



IJS

International Journal of Sciences

Published online 10 10, 2022
ISSN 2763-5392



The ineffectiveness of actions to combat dengue arbovirus

Kamille Vitória Alves da Silva^{1*}; Graciela Soares da Silva²; Maria Laura da Paz Coelho³; Jonata Henrique de Santana⁴; Vanessa Lima de Souza⁵; Caroline Dantas Albuquerque Carneiro⁶; Renata Soares da Silva⁷; Edivania Maria de Lima Torres⁸; Camila Maria dos Santos⁹; Willian Santos Delgado¹⁰; Victor Matheus Correia Marinho¹¹; Maria Eduarda dos Santos Pereira¹²; Ângelo Raphael Accioly Wanderley Serra¹³

- 1-3 University Center of Vitória de Santo Antão - UNIVISA Academic of the Bachelor's Degree in Pharmacy Course of the
- 4 Degree in physical education - Federal University of Pernambuco - Academic Center of Vitória - UFPE/CAV
- 5 Biological Sciences - Federal University of Pernambuco - Academic Center of Victory - UFPE/CAV
- 6 Master's degree in public health from the Oswaldo Cruz Foundation-PE
- 7 Nursing - UNIFACOL
- 8 Medicine - UNIT
- 9 Nursing - UNIFACOL
- 10-11 Medicine - FITS
- 12 Pharmacy - UNIVISA
- 13 Medicine – FITS

E-mail adresse: Kamille Vitória Alves da Silva (Kamille.202128004@univisa.edu.br), Graciela Soares da Silva (Graciela.202124031@univisa.edu.br), Maria Laura da Paz Coelho (maria.202121005@univisa.edu.br), Jonata Henrique de Santana (01henriquesantos@gmail.com), Vanessa Lima de Souza (vanessa.limasouza@ufpe.br), Caroline Dantas Albuquerque Carneiro (carol_dantas@hotmail.com), Renata Soares da Silva (renatas.silva@unifacol.edu.br), Edivania Maria de Lima Torres (vania.odonto16@gmail.com), Camila Maria dos Santos (camila1968maria@gmail.com), Willian Santos Delgado (delgado.willian@hotmail.com), Victor Matheus Correia Marinho (vitormateus123@hotmail.com), Maria Eduarda dos Santos Pereira (maria.202014182@univisa.edu.br), Ângelo Raphael Accioly Wanderley Serra (angeloraphael.aw@gmail.com)

*Corresponding author

To cite this article:

Silva, K.V.A.; Silva, G.S.; Coelho, M.L.P.; Santana, J.H.; Souza, V.L.; Carneiro, C.D.A.; Silva, R.S.; Torres, E.M.L.; Santos, C.M.; Delgado, W.S.; Marinho, V.M.C.; Pereira, M.E.S.; Serra, A.R.A.W. *The ineffectiveness of actions to combat dengue arbovirus*. *International Journal of Sciences*. Vol. 4, No. 2, 2022, pp.21-23. ISSN 2763-5392, DOI 10.29327/229003.4.2-6

Received: 09 29, 2022; **Accepted:** 09 30, 2022; **Published:** 10 10, 2022

Abstract: Currently, the three arboviruses of greatest importance for public health are dengue, Chikungunya and Zika virus, which are able to be transmitted by the same vector insects, *Aedes Aegypti* and *Aedes albopictus*. In Brazil, several epidemics have been reported, mainly dengue, for several years, and more recently of Chikungunya and Zika virus, and they demonstrate the presence of these vectors in different regions of the country, showing their great potential for adaptation and dispersion. This is mainly due to climatic conditions, which favor the proliferation of these vectors and the infrastructure of basic health services offered in Brazil. In the last decade, the development of vaccines and new strategies for prevention and control of vectors has been observed that can positively impact the fight against these arboviruses. In this sense, this systematic study demonstrates the importance of the clinical-epidemiological situation of these main arboviruses in circulation in Brazil, emphasizing dengue cases in the country.

