Original Article

Health policies and the perception of dengue in Paranaíba – Mato Grossodo Sul

Políticas de saúde e a percepção da dengue em Paranaíba – região do Bolsão Sul Mato-grossense

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RESUMO

Justificativa e Objetivos: O crescente impacto da dengue no Brasil nos últimos anos fez com que diferentes governos adotassem medidas emergenciais para seu combate. Pequenos municípios, no entanto, tiveram muitas dificuldades devido a fragilidades na sua gestão, prevenção ou controle. Diante a este fato identificamos a necessidade de um diagnóstico que subsidiasse futuras ações voltadas a suprir suas demandas locais especificas. Neste contexto, o objetivo deste trabalho é analisar a percepção da dengue de atores locais a partir de três eixos básicos: combate a proliferação do mosquito, conhecimento da doença e o tratamento recebido pelos enfermos pela rede de saúde local. **Métodos**: Aplicação de questionários a uma amostra proporcional (N-111) indivíduos selecionados a partir da técnica de *snowball*, tendo como parâmetro a informação positiva dos entrevistados sobre a infecção pelo vírus nos últimos 12 meses a realização da entrevista. **Resultados**: Os resultados mostram que embora os entrevistados tenham conhecimento sobre a dengue, que a maioria não participa das campanhas interrompendo o tratamento tão logo os sintomas clássicos iniciais desapareçam. **Conclusão**: Concluímos que ações voltadas à divulgação massiva combinada a práticas mais inclusivas e com acompanhamento sistemático podem produzir melhores resultados em curto e médio prazo.

DESCRITORES: Sociologia médica. Epidemiologia. Dengue. Politica de saúde.

ABSTRACT

Background and objectives: The growing impact of dengue fever in Brazil in recent years has made different governments implement emergency measures to fight the disease. Small municipalities, however, have had many difficulties due to shortcomings in disease management, prevention and control. Therefore, we identified the need for a diagnosis that would subsidize future actions geared to meet their specific local demands. In this context, the aim of this study was to analyze some of the effects of dengue fever based on the analysis of the disease perception by local actors from three basic axes: fighting the mosquito proliferation, knowledge of the disease and the

treatment received by the patientsat the local health network. **Methods**: questionnaires were applied to a proportional sample (N-111) of individuals selected using the snowball technique, having as parameter the positive information of respondents about infection by virus in the last 12 months prior to the interview. **Results**: the results show that while respondents have knowledge about dengue fever, the majority does not participate in the campaigns,discontinuing treatment as soon as theearly classic symptoms disappear. **Conclusion**: we conclude that actions aimed at massive disclosure combined with more inclusive practices and systematic follow-up may produce better results in the short and medium term.
KEYWORDS: Medical sociology. Epidemiology. Dengue. Health policy.

INTRODUCTION

The growing impact of dengue fever in Brazil in recent years has disclosed the shortcomings of local health systems and the difficulty that many health managers have when dealing with the fight against the disease, its proliferation and lethality. This is mainly due to the increasing number of cases recorded in different regions of the country. However, asdemonstratedby one of the most recent epidemiological statements of the Ministry of Health (MOH), albeit with a wide variation, there has been a decrease of 52.5% in absolute numbers in the recording of new cases.[1] Between the years 2012 and 2013, according to data from the State Department of Health (SES) and the Notifiable Diseases Information System (SINAN) of (2014), there was a decrease in the number of cases in at least 10 states, especially in the Northeast, with the states of Piauí and Alagoas showing the highest decreases. On the other hand, there were significant increases in the number of cases in other states, being more quantitatively evident in the southeastern region,in the states of Minas Gerais and São Paulo, with the latter reaching the top of the statistics.[1]

These results are in agreement with the survey of the World Health Organization (WHO) and the Pan-American Health Organization (PAHO), which emphasized that only in recent years the country concentrated 90% of notified cases, showing the highest rate of mortality of SouthAmerica.[2,3] Nevertheless, in an attempt to change this situation and contain the spread of the disease not only in Brazil but throughout Latin America,the WHO and PAHO suggested four principles that should be appliedto improve dengue indicators. These would involve the political determination of governments, abetter inter-sectoral coordination and a more active participation of the community to reinforce the existing sanitary laws.[4]

Another strategy implemented in several regions is related to the Integrated Management Strategy for Dengue Prevention and Control (IMS-dengue), which is based on six components involving epidemiology, entomology, health, lab, social communication and the environment.[5] These points, together with the carrying out of public policies and specific actions would, in theory, represent a significant commitment to the improvement of health indicators, at both local and regional levels.[4]

However, given the local and regional circumstances and the shortcomings of certain actions regarding the management, prevention and control of dengue effects, it has become a sensitive and difficult to solve issue for many municipalities. Particularly, those with dengue infestation rates higher than the control mean of 1% of the sample strata, according the rapid mapping of the rate of infestation by *Aedes aegypti* (LIRAa).

