Analysis of utterances about Aedes aegypti contagion in Brazilian disease prevention campaigns

Análise de enunciados sobre contágio provocado pelo Aedes aegypti em campanhas brasileiras de prevenção

Análisis de enunciados sobre contagio causado por Aedes aegypti en campañas de prevención brasileñas

Anderson de Carvalho Pereira¹,a
apereira.uesb@gmail.com | http://orcid.org/0000-0002-1485-0095

1 State University of Southwestern Bahia, Graduate Program in Education. Vitória da Conquista, BA, Brazil.

ABSTRACT

There are several diseases transmitted by Aedes aegypti in Brazil. Campaigns run by federal, state and municipal governments and civil society organizations are one way to prevent Aedes aegypti contagion more effectively. The reach and effectiveness of these campaigns can be problematized through the analysis of the utterances they contain. Taking a discursive perspective and adopting the evidential paradigm, nine utterances from such campaigns were analyzed. The goal was to analyze the (persuasive) communication strategies used in Brazilian campaigns to prevent the spread of Aedes aegypti between 2013 and 2018. The analysis revealed discursive markers of authoritarianism and a disconnect between domestic and public spaces. The authoritarian nature is revealed in the use of language that holds citizens individually accountable for any potential non-participation in disease prevention, failing to assure the effective delivery of public health education.

Keywords: Aedes aegypti; Health education; Public health; Disease prevention campaigns; Discourse analysis.

RESUMO

Várias doenças transmitidas pelo vetor Aedes aegypti persistem neste século XXI no Brasil. Uma das formas de se tentar tornar mais eficaz a prevenção do contágio é por meio de campanhas realizadas pelos governos (federal, estadual ou municipal) e por entidades da sociedade civil. Porém, o alcance e a eficácia destas campanhas podem ser problematizados pela análise de enunciados. A partir de uma perspectiva discursiva e do paradigma indiciário foram analisados nove enunciados veiculados em campanhas no Brasil. O objetivo desta pesquisa foi analisar o jogo de interpretação (persuasão) de campanhas brasileiras

**Palavras-chave:** *Aedes aegypti*; Educação em saúde; Saúde pública; Campanha de prevenção; Análise do discurso.

**RESUMEN**

Varias enfermedades transmitidas por el vector *Aedes aegypti* persisten en este siglo XXI en Brasil. Una de las formas de tratar de hacer más efectiva la prevención del contagio es a través de campañas realizadas por los gobiernos (federal, estatal o municipal) y por entidades de la sociedad civil. Analizar el alcance y la efectividad de estas campañas puede ser problematizado por el análisis de declaraciones. Desde una perspectiva discursiva y el paradigma indiciario, se analizaron nueve declaraciones publicadas en campañas en Brasil. El objetivo de esta investigación fue analizar las estrategias interpretativas (persuasión) de las campanas brasileñas de prevención del *Aedes aegypti*, difundidas por el gobierno entre 2013-2018. Hay marcas discursivas de autoritarismo y escisión entre el espacio de la casa y la calle en los comunicados de las campañas analizadas. El autoritarismo se deriva de la atribución por parte del Estado de culpabilidad individual al ciudadano, por la supuesta participación ineficaz de éste en la prevención, y no garantiza la efectividad en la educación en salud pública.

**Palabras clave:** *Aedes aegypti*; Educación para la salud; Salud pública; Campaña de prevención; Análisis del discurso.
INTRODUCTION

This study investigates the historical intersection of public health campaigns addressing *Aedes aegypti* and rising case numbers of diseases transmitted by this mosquito. It draws mainly on the French school of discourse analysis and contributions by the Brazilian anthropologist Roberto DaMatta (1997) concerning the dichotomy between the domestic and public spheres, demonstrating how tropical diseases are presented in advertising campaigns about the spread of *Aedes aegypti*, the mosquito that transmits the dengue fever virus (PEREIRA, 2017).

Previous studies have focused on aspects of communication in public health campaigns and the political tension between individual accountability and collective health (LENZA; COURA, 2004; PEREIRA, 2017; VALLA, 1998; WERMELINGER; SALLES, 2018). In more recent studies, social, cultural, environmental and interactional aspects were also considered (BUENO et al., 2017; CAVALCANTI; OLIVEIRA; ALENCAR, 2016; CLARO; TOMASSINI; ROSA, 2004; KLEIN; GUIDI NETO; TEZZA, 2017; PITTA; OLIVEIRA, 1996; SEGATA, 2017). A search in the Scielo database revealed that most interdisciplinary studies in the field of public health date from 2016 to the present, which indicates the increasing importance of interdisciplinary approaches in disease prevention initiatives in this field.