Keywords: Arboviruses; Dengue; Brazil; Mosquitoes

1. Introduction

Arboviruses are viruses that cause infectious diseases,

known as arboviruses, among them we find dengue, Chikungunya and Zika virus. In everyday life, it presents a common transmitter, the *Aedes Aegypti* mosquito, which is found throughout Brazil due to the lack of efficient public policies and direct commitment of the social civil stratum (QUEIROZ; SILVA, U.S.; HELLER, 2020; VASCONCELOS, 2020).

The pathogenies found resulting from the mosquito bite, besides being endemic, that is, restricted from a given location, can leave permanent sequelae in individuals, which can lead to death when there are aggravated cases of diseases (FIGUEIREDO, 2007; MONTEIRO, 2016).

Dengue, a tropical disease that currently affects more than 50 million people in more than 100 countries, including Brazil, with an estimated 20,000 deaths, can present benign or severe form, with symptoms of fever, headache, body aches, red spots or even nosebleeds. From this perspective, it can be noted that the disease has been spreading through the environment, reaching the homes of Brazilians (JUNIOR; HEIFER; FERRAZ, 2021).

The lack of basic sanitation in the municipalities has been the main factor for the proliferation of dengue virus, due to still water in the environment, such as in tires, pet bottles, jars, in addition to the climate and disorganized urbanization that intensify the lack of control of the country's disease vectors (BRASIL, 2021; DE LIMA FILHO, 2022).

The present work aims to describe and quantify the cases of arboviruses in Brazil, in emphasis on dengue among the last five in the state of Pernambuco and the Northeast, thus notifying the relevant number of cases in The Brazilian territory for the prevention of infectious diseases (Olive *et al*, 2019).

2. Methodology

The methodological analyses of the documents, graphs and articles generated a quantification regarding the cases of Dengue, Chikungunya and Zika virus, pointed out in their approaches the issue of the increase and decrease of contagion by the vectors of diseases in epidemiological profiles in Brazil, resulting from arbovirus infections among the last five years (2018-2022).

Our methodological path took place with the choice of what would be studied among the many arboviruses present in Brazil from the selected objective. When determining the direction of the study that is configured in dengue cases in Pernambuco in the last five years, with the help of google academic, we decided to make a methodology based on literature review, with this, it was researched using Boolean pronouns, in order to funnel our research method, being selected the inclusion and exclusion criteria, as an example, arboviruses and dengue and Brazil and Northeast and Pernambuco and 2018 to 2021, obtaining at the end 220 results to analyze and see which data fits, among them, six were found that were linked to the research objective. Finally, we obtained all the results demonstrated just below.

3. Results and Discussion

The Brazilian states with the highest incidence of dengue in the country are those in the North, Northeast and Southeast regions. The state of Pernambuco in 2018 had an increase in the number of dengue cases by 43.02%, since 2019, it increased by 247.65%. However, in 2020 there was a small drop of 1.91% of the confirmed cases (DE LIMA FILHO, 2022).

In the Northeast, a region with the lowest concentration of patients infected by the virus that the *Aedes Aegypti* mosquito transmits, reached an increase in its number of cases in the states of Pernambuco and Paraiba in 2021, about 10 in every 35,928 people infected, corresponding to the percentages of 120.5% and 89.4% respectively, compared to 2020 (CORDEIRO, 2008).

The high rate of cases of the disease in the semi-arid region, occurs due to the daily outbreak due to the lack of basic sanitation in the streets, and may leave still water in containers, such as old tires, bottles or even in potted plants, in addition to the garbage accumulated in outdoor places, thus not being discarded in the best way (DOS SANTOS ALVES; DE ARAÚJO; DA SILVA, 2021).

According to Queiroz (2020) the state of Pernambuco and Paraiba obtained the rates of virus propagation through laboratory instruments, after serological collection in individuals from each northeastern state, which were reserved and stored for observation in a database.

