Programmatic vulnerability related to...



PROGRAMMATIC VULNERABILITY RELATED TO DISEASES CAUSED BY *AEDES AEGYPTI*

VULNERABILIDADE PROGRAMÁTICA RELACIONADA ÀS DOENÇAS CAUSADAS PELO AEDES **AEGYPTI**

VULNERABILIDAD PROGRAMÁTICA RELACIONADA A LAS ENFERMEDADES CAUSADAS POR EL AEDES **AEGYPTI**

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ABSTRACT

Objective: to analyze the programmatic vulnerability related to diseases caused by Aedes aegypti. Method: this is a quantitative, exploratory and descriptive study, with 15 health secretaries and 15 primary care coordinators. Data was collected through a questionnaire and analyzed using simple descriptive statistics. The results were presented in tables. Results: it was verified that the municipalities carry out activities of professional qualification, education for the population, visits and research at home, distribution of educational materials with emphasis to prevent vector proliferation and they have attentive and sensitized assistance to inform the population, diagnose cases of arboviruses caused by Aedes, to notify and treat these diseases. Conclusion: there is no programmatic vulnerability in the municipalities investigated, according to the discourse analysis of health managers. Descriptors: Aedes; Dengue; Health Management; Chikungunya Vírus; Zika Vírus; Vulnerability.

RESUMO

Objetivo: analisar a vulnerabilidade programática relacionada às doenças causadas pelo Aedes aegypti. Método: trata-se de um estudo quantitativo, exploratória e descritiva, com 15 secretários de saúde e 15 coordenadores da atenção básica. Os dados foram coletados por meio de um questionário e analisados utilizando-se a estatística descritiva simples. Os resultados foram apresentados em tabelas. Resultados: verificou-se que os municípios realizam atividades de capacitação profissional, educação para a população, visitas e investigação em domicílio, distribuição de materiais educativos com ênfase para impedir a proliferação do vetor e dispõem de assistência atenta e sensibilizada para informar a população, diagnosticar casos de arboviroses causadas pelo Aedes, notificar e tratar essas doenças. Conclusão: não há vulnerabilidade programática nos municípios investigados, conforme a análise do discurso dos gestores em saúde. Descritores: Aedes; Dengue; Gestão em Saúde; Vírus Chicungunha; Vírus Zika; Vulnerabilidade.

Objetivo: analizar la vulnerabilidad programática relacionada con las enfermedades causadas por el Aedes aegypti. Método: se trata de un estudio cuantitativo, exploratorio y descriptivo, con 15 secretarios de salud y 15 coordinadores de la atención básica. Los datos fueron recolectados por medio de un cuestionario y analizados por medio de la estadística descriptiva simple. Los resultados se presentaron en tablas. Resultados: se verificó que los municipios realizan actividades de capacitación profesional, educación para la población, visitas e investigación a domicilio, distribución de materiales educativos con énfasis para impedir la proliferación del vector y disponen de asistencia atenta y sensibilizada para informar a la población, diagnosticar casos de arboledas causadas por Aedes, notificar y tratar estas enfermedades. Conclusión: no hay vulnerabilidad programática en los municipios investigados, según el análisis del discurso de los gestores en salud. Descriptores: Aedes; El Dengue; Gestión de la salud; Virus Chikungunya; Virus Zika; Vulnerabilidad.

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INTRODUCTION

It is determined that, of the diseases of an epidemic nature in Brazil, dengue arouses the attention of health management because it causes yearly outbreaks in almost all regions of the country. In recent years, concern has focused not only on the dengue virus, but the *Chikungunya* Virus and, more recently, the virus that causes *Zika*. All of them present as vector-borne diseases, by the mosquito of the genus Aedes, mainly *Aedes aegypti*. 1