Pitta and Oliveira (1996) indicate the need to consider the cultural aspects involved in what they call a war of meanings in language and communication. Wermelinger (2016), in turn, argues that when faced with an epidemic, the actions called for by the Brazilian Association of Collective Health (Associação Brasileira de Saúde Coletiva) have been ineffectual because they have failed to consider certain environmental issues in conjunction with social issues. All this indicates a need for multidisciplinary debates in Latin American public health agendas that take account of the contribution of researchers from a variety of areas in the name of less Eurocentric scientific knowledge and practices (BUENO et al., 2017). This is what Segata (2017) found in his anthropological analysis of urban mapping and the construction of scientific facts intersected by subjective factors, finding that the existence of a high number of *Aedes aegypti* mosquitoes does not necessarily coincide with the outbreak of epidemics. Also from an interdisciplinary perspective, Klein *et al.* (2017) suggest using social media mapping as predictive strategy, and Cavalcanti *et al.* (2016) remark on the importance of taking the growth of cities into account.

The research presented here is from an interdisciplinary field that overlaps with these studies. Nine utterances were selected from public health campaigns run in Brazil between 2013 and 2018 focusing on *Aedes aegypti* prevention, transmission, and contagion, and were analyzed with the aim of identifying semantic and discursive similarities between them. The campaigns were produced by disease prevention campaign advisors, mostly from government agencies on the federal, state, and municipal level, and one campaign run by the third sector.

In the post-WWII years, there was an obsession in Brazil with eliminating *Aedes aegypti*. It was a topic that reemerged in 1967 in the state of Pará and later, in 1981, when there was a major epidemic in the state of Roraima. After 1980, there was intense level of viral circulation in the country, which accounted for 80% of all cases of dengue in the Americas. It subsequently peaked in 2002 and was followed, in 2003, by a surge in cases of the hemorrhagic form of the disease. In the interim, the government’s national health foundation Funasa shifted its policy from eradicating the vector to controlling it (CHIEFFI, 1985; BRAGA; VALLE, 2007).

Between 2010 and 2020, concerns about the chikungunya and zika viruses were heightened, both also transmitted by *Aedes aegypti*. Among disease prevention researchers, interdisciplinary exchanges arose with the social sciences and humanities around topics such as citizenship and the environment, helping to shift the focus of blame from the population (VALLE, 2016).
The utterances analyzed here are part of persuasive communication strategies, largely of an informative nature, designed to be easy to access and available over a long period of time, given that are easily retrievable from the Internet (MIOLA; MARQUES, 2020). The selected utterances come from a broader study (PEREIRA, 2017) focusing on the upsurge in zika contamination seen in 2016, underlining the need for more research on cross-sector collaboration in public health campaigns (MIOLA; MARQUES, 2020).

METHOD

Research material and design

Initially, the profusion of these utterances was observed, then, a ‘pattern’ was noticed in the discourse being used in public health communications about *Aedes aegypti* prevention and contagion. Part of this repetition was detected by comparing with another study (PEREIRA, 2017). As a result, a table was prepared containing the utterances, which were analyzed using a method inspired by the evidential paradigm, adapted for this research to apply to disease transmission and prevention as a public health issue. As such, the pattern detected was treated as a clue.

The material that was chosen for analysis fulfilled the criteria of repetition and regularity. These criteria are important in discourse analysis, where repetition is understood to delimit a zone of meanings, circumscribing what can be interpreted in a field of material possibilities.

Evidential paradigm, medicine, and language

The method employed – initially observing some important clues, then identifying a historical intersection of public health campaigns addressing *Aedes aegypti* and rising case numbers of diseases transmitted by this mosquito, then resuming the data analysis – is consistent with what Ginzburg (1989) calls the evidential (clue-based) paradigm in science. As he explains, until the late 1800s, medicine drew strongly on clues to gain a deeper understanding of anatomical differences, leaving them aside as it took on a more broadly scientific approach.