According to Vasconcelos (2020) the state of Pernambuco, after a drastic drop in dengue cases, came to present between the years 2018 to 2020 an increase in the number of reported cases. From this perspective, it can be mentioned that among the confirmed cases the largest proportion is around 59% in women (147,647), in divergence to the male who had around 41% of infected (104,701).

4. Conclusions

Arboviruses cause several health problems due to a number of factors, ranging from the diversity of infectious agents to the difficulty in the types of control measures and actions, due to this, the importance of basic sanitation as a form of control is emphasized. Public health plays a major role in the care of the population, in the treatment and in the fight. Uniting with the population to take proper care. There is no doubt about the complexity of arboviruses and the ways to avoid and control. Guiding the population is one of the major challenges to address the problem. It is recommended that in future studies, the relationship between the number of people infected by the flow of people per neighborhood is evaluated, observing longer periods.

References

- [1] BRASIL. MINISTÉRIO DA SAÚDE. No Nordeste,

Alagoas registra maior aumento de casos de dengue em 2021. GOV.BR. Disponível em :<
<https://www.gov.br/saude/pt-br/assuntos/noticias/2021-1/novembro/no-nordeste-alagoas-registra-maior-aumento-de-casos-de-dengue-em-2021>.

- [2] CORDEIRO, Marli Tenório. Evolução da dengue no estado de Pernambuco, 1987-2006: epidemiologia e caracterização molecular dos sorotipos circulantes. 2008. Tese de Doutorado.
- [3] DE LIMA FILHO, Carlos Antonio, Anderson Emanuel da Silva Lima, Rúbia Maria Golberto Arcanjo, Daniela de Lira Silva, Geovanna Figueirêdo de Jesus, Amanda Oliveira Bernardino Cavalcanti de Albuquerque, Aline Papin Roedas da Silva, Matheus Vinicius Barbosa da Silva. Perfil epidemiológico dos casos de dengue no estado de Pernambuco, Brasil. *Research, Society and Development*, v. 11, n. 2, p. e36711225891-e36711225891, 2022.
- [4] DOS SANTOS ALVES, Mônica; DE ARAÚJO, Wellington Candeia; DA SILVA, Francisco Anderson Mariano. Análise sobre a preponderância que a desigualdade estrutural causa na saúde e na frequência de casos por dengue. *Research, Society and Development*, v. 10, n. 7, p. e12910716426-e12910716426, 2021.
- [5] FIGUEIREDO, Luiz Tadeu Moraes. Arboviroses emergentes no Brasil. *Revista da Sociedade Brasileira de Medicina Tropical*, v. 40, p. 224-229, 2007.
- [6] JUNIOR, Plinio Pereira Gomes; BEZERRA, Alan Cezar; FERRAZ, Edimir Xavier Leal. Análise espacial de casos de dengue em município no semiárido pernambucano. *Research, Society and Development*, v. 10, n. 6, p. e8510615473-e8510615473, 2021.
- [7] MONTEIRO, Joelma Dantas. Epidemiologia molecular dos vírus dengue e zika no estado do Rio Grande do Norte, no período de junho de 2014 a maio de 2015. 2016. Dissertação de Mestrado. Universidade Federal do Rio Grande do Norte.
- [8] QUEIROZ, Josiane Teresinha Matos de; SILVA, Priscila Neves; HELLER, Léo. Novos pressupostos para o saneamento no controle de arboviroses no Brasil. *Cadernos de Saúde Pública*, v. 36, p. e00223719, 2020.
- [9] VASCONCELOS, Carolina Luiza Teles Ramos de. A divulgação científica no Jornal do Commercio: um estudo sobre a cobertura do triplice epidemia de dengue, Zika e Chikungunya em Pernambuco. 2020. Dissertação de Mestrado. Universidade Federal de Pernambuco.