ABSTRACT : AVOIDABLE DEATHS AND DISEASES - Arboviruses

Title: Avoidable diseases (arboviruses) in large cities of Brazil in the last 5 years

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INTRODUCTION

Avoidable diseases and deaths are defined as those that arise wholly or partially from effective health service actions that are accessible at a particular time and place. In this context, arboviruses are included, which for the Brazilian Unified Health System (SUS), these diseases in children under 5 years of age are defined as deaths and diseases that can be reduced by appropriate health promotion actions, linked to appropriate health care actions. For those over 5 years of age up to 75 years these deaths and illnesses are reducible by actions appropriate to health, prevention, control and attention to diseases of infectious causes. The number of cases of these diseases in Brazil has evolved rapidly in recent years and has caused great concern, especially the suspected association of Zika virus with cases of neurological complications in adults and microcephaly in newborns whose mothers had Zika during pregnancy. In this context, we know that laboratory tests with new technologies represent an important ally in the detection and diagnosis of these diseases. OBJECTIVE: The authors of this study therefore proposed to analyze the number of tests requested for arboviruses (Dengue (DENV), Zika (ZIKV), Chikungunya (CHKV), percentage of positivity, most affected sites and laboratory methods used for a period from 2015 to 2019. The accessibility of these tests was also analyzed in view of the needs of the region with the highest number of cases of arboviruses such as Zika, chikungunya and dengue, in the last 5 years, in large cities in Brazil

MATERIAL AND METHODS

The authors analyzed the database of a large laboratory that serves 60% of the public units in the State of São Paulo and elsewhere in Brazil. The study was retrospective and observational. The tests were performed using the following methods: DENV-(ELISA)-Panio Focus Novagnost, Euroimmun / Siemens®, Immunochromatography(WAMA), CHKV(ELISA)-Euroimmun) and ZIKV- Immunochromatography - OrangeLife and PCR In real time.

RESULTS

Dengue fever - a disease that showed an increase in requests for laboratory tests between 2015 and 2019 with a drop in positivity from 38% in 2015 to 29.03% in 2019. In this series, the largest number of cases in 2015, 2016, 2017, 2018 and 2019 were in São Paulo, Rio de Janeiro, Mato Grosso, Mato Grosso, and the interior of São Paulo (Jundiaí), respectively.

Chikungunya- From 2015 to 2019 there was non-stop increase in positive cases from 0% in 2015 to 14.10% in 2019. The regions that stood out the most were São Paulo in 2015, 2016 and 2017, Cuiabá in 2018 and Recife in 2019.

Zika - The cases of this arbovirus remained during all these years between 05 and 1,0 % and the positive cases were in greater number in São Paulo.

For these arboviruses in all the years, the most-affected age group was between 19 to 55 years and in second place between 55 to 99 years.

CONCLUSION

At present, there are no specific treatments or vaccines for these three diseases. The campaigns aim to raise awareness in prevention, and control of the focuses of the *Aedes aegypti* mosquito, fundamentally.

In this study, there were no cases in the children's age range. The age group most affected was the adult group.

The large metropolises presented more cases of these arboviruses even though the areas are more urbanized. The number of cases may be proportional to the number of inhabitants and housing conditions.

Mayaro and Nile fever: current concerns, there have not been any reports of any request for testing for these types of preventable diseases.