Trying to broaden this debate, this article aims to analyze the perception of dengue from three basic areas: level of knowledge; behavior and habits of prevention and evaluation of care, having as object a small sample of individuals who answered positively to the occurrence of dengue symptoms.

METHODS

This study resulted from the application of questionnaires to a non-standard group of 111 individuals, randomly distributed among the 15 districts and neighborhoods of the municipality of Paranaíba, state of Mato Grosso do Sul, Brazil, using as parameter the mean number of cases reported at the time of the research. The choiceof the municipality took into account two basic aspects: a) the large variation in the number of dengue cases that occurred in the city in previous years, including the deathrecords; b) the micro-regional importance and the significance of the municipalityregardingthe health care offered to several surrounding towns. These factors made Paranaíba an excellent field of research.

The municipality of Paranaíba is located in the eastern region of the state of Mato Grosso do Sul and belongs to the "Bolsão Sul-mato-grossense" region, an area that comprises 10 municipalities, of which Três Lagoas is the largest one, with 101,722 inhabitants,whereas Paranaíba is the second largest with 40,174 inhabitants (Figure 1). Altogether, the population of this region currently includes 252,237 inhabitants.

Figure 1. Map of the State of Mato Grosso do Sul and the "BolsãoSul-Mato-Grossense" region.

(FIGURA 1)

The selection of respondents was carried outusing the snowball technique - where the original participants indicate others for the experiment. However, the initial basic criterion was the positive answer of individuals regarding the manifestation of dengue symptoms in the last 12 months prior to the study. In this case, it was not considered an impediment to the interviews the medical or professional evidence, the tourniquet test or other laboratory tests when they were treated by the local health system.

After establishing these parameters, we obtained a sample that showed predominantly the following profile: 1) female gender; 2) age 20 to 40 years; 3) income between one and three minimum wages 4) no private health insurance; 5) high school level of education; and, 6) television as the main source of information.

Thirty-seven questions were applied to the total sample group between 2013 and 2014, of which,considering the study scope,we assessed in this article only the main ones,directed to our initial objective. The chosenquestions generally encompassed the knowledge about dengue, practice and habits of prevention and evaluation of care. To apply them, the research team visited the homes of residents in all neighborhoods and regions of the municipality, initially inquiring about the existence of individuals that met the required criterion, i.e., theones that declared having contracted the dengue virus in the last twelve months. Positive respondents were then interviewed. To analyze the data collected during the survey, quantitative maps werecreated,which would allow a better understanding of all the established variables. Afterdefining all sample, selection and approach parameters of the original research project that gave origin to this article,the study was approved by the Ethics Committee of Universidade Federal do Mato Grosso do Sul (UFMS) and registered under number 355.547.

RESULTS

The results shownin Table 1 below emphasize a set of questions related to our approach to dengue. The present table shows two groups of answers, with those

inGroup I being related to general information and group II,to the treatment and confirmation of dengue.

Table 1.Overall Evaluation on dengue

Na Tabela 1, substituir:

AspectosgeraisGrupo - I por General Aspects Group I

Conheceossintomas da denguepor Knows dengue symptoms

Participa de campanhaspor Participates in campaigns

Previne a moléstiaporPrevents the disease

Seguerecomendações da vigilânciapor Follows health surveillance recommendations

Orienta amigos e vizinhospor Advises friends and neighbors

AspectosGeraisGrupo - II por General aspects Group II

Continuidade de tratamento e confirmaçãoem 2º examepor Treatment adherence and confirmation at 2nd exam

Continuidade de tratamento sem confirmação em 2ºexame por Treatment adherence without confirmation at 2nd exam

Abandono de tratamentoquandoapresentadosinais de melhorapor Treatment discontinuation after signs of improvement

When asked about treatment at thelocal health care network, 70% of respondents emphasized seeking primary care in the public health system, although 40% of them reported having private health insurance. In relation to the waiting time, half of the respondents emphasized that the average waiting time for the first consultation was at most 30 minutes. However, in only 50% of cases the consultationwas assigned to a physician, while in the others, it was assignedto nurses, nurse technicians and other health professionals. On the other hand, when assessing the use of the Ministry of Health recommendations in cases of suspected dengue in the primary care health network, i.e., the performance of the tourniquet test, we verified that this type of test was performed in only 50% of cases.