Conan Doyle’s Dr. Watson employs this method. Ginzburg (1989, p. 179) explains that it has always been hard to formalize the rules of this evidence-based method simply because they do not lend themselves to formalization or generalization, insofar as they depend on the intuitive use of reason, as in psychoanalysis.

Shepherd (1987), in turn, holds that Conan Doyle was inspired by the Scottish physician Joseph Bell, who engaged in investigating the anatomical and physiological body, to show this paradigm shift in medical semiotics. This shift resulted in the consolidation of mechanistic medicine seen to the present day. In this paradigm, treatises on semiology are not regarded as ‘standard dictionaries’, as it were.

Much of what he saw in laboratories and clinics instigated Holmes and appeared in his investigations – investigations that exceed the boundaries of science in general, especially as of the nineteenth century – including the linguistic analyses covered here (TFOUNI; PEREIRA, 2018).

In addition, units of meaning (ORLANDI, 2001) were selected and used as the basis for the table below (Box 1). The utterances were numbered in chronological order and analyzed individually and then jointly. From this analysis, four major units of meaning were found, which were then analyzed according to the understanding that in studies of language, data are clues that spawn multiple non-exclusive hypotheses, as set forth in the evidence-based method (TFOUNI, 1992).
RESULTS

Box 1 shows all the utterances, which are numbered to facilitate understanding of the ensuing analysis. Different sources were selected, mostly from federal, state, and municipal governments, and predominantly from 2013 to 2016 (a period when more content was identified), although one from 2018 was also retrieved.

This significant number of publicity campaigns from 2016 is probably due to outbreaks of epidemics in several municipalities shortly before, which also explains the significant increase in studies on this topic since 2016 (BUENO et al., 2017; CAVALCANTI et al., 2016; COSTA; CALADO, 2016; KLEIN et al., 2017; SEGATA, 2017; WERMELINGER, 2016).

Box 1 – Utterances used in media campaigns to prevent Aedes aegypti contagion between 2013 and 2018

<table>
<thead>
<tr>
<th>Utterance</th>
<th>Year</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Literal translation: The danger that lives at home. The dengue mosquito has domestic habits: 90% of the breeding grounds are inside residences. Free translation: The danger living at home. The dengue mosquito has domestic habits: 90% of breeding grounds are inside homes.</td>
<td>2014</td>
<td>Jaú municipal government, São Paulo state</td>
</tr>
<tr>
<td>3. Literal translation: Dengue, a disease in evolution. To fight it, only prevention! Free translation: Dengue, a changing disease. Prevent it to fight it!</td>
<td>2016</td>
<td>Minas Gerais state government</td>
</tr>
<tr>
<td>4. Literal translation: Dengue: in the chain of prevention, the most important link is you! Free translation: Dengue: in the chain of prevention, the most important link is you!</td>
<td>2016</td>
<td>Minas Gerais state government</td>
</tr>
<tr>
<td>5. Literal translation: Against dengue, chikungunya and zika virus, only [those] who engage in the fight prevent for real Free translation: Fight dengue, chikungunya and zika virus! You have to engage in the fight to prevent it for real.</td>
<td>2016</td>
<td>Minas Gerais state government</td>
</tr>
<tr>
<td>7. Literal translation: Take a little time and take an attitude against dengue, which only harms our health. Free translation: Take some time out to take action against dengue. It only harms our health.</td>
<td>2016</td>
<td>Minas Gerais state government</td>
</tr>
<tr>
<td>8. Literal translation: To fight dengue, you and water can’t stay still. Free translation: In the fight against dengue, you and water can’t stand still.</td>
<td>2016</td>
<td>Federal government</td>
</tr>
<tr>
<td>9. Literal translation: Dengue is not a joke. It’s a serious disease and can kill. Do your part This struggle is of us all. Against dengue, don’t leave standing water. Free translation: Dengue is no joke. It’s a serious disease and can kill. Do your bit. We’re in this fight together. Fight dengue: don’t leave standing water.</td>
<td>2018</td>
<td>Monte do Carmo municipal government, Tocantins state</td>
</tr>
</tbody>
</table>

Source: prepared by the authors.

