

SELF-MEDICATION AMONG PATIENTS WITH DENGUE FROM BRAZILIAN AMAZON: A RISKY PRACTICE

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ABSTRACT

Context and objectives: the Amazon region, endemic for some important arboviruses, is characterized by a large variety of plants that are used in an indiscriminate form without a proven study about its proper formulation and therapeutic properties. Some are considered for their ability to minimize the symptoms of dengue, with an increase in studies of constituents and active principles. Allopathic medicines are also used indiscriminately without medical prescription in dengue cases. The purpose of this study was to estimate the practice of allopathic and natural self-medication among patients with dengue type 1 and to evaluate its consequences on the health status of this population. **Design and setting:** a transversal, descriptive study was conducted using a quantitative and qualitative approach. This is a brief communication regarding a questionnaire applied to individuals diagnosed with dengue attended at a public basic health unit in the city of Cacoal (RO), Brazil. **Methods:** a questionnaire including 10 sections about self-medication, symptoms and healthcare assistance was administered to 67 patients from Cacoal (RO), an endemic district to dengue in Amazon region, Brazil. **Results:** 58.2% of the patients visited a doctor. 14.9% did not receive any orientation concerning the treatment. 26.87% were assisted by others professional healthcare, such as nurses and pharmacists. The use of paracetamol (65.67%) and dipyrone (64.18%) predominated. 20.9% used medicinal plants. **Conclusions:** self-medication is common among patients with dengue type 1. Education programs about the rational self-medication and additional studies on the benefits of plants from tropical regions deserve consideration.

KEYWORDS: Dengue; Self-medication; Natural medicine; Public health; Brazilian Amazon.

1. INTRODUCTION

Dengue is one of the most important viral diseases transmitted by mosquitoes. There is a spectrum of clinical manifestations ranging from asymptomatic infection to severe cases with hemorrhage^{1,2}. There is no specific treatment and it is recommended rest, hydration and analgesics and antipyretics in cases of pain and fever.

The practice of self-medication is a potentially

dangerous phenomenon in public health³. The irrational use of some substances can bring consequences that include hypersensitivity reactions, bacterial resistance and digestive discomfort, among others. For example, the indiscriminate use of acetaminophen can cause irreversible liver damage and Dipyrone (metamizole) can cause agranulocytosis, when administered in high doses, or by immune mechanisms, serious adverse reactions such as Stevens-Johnson or toxic epidermal necrolysis syndrome with death rates that may reach 30% of patients^{4,5}. In addition, drug intoxication accounts for 29% deaths in Brazil and, in many cases, is the result of self-medication⁶.

It is common in the Amazon region the indiscriminate use of plants as teas or other presentations without a proven study about its proper formulation and therapeutic properties. Some, however, have been considered for their ability to combat the symptoms of dengue, with a growing increase in studies of its constituents and active principles^{7,8}.

Cacoal is a municipality of Rondonia, belonging to the Legal Amazon and an important endemic region for dengue. The popular culture about the use of medicinal plants is rich in this region of the country.

This study aimed to identify the practice of allopathic and natural self-medication in patients with type 1 dengue, the health assistance received after the symptoms of the disease and its possible health problems as a consequence of the indiscriminate use of drugs, without proper guidance.

2. MATERIAL AND METHODS

A transversal, descriptive study was conducted using a quantitative and qualitative approach. The survey was conducted in the city of Cacoal (RO) in Amazon region, Brazil in the first quarters of 2014 and 2016, period of the year when the highest numbers of Dengue are notified.

Sixty-seven patients between 18 and 59 years attended by the public health service and with serological diagnosis of infection participated in this study. A structured questionnaire addressing knowledge about the disease, self-medication, symptoms before and after the use of drugs, type of professional

guidance received and which drugs, allopathic and/or natural were used.

This study was conducted in accordance with the resolution 466/2012 of the National Health Council. All participants signed an informed consent form.

3. RESULTS

The average age of patients was 38.5 years, 23 males and 44 females. The three symptoms that predominated at the time of care demand were fever (91.04%), retroocular pain (80.59%) and headache (77.61%).

Considering the health assistance received after the symptoms of dengue, 58.2% claimed to have obtained orientations from a doctor. 14.9% did not receive any orientation concerning the treatment. 26.87% were assisted by others professional healthcare, such as nurses, pharmacists and nursing technicians.

When asked about the allopathic medication used: (i) 65.67% (44) were treated with acetaminophen; (ii) 64.18% (43) with dipyrone and (iii) 1 patient used acetylsalicylic acid. Regarding the use of natural medicine, 20.9% of patients said they made use of teas or herbs. The most frequently used teas were the ones known in the region as São Caetano Melon and Bitter Tea. The first one is scientifically named *Momordica charantia* L and belongs to the family *Cucurbitaceae*. The bitter tea is a compound of different regional herbs from the Amazon that are believed to have the ability to alleviate the frequent symptoms of dengue.