In a second set of questions, we sought to obtain the respondents' views on several points related to reinforcing the fightagainst the disease, as well asthe treatment of dengue by the health network system.

These answers are shown in the table below:

Table 2.Aspects that reinforce the fight against dengue

Na Tabela 2, substituir:

Aspectos que fortalecem o combate a dengue segundo entrevistados: por Aspects that reinforce the fight against dengue according to respondents:

Quantitativo de respondentes por opção de respostapor Number of respondents per response option

Ações combinadas (governo e sociedade) por Combined actions (government and society)

Intenso combate aos mosquitos por Intense fighting against the mosquitoes

Politicas especificas por Specific policies

Campanhas dirigidas por Directed campaigns

Amplotrabalho de recepçãoaospacientespor Wide-ranging reception to patients

Crença na capacidade do sistema de saúde local para melhora dos indicadores por Belief in the local health system's ability to improve the indicators

Finally, we emphasize the results of enquiring about the use of home remedies or purchasing of drugs on their own to treat dengue fever or other illness. The results of this inquiry showed that a third of respondents had used home remedies before or after medical care,whereas 55% of them emphasized that they buy medicationsfor their own use and also indicate themto friends or acquaintances for any type of illness.

DISCUSSION

The increase in interest about dengue in recent years shows the constant search of the several fields of knowledge for better understanding of the disease, which involves from the analysis of the mosquito habits, mode of transmission and its effects on human health, to prevention and management measures aimed at its control and eradication.

The sociology of health can be included into this second group, offering an additional possibility to understand social behaviors that can affect and exacerbate certain diseases, as prevention and treatment mechanisms are also related to sociocultural factors.[8] In this scenario, the pluralism, class characteristics, regionalisms, multiculturalism and the great inequalities in the country are aspects that challenge and impact on the health system, as the culture and socioeconomic conditions constitute one

of the contexts of epidemics and the permanence of endemismthat are inherent to modernity and postmodernity.[10]

The matter of dengue in Brazil can also be considered from this approach, which emphasizes the need to take into account different variables or little explored ones before the accomplishment and implementation of policies aimed at solving them.

New perspectives of analysis that contribute to the progress of science in this area are welcome, as the scenario of the disease is alarming and has grown rapidly worldwide.[18]

The estimate of January 2008, according to figures presented by News # 3 of Decit was of approximately 80 million individuals infected annually worldwide. Of these, approximately 550,000 were hospitalized and around 20,000 diedas a consequence of the disease.[11] As for South America, between 2001 and 2007, as reported by the WHO - World Health Organization (2009), there were approximately 2,708,601 cases, of which 6,733 were of dengue hemorrhagic fever, which resulted in a total of 500 deaths. Considering these data, is important to note that Brazil alone accounted for a total of 98.5% of reported cases.[11,12]

Throughout Latin America, however, there were large fluctuations over the years and one of the most recent follow-up studies of dengue shows that in the last three decades there have been significant changes among the countries located in the region, with the highest numbers being found in Brazil, Venezuela, Honduras and Mexico respectively.[5]Being the leader in this group, Brazil also had 54.5% of all cases in the region during this period,which makes the country a scenario of constant concern with the disease, although with large variations among the states.[12] However, according toinformation from SINAN (2014), one canobserve that the numbers of dengue cases in all regions alternated between the states that had the lowest and highest values. In this sense, the table below shows the variation among the five main states in each of the situations between the years 2011 and 2013.[1]

Table 3 - Numberof cases between 2011 and 2013

Na Tabela 3, substituir:

ANOSpor YEARS

POS.por Position

Estado/Casospor State/Cases

VAR.por Range

Fonte: SINAN (2014). Organizado pelos autores.Por Source: SINAN (2014). Prepared by the authors

This scenario demonstrates, as shown in the table, that the southern states, i.e., Santa Catarina and Rio Grande do Sul, had the lowest levels in the last three years. In contrast with a positive variation for the registration of dengue cases, the main highlight was the state of Rio de Janeiro. In general terms the total number of cases per region can be so established: Southern Region (-) 40,000 cases; Northern region 40.0000 – 90.0000; Northeast Region 90.0000 – 100,000; Midwest region; 100,000-200,000 and Southeast Region (+) 300,000 cases. [16]

More specifically, the state of Mato Grosso do Sulshowed a distinctive characteristic,as in 2012 it appeared in the 12th position and in 2013 ithad the 5th position as one of the leading states in number of cases. Before 2012, however, the state had confirmed according to SINAN / 2012 a variation, with the following numbers:

Table 4. Number of cases between 2008 and 2011.

