Overview of the epidemiological profile of patients with Chikungunya in Paraíba

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1 INTRODUCTION

Chikungunya fever is an arbovirosis that manifests itself mainly in tropical and subtropical regions, and is caused by the Chikungunya virus (CHIKV), which is transmitted by arthropods of the genus *Aedes*. This condition, in general, is self-limited and has as classical clinical manifestations an acute febrile picture, rash and arthralgia - the latter with potential for debilitating chronic evolution, which can last for years (KRIL, et al., 2021; RODRIGUEZ et al., 2023).

The disease has expanded geographically widely in the last 15 to 20 years, and today, CHIKV transmission is known in 114 countries, distributed among the five continents, and the virus currently for the WHO (World Health Organization) represents one of the priority pathogens (BETTIS et al., 2022; VAIRO et al., 2019).

In the Americas, the virus arrived only in 2013, but in one year, the notification of cases had already exceeded 1 million. Moreover, historically, there is an infestation of *Aedes* mosquitoes in Brazil, which made it easy for the disease to spread, soon becoming an endemic case in the country (AZEVEDO; OLIVEIRA; VASCONCELOS, 2015).

The current panorama requires obtaining and updating data regarding the disease and its distribution to even assist in decision-making and planning of public health issues (SILVA et al., 2018). Therefore, this study aims to trace the epidemiological profile in Paraíba of chikungunya fever,

presenting the prevalent age group and the other variables with significant data. From this, directions can be indicated for the use of Health Surveillance.

2 OBJECTIVE

To report the patterns of occurrence of chikungunya and the related socioeconomic and demographic factors, in the municipalities of Paraíba, in the period from 2017 to 2021.

3 METHODOLOGY

This is an ecological epidemiological study with a quantitative approach, developed with data from DATASUS in the period from 2017 to 2021, analyzing the variables: epidemiological profile of chikungunya cases in Paraíba, according to evolution by age, diagnostic status, pregnancy, gender, race/color, education.

In the operationalization of data collection, the tables prepared by the DATASUS Tabnet and tabulated by the Google Spreadsheets system by the authors of the study were used. The results expressed through descriptive statistical analysis.

This research waives approval from the Ethics Committee for Research Involving Human Beings (CEP), according to CNS Resolution 5110/2016 (GUERRIERO; MINAYO, 2019), since it uses secondary data made available by DATASUS.

4 DEVELOPMENT

Between the years 2017 and 2021, 1,992 cases (1,395 confirmed) were notified in residents of the municipalities that make up Paraíba, 65.66% in the age group 20 to 59 years (Table 1). Of the total reported, 65.81% progressed to cure and there was no record of the disease outcome in 33.43% of the cases. There were 5 confirmed deaths resulting from the grievance and 1 under investigation, of these, 4 occurred in extreme age groups (< 1 year and 70-79 years).

Among the total number of cases, 52 pregnant women with chikungunya were recorded, in relation to the period of pregnancy in which the disease was identified, 42.30% occurred in the second trimester. Considering the gender, there was a greater involvement among female patients, with 57.33% of the cases, remaining the predominance of the age group mentioned. Regarding race, 53.16% (1059 cases) declared themselves to be brown, and then 33.58% did not identify their race, while only 2 cases were registered in indigenous people. The education parameter had the highest proportion of blank data, corresponding to 67.82% of the cases. Among those who answered this analysis, there were 133 cases in people with complete high school education, while only 17 were illiterate.

Table 1. Demographic description of probable Chikungunya fever cases by age in Paraíba, 2017-2021. Percentages include ignored/blank data.

	Número de casos prováveis da febre de Chikungunya por idade												
	<1 ano	1-4	5-9	10-14	15-19	20-39	40-59	60-64	65-69	70-79	80 e +	Total	%
	39	55	81	93	154	753	555	74	59	88	41	1.992	100
Sexo													
Masculino	20	35	47	53	75	306	216	27	19	33	16	847	42,52
Feminino	19	20	34	40	79	445	338	47	40	55	25	1.142	57,33
Classificação													
Chikungunya	19	31	46	57	97	561	398	56	46	60	24	1.395	70
Descartado	5	6	8	13	12	63	55	6	4	9	5	186	9,34
Raça													
Branca	7	9	6	11	21	62	64	13	6	9	1	209	10,49
Preta	-	1	1	2	3	17	14	2	2	2	3	47	2,36
Amarela	-	-	-	-	-	3	1	-	-	1	1	6	0,30
Parda	27	37	61	63	71	361	287	40	36	49	27	1.059	53,16
Indígena	-	-	-	-	-	1	1	-	-	-	-	2	0,10
Gestante													
1° trimeste	-	-	-	-	3	11	1	-	-	-	-	15	0,75
2° trimeste	-	-	-	1	-	21	-	-	-	-	-	22	1,10
3° trimeste	-	-	-	-	1	11	-	-	-	-	-	12	0,60
IG ignorada	-	-	-	-	1	2	-	-	-	-	-	3	0,15
Não ou não se aplica	39	55	81	79	116	544	435	65	45	68	31	1.558	78,21

GA = gestational age

Source: Prepared by the authors, 2023.

According to research conducted by Dourado and collaborators (2020), the prevalence of cases in women (63%) and people of mixed race (56.7%) was observed. About the considerable increase of infections in the female population, there is a phenomenon probably due to the higher frequency of this group in health services compared to the male population, and the fact that women stay longer in the peridomiciliar region, where the reproduction of vectors is concentrated (RIBEIRO; ARAUJO, 2008).

Regarding the national epidemiology, the northeast has the largest number of cases: 48,044 (49.81% of total notifications), followed by the southeast region, with 48,044 cases (41.21%) (ARAUJO et al, 2022). During the pandemic of COVID-19 in the year 2020, Brazil went through a process of underreporting of arboviroses, especially Chikungunya, given that people chose to stay at home even presenting symptoms of the disease with the fear of contracting the new coronavirus, making it difficult to process the surveillance of other important endemic diseases in the context of the epidemiology of Brazil (SALLAS et al, 2022).

5 CONCLUDING REMARKS

The demonstrated evidence points to the high incidence of Chikungunya in Paraíba, a disease whose morbidity and mortality is a worrisome factor and whose scope tends to follow specific patterns. The population pattern most vulnerable to death from this disease is formed by age extremes: children under one year of age and the elderly. Therefore, public health measures aimed at these age groups

tend to reduce mortality and the number of cases of the disease. Particular attention from health services, specifically those related to prenatal care, should be given to pregnant women in the second trimester of pregnancy, the period in which educational measures that encourage reduced exposure to *Aedes aegypti* and adherence to prevention strategies should be intensified.

The possibility of underreporting of the disease in the male population - with a consequent increase in the percentage of cases in the female population - communicates the need for active search in this population and to encourage the search for health services, so that they are properly managed and receive therapeutic care according to demand. The work, however, is limited by the absence of data regarding income, which hinders a comparative analysis between the number of patients and socioeconomic levels.

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