms its commitment with ethics in scientific publication and reinforces its mission of disseminating epidemiological knowledge applicable to surveillance actions and to contribute to improving the services offered by the Brazilian National Health System (SUS).

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