It is understood that arboviruses can be responsible for great consequences, example, dengue, in its severe forms, can evolve into hemorrhagic dengue and quickly lead to death. In the case of Chikungunya, joint involvement may persist for months, incapacitating the individual and limiting it in the performance of daily activities. However, the Zika virus has been considered the most catastrophic because, although symptomatology of its infection it is less severity of the three, the association of virus infection in pregnant women with consequent malformations, mainly neurological involvement, as microcephaly such newborns, was made.3 Still, their severe cases due to nervous involvement were correlated with the development of Guillain Barré Syndrome.4

It is believed that there is a context to be understood in order to explain the infection of individuals by these viruses determining the vulnerability of these people. The word vulnerability is derived from the Latin vulnus, which means "wound" characterizing the possibility of someone being injured. It can be evaluated in three dimensions: individual defined by behavior and subjective elements; social - determined by the sociocultural, race, socioeconomic and programmatic factors focused on the performance of services, program implementation and policy implementation.5

The three dimensions must be considered in order to fully understand vulnerability to illness. However, in this study, only the programmatic dimension was worked out, in an attempt to analyze it through the organization and operation of the services.

It is reported that, since 1997, the epidemiological actions for the eradication of diseases have their implementation conferred on municipal responsibility. However, governments, at national, state and municipal levels, launch several strategic campaigns in the dissemination of information on the reproduction of the main vector, in the search to sensitize the ordinary citizen, considering it

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an important and fundamental piece in the control of the disease and primarily contributing to the reduction of mosquito outbreaks in their living environments.⁶

Vector control is hampered by several factors such as the widespread infestation of the national territory by the vector, the susceptibility of the entire population, the exacerbated and unplanned growth of the territories, the lack of sanitation in the cities, among others. Such problems facilitate the spread of *Aedes aegypti* and, in parallel, of viruses and hamper surveillance work.⁷

It is advised that assigning surveillance alone to accountability for vector control is ineffective. exhaustive and Taking account the size of the arboviruses and the understanding of their transmission. governments, in all spheres, aim disseminating information about the life cycle of the mosquito and the strategies to interrupt this cycle in order to summon the entire population to take part of disease control.8

It is observed that, before the explanation made, the guiding question arises: What is the programmatic vulnerability of the 9th Regional Health Management of Paraíba related to diseases caused by *Aedes aegypti*?

OBJECTIVE

• To analyze the programmatic vulnerability related to diseases caused by *Aedes aegypti*.

METHOD

It is an exploratory field research, descriptive and with quantitative approach. The total sample of the study was of 30 managers and is characterized by 15 health secretaries and 15 coordinators of the basic attention of the municipalities that compose the 9th Regional Health Management of Paraíba.

Established as inclusion criteria: currently assume the position of secretary of health of one of the 15 municipalities of the 9th Regional Health Management of Paraíba and assume the position of coordinator of basic care of one of the 15 municipalities of the 9th Regional Health Management of Paraíba. And as exclusion criteria: do not accept to participate in the research.

The data were collected through the application of a structured electronic questionnaire for the research. Questionnaire is a fairly viable technique which consists in the written presentation of a more or less considerable number of questions. It is

pertinent when the objective is to know the opinions. perceptions, preferences of the respondents, is, positions questions of an empirical Subsequently, the data were analyzed using simple descriptive statistics through the program Statistical Package for the Social Sciences, version 21). The results are presented in tables.

Throughout the study process, the ethical aspects of the research involving human beings established in Resolution Num. 466/12 of the National Health Council (NHC), in force in the country, were considered. The study was approved by the Research Ethics Committee of the Faculty of Santa Maria,

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Cajazeiras (PB), according to Resolution 510, of April 7, 2016, of the National Health Council, which determines the norms and guidelines for conducting research involving beings humans (CAAE: 59823616.8.0000.5180).

RESULTS

The results were evaluated according to the descriptive method. The study included ten health managers: health secretaries (n = 6) and coordinators of Primary Care (n = 4) of the municipalities of the 9th Regional Health Management of Paraíba. The first category of the instrument they answered concerns the identification of the position presented in table 1.