Na Tabela 4, substituir:

ANOpor YEAR

CASOSpor CASES

Although there are no consistent explanationsfor the real causes that led to this oscillation in the number of cases in several regions,it is supposed that such scenario is related to individual factors or to a group of specific factors primarily related to climatic factors, local culture of prevention or even the absence of effective actions and policies.

It is important to emphasize, in this context, the elimination of the dengue-carrier mosquitoes in the country between 1950 and 1960,[13] when the Pan-American Health Organization (PAHO) program successfully eliminated the mosquito in the country until its reappearance in 1976[16], due to several deficiencies mainly related to lack of commitment or lesser concern with the maintenance of basic measures to fight thevector. This led to a new rise and registration of cases of the four serotypes of the disease and its hemorrhagic stage in all Brazilian states. [13,16]

Considering all these data, the results obtained in the municipality of Paranaíba showed interesting findings and even antagonistic ones, in some cases. Regarding knowledge about the disease, for instance, the majority of respondents declare that they know what dengue is, how to prevent it and even advise others about the disease, but

interestingly most of these individuals does not adhere to or participates in campaigns promoted in the town. This characteristic indicates that many of them might not know whethertheir neighborhood or district has, for instance, a high infestation rate, which can eventually increase the risk of infection and death in more severecases.[17] Thus it can be observed that the perception of dengue often does not reflectthe actualfacts.[21, 22] However, there is a possibility to overcome this nonadherence scenario, through the combination of minimal sanitation, organization and effectiveness of the health system and high level of community participation [13] associated to creative campaigns developed by local health secretariatsaimed atdengue control. [19]

Regarding the preference for using the public health system rather than the private health care network when being treated for dengue, itshows the population's confidence in the system even when this consultationis not performed by a physician, but by other health professionals. Here we highlight the role and services provided by the Family Health Units in the municipality's neighborhoods.

Not less important in this context is the respondents'attituderegarding treatment discontinuation after the first consultation, the confirmation or not of the clinical serological test or even due to symptom improvement. Most of them said, in this case, that they discontinue the initiated treatment, which constitutes an incomplete information scenario that negatively impacts the entire health care information system. Thus, as official data fail to be collected and the results become inaccurate,these facts may affect future health actions and policies geared to the municipality.

Moreover, regarding other evidence or local circumstances, we also observed that the respondentshave the habit of using home remedies, of self-medicating and indicating remedies to others. In this regard, more than 50% said that this is a common practice. This also notably increases the health risksfor patients, as many of them usemedications such as salicylates or aspirin, which are contraindicated, as they cause or exacerbate possible bleeding episodes. [7]

On the other hand, when we consider the issue of the health system evaluation, we observed that although most individuals said they are satisfied with the service provided in Paranaíba, they felt the need for improvements in the same health system. As mentioned by them, these include actions that culminate in better service,starting from the reception of patients with suspected disease. However, respondents also assumed their share of the responsibility for the dengue scenario in the municipality, blaming the other part on the governments regarding their responsibility for a more

effective management to fight the disease. It is thus observed that a greater commitment of all involved parts indicates the possibility of making greater advances against this problem. [14]

In this context, we understand that measures to solve the problem should be constant, even in the presence of adverse circumstances and the challenge to develop policies that more adequately fit the different realities of the country. [20]

From this viewpoint, the focus seems to be not only the effects of dengue, which in one way or another are constantly confronted, but in how to eliminate the root of the problem. However, although at the moment, one cannot completely prevent the possible effects or causes of mosquito proliferation and its dissemination, which can vary from climatic factors to the lack of prevention and lack of specific health policies, one of theseactions is the improvement of the involved segments, i.e., from governments bycreating actions and policies aimedat goals to be accomplished in the short and medium term, to society itself, with the population's adherence and massive participation in the issues related to the disease. All indications are that this was a primary factor, which in the past allowed its complete elimination in Cuba and Honduras,[14] so that it can also be feasible for the municipality of Paranaíba and others that are facing the same situation.

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REFERENCES

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