After the use of allopathic or natural medicines, it was reported some kind of discomfort that lasted from 10 to 30 days. Among these, there is bitter mouth (47.76%), abdominal swelling (22.38%), abdominal pain (19.40%) and dizziness (14.92%) (Table 1). By observing the sum of the results obtained, it is possible to detect the concomitant use of more than one medication, as well as the presence of more than one symptom in the same patient.

Table 1. Percentage distribution of responses from the questionnaire administered to 67 patients with dengue. Variables analyzed: professional assistance sought at the time of the symptoms of infection, use of allopathic or natural medicines and main symptoms reported after the widespread use of these drugs. Cacoal, Rondonia – Brazil.

Professional assistance sought following dengue symptoms				
Doctor	Nurse	Pharmacists	Nursing technicians	None
39 (58.2%)	12 (17.91%)	03 (4.48%)	03 (4.48%)	10 (14.94%)
Use of allopathic or natural medicines				
Acetaminophen	Dipyrone	Acetylsalicylic Acid	Teas/herbs	Others
44 (65.67%)	43 (64.18%)	01 (1.49%)	09 (13.44%)	05 (7.46%)
Main symptoms following indiscriminate use of allopathic or natural medicines				
Bitter mouth	Abdominal swelling	Abdominal pain	Vertigo	Vomit
32 (47.76%)	15 (22.38%)	13 (19.4%)	10 (14.92%)	06 (8.95%)

4. DISCUSSION

Dengue is the most prevalent viral disease caused by arthropod in tropical and subtropical regions. Half the world's population lives in areas with potential risk for this infection. The state of Rondonia, in the Amazon region has a high number of cases. Cacoal is a city of Rondonia, in the Amazon region, considered endemic for Dengue. In this context, our results showed that 58.2% of respondents had medical advice, while 100% had a confirmed diagnosis.

Following the characteristic symptoms, patients often fail to seek medical attention at the local hospital, due to the short number of medical professionals and the consequent delay in treatment. Consequently, there are two alarming situations: the negative test results even in a positive case, as a consequence of the delay in collecting blood samples (thus contributing to underreporting, false-negative results), or a notification of positive cases to the Surveillance Health Units that is frequently different from the number of effective medical care.

The answers obtained showed that approximately 42% of the participants did not have access to the guidance of medical professionals and received assistance from other health professionals, indicating that it is a predisposing factor to self-medication. Furthermore, there was the misuse of more than one drug for the same purpose (acetaminophen and dipyrone).

The practice of self-medication is a potentially damaging phenomenon to individual and collective health, since no drug is harmless to health. The improper use of substances can cause several consequences, including hypersensitivity reactions, dependence on the drug, among others. Studies have demonstrated that the main effect of prolonged use of acetaminophen can cause irreversible liver damage. A safe dose is less than 4g per day^{9,10}.

According to the World Health Organization, rational self-medication is defined as "the practice by which individuals treat their health problems with drugs approved and available for purchase without a prescription, and are safe and effective when used as directed".² However, cultural and economic factors are elements that contribute to the growth of irrational practice of self-medication, since medicines and information are readily available.

The use of herbal teas was confirmed by 20.9% of survey participants. Overall, this is a common practice in certain communities. The Amazon region, with a diverse flora combined with popular culture, presents as one of its features the common practice of using natural elements against different diseases.

In the context of the use of natural medicines, a recent study of the Oswaldo Cruz Foundation showed promising results on the use of the plant known as nail-of-cat to treat dengue infection⁸. There is a production of certain cytokines involved in immune response against the virus induced by substances present in this

plant.

The World Health Organization indicates that the Brazilian population is the one that most practices self-medication between the countries of Latin America. To try to solve this problem, the National Health Surveillance Agency (ANVISA) regulates the advertising of medicines and implemented the Advertising Monitoring Design and Advertising Products subject to Sanitary Surveillance. The main objective is the orientation of the population for the rational use of medicines.

Finally, it is important to consider that the practice of self-medication, although at first does not constitute costs to the local health system, can entail higher costs in the short future, because these patients only go to the units when symptoms and disease worsen.

5. CONCLUSION

Our results with a sample population from an endemic area for dengue and many others who approach the self-medication practice point to various topics that deserve more attention. The first is the need for education programs among various groups, seeking further clarification on the rational use of drugs, especially the free sale. The culture of the use of natural medicines is strong in our country and the Amazon region has great diversity in its flora. Further detailed studies about the healing properties of plants are of great importance.

6. REFERENCES

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