Table 1. Job identification and professional training. Cajazeiras (PB), Brazil, 2016.

Variables	n	%
Job ID		
Health secretary	6	60
Primary Care Coordinator	4	40
Professional qualification		
Nurse	9	90
Physiotherapist	1	10

In the category of training and improvement of managers, 90% of respondents participated in training to deal with *Aedes aegypti* and the diseases transmitted by them.

All said that the municipality's management performed the training (100%), as shown in table 2.

Table 2. Training of managers and professionals. Cajazeiras (PB), Brazil, 2016.

	Affirmative Responses to Elements (N = 10)	
Training of Managers and Professionals	n	%
Participation in training to deal with diseases and their vector	9	90
Management carried out professional training activities on the <i>Aedes aegypti</i> approach and the diseases transmitted by it	10	100
Professionals report some of these diseases	10	100
Management of the municipality is attentive to the consolidated notifications	10	100

It is revealed in the category of access to services and supplies (Table 3) that all the interviewees (100%) stated that the health services of the municipality are accessible to users with some sign and / or symptom that leads them to suspect dengue, *Zika* or *Chikungunya*. They also affirmed that, in the

health services where users seek care, they also find information about possible arboviruses. Most users are oriented to home care, being referred for specialized care only in more severe cases.

Table 3. Access to services and inputs. Cajazeiras (PB), Brazil, 2016.

rable 3. Access to services and inputs. Cajaz	Affirmative Responses to Elements (N = 10)	
Access to services and supplies	n	` % ´
Accessible health services for users with suspected symptomatology	10	100
Information for users about diseases (in the services)	10	100
Making materials available to users	10	100
Accessible health services for users with suspected symptomatology	10	100

Table 4 shows the results of the diagnostic It should be pointed out, according to table 5, that all the interviewees assure the importance of carrying out health education

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questions.

activities for sensitization and training for the population and that carried out such activities.

Table 5. General educational activities and home visits. Cajazeiras (PB), Brazil, 2016.

Access to general educational activities and home visits and supplies	Affirmative Responses to Elements (N = 10)	
	n	%
Importance of carrying out educational activities with the population	10	100
Conduct of educational activities on the control of focus, the symptomatology of the diseases and the treatment	10	100
Continuity of the actions of the previous item	9	90
Users receive home visits for the evaluation of reservoirs and identification of mosquito outbreaks	10	100

DISCUSSION

It is inferred that the considerable number of nurses may be related to the fact that, at undergraduate level, these professionals have the "Management" programmatic content more detailed and already seen as a significant fieldwork option. Many academics arouse interest in the management area even during the undergraduate period.

The data collection instrument questioned the subjects of this research on the existence of a dengue epidemic, Zika and Chikungunya in the municipality managed by them, eight of whom said that there was an epidemic in their municipality. In the State of Paraíba, from January to November 2016, 35,721 dengue 4,199 Zika cases and Chikungunya cases were registered. 10 Among municipalities participating in research, one is at high risk of outbreak (IIP -Infestation over 3.9%) according to the LIRAa (Quick Index Survey for Aedes aegypti) of November of the current year (which, if the study is 2016?) And another six in a situation of alertness with the IIP between a and 3.9%. 11

dengue and Chikungunya notifications, since May, the same file has used for the investigation been notification of cases with an option to mark the corresponding complaint (dengue or Chikungunya). Zika was notified as mandatory in February 2016. 12 According to table 2, all the municipalities participating in the survey stated that they report on these three diseases and that, 100% are also aware of the consolidated notifications.

It is justified to acknowledge the importance of consolidated notifications, according to the subjects' statements, as essential information for case control, decision making, strategy planning, early

identification and treatment of cases and thus preventing epidemics. Two managers did not justify the relevance of considering the results of the notifications.

However, through the Federal Government, according to the National Plan to Combat Aedes and Microcephaly, it is recommended that the distribution of equipment for the application of insecticides and larvicides in households under the guidance of community health agents, agents of endemics, among other actors. The plan also ensures that more than four thousand pregnant women's books were distributed to the units, as well as the distribution of graphic materials such as inserts, comic books and pamphlets for the population.¹³

It complements, before such questioning distribution of materials and inputs, that the interviewees, in their totality, affirm that materials are distributed to the population, mainly larvicides and educational materials. In addition, a manager said that in his municipality, the distribution of predatory fish from the larva of the vector, and another, the distribution of screens to cover the water reservoirs.

It is therefore important that the adoption of strategies to diagnose diseases the fastest is justified by the need to expedite the care and treatment of the affected individual, to reduce the spread of the virus and, to carry out the notification.¹⁴

These diseases are diagnosed by clinical evaluation of the patient and by laboratory tests and tests such as viral isolation and serology. A classic case of dengue fever is suspected when an individual has a fever lasting up to seven days accompanied by one or more characteristic manifestations: headache, retro-orbital pain, myalgia,

arthralgia, vomiting, prostration and petechiae.¹⁵

For suspected cases of *Chikungunya*, a sudden onset febrile illness, intense joint pain with an acute onset, and no apparent explanation are considered. And for suspected *Zika* cases, have pruritic maculopapular rash followed by two or more of the following signs and symptoms: febrile illness, conjunctival hyperemia without secretion and pruritus, periarticular edema or polyarthralgia.¹⁶

It is added that another important mechanism is the home visits, recognized for the ability to approach the health team of the users. In addition to being a strategy to create links, allowing a comprehensive care of the subject, home visits allow professionals to know the socioeconomic and health context in which the subjects to be assisted are configuring an essential practice in basic care. ¹⁷

It is essential, in order to strengthen and actions combat Aedes dissemination of arboviruses, to establish interinstitutional and intersectoral relations. 18 The National Plan to Combat Aedes and Microcephaly brings, in its lines of action against mosquitoes, the incentive participation of teachers, students and relatives linked to HSP - Health in School Project in the prevention actions, as well as the mobilization of Reference Centers of Social Assistance and users linked to Bolsa Família.13

It is evident that almost all the managers assured that, in their municipalities, the fight against the Aedes was faced by several subjects. Only one did not use this strategy. frequent relationship The most education established with the sector (schools, universities, departments education). Then came the participation of associations and unions, as well as in radio, and also in one of the municipalities, links were established with public servants, more specifically general service assistants. This last adopted strategy leads to believe that these actors were invited to be attentive to possible mosquito outbreaks, fighting them.

In addition to those already described, the respondents mentioned prevalent ones: the carrying out of clean-up efforts on the streets of the cities with the participation of endemic agents, community agents, among other actors and educational actions in schools (pieces, lectures) and in the homes with the consequent clarification of the diseases themselves and the ways of combating the mosquito identifying their possible foci and taking care of the reservoirs.

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However, there was a weakness in this study regarding the data collection process, since it is an electronic form, and the answers can easily be circumvented. In addition, the questionnaire does not thoroughly investigate the operation of the services. Still as fragility, there is the fact that the majority of the initially selected sample refuses to participate in the study.

This study is then stimulated to investigate the real factors triggering the situation in which some municipalities of the 9th Regional Health Management of Paraíba themselves in relation to the significant presence of the mosquito larvae since, as presented by the survey of infestation, seven of these municipalities present a situation of risk or alert according to the index of land This condition predicts infestation. ineffectiveness of efforts to combat Aedes, thus indicating the existence of some kind of vulnerability, be it of an individual or social order.

CONCLUSION

It can be concluded from the answers obtained through the application of the study instrument that there is no programmatic vulnerability since, according to the managers' responses, their municipalities carry out professional qualification activities, education for the population, home visits and research, distribution of materials to raise awareness and to prevent mosquitoes from proliferating, and provide close and sensitive assistance to inform the population, diagnose cases of arboviruses caused by Aedes, notify and treat these diseases.

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