1 Available from: http://blog.saude.mg.gov.br/2016/04/11/seds-e-ses-mg-mobilizam-detentos-e-adolescentes-em-conflito-com-a-lei-contra-o-aedes-aegypti. Accessed on: August 22, 2022. Some images bear the names of the state prison officers and inmates. It is not clear whether they were the authors of the texts or images or both.
As the table shows, two utterances were found in municipal campaigns in the state of São Paulo, in 2013 and 2014; five were published by the Minas Gerais state government as part of what seems to be an intensified campaign that year; and one utterance is from a municipal government campaign in the state of Tocantins in 2018. The utterances from the Minas Gerais state government also contain ones from the state prison system. It would appear that this is an agreement, partnership, and/or initiative of the prison system as a form of education in addition to being a service for the inmates. Although this clue is important, because it indicates a specific understanding of a portion of the population concerning a question of general public interest, it is not considered in the analysis of the data.

Four main units of meaning were identified for the analysis of the utterances:

I. use of verbs in the imperative: “stay”, “let” (6); “take” (7); “do” (9);

II. use of identity markers: “you”, “who” (1, 4, 5, 8);

III. domestic/public dichotomy and lack of clarity as to who is responsible (private interests or the authorities): “at home”, “domestic”, “residences” (2); “don’t let water accumulate” (6); “your bit” (9);

IV. appeal to individual initiative, which involves a dichotomy between individual success and failure, aligned with being or not being intelligent: “stupid” (1); “engage” (5); “be alert” (6); “take action” (7).

The utterances included in this table were published between 2013 and 2018. Initially, a repeated use of the success/failure dichotomy in the fight against dengue was observed, stemming from the dichotomy between intelligence and stupidity. Another important was an emphasis on individual accountability and the value given to caring for the domestic environment, as if it could be totally disconnected from issues of public interest, as also observed by Pereira (2017).

DISCUSSION

The use of verbs in the imperative has to do with what Orlandi (1987) calls authoritarian-style pedagogic discourse, because the referent is omitted. It is not clear who should direct the action to whom/what and how, to what end, and upon the basis of what.

In authoritarian discourse, there is an absence of dispute over meaning and its referent: it is assumed that there are no interlocutors and that there is an agent controlling the interpretation. The main aim is to inculcate; the value of the information is not that of debate, but of utility. Some strategies of this type can be seen when there is evidence of “it is what it is” – debate-free scientific discourse and metalanguage – synthesizing the right way to refer to an object, to which only one side has access, resulting in consensus policies.

An example of this is: “be alert” (6). This begs the questions: be alert to what? What does being alert mean? Being alert individually, or is the idea collective consciousness? Similarly, “take action” (7) does not designate the value or basis for said action.

What we have here is an erasure of alterity, or reference to some similar or different other (alter), which may give a sense of strangeness but which at the same time may have value, because it represents authority or an object of deference; that is, to whom one is answerable, for whom one must observe a ritual. This is because deference (HAROCHE, 2005) has become increasingly individualized in Brazilian society, less committed to the collective. Rather than circumventing this individualism, the campaigns reinforce it.

This explains why the value of truth lies solely in individual action, as seen in “only [those] who engage in the fight prevent for real” (5). The dominant meaning of the interrogative pronoun “who” erases the subject of the question “who am I?”. In other words, the individual assigns to themself the identity of “one who cares” as opposed to another, radically separated, “one who does not care”.
In our society, there could be a different way to ask about the human condition. It could be: “who are we?” as a society. Why does one form take precedence over the other? Because it is a society whose members are taught at an early stage to ask about themselves individually. This is compounded by the fact that this utterance is discursively generic (TFOUNI, 2010), insofar as it is a formula that could be true in any linguistic context.

This erasure results in the radical separation of actions through dichotomies that converge towards purely individual actions, such as “the most important link is you!” (4); “you and dengue can’t stand still” (8); and “do your bit” (9). Either the individual stands still and is defeated, or they take action and dengue, stationary, is defeated. The hypertrophic self, typical of an individualistic, competitive society marked by a dichotomy between success and failure appears in the use of a clichéd, generic expression: “you!”. Essentially, this “you” (8 and 9) could be anybody just as it could be nobody; it could be anybody who does not engage with the campaign and it could be nobody. There is a radical distancing between the interlocution and the interlocutors.

There are some attempts to gain proximity to the interlocutor. In “take some time out” (7), there is the assumption that people are caught up in hectic daily routines, while “we’re in this fight together” (9) contains a cliché that erases any debate or controversy because it assumes that everyone knows who “we” are. What we see here is a collage of undefined denominations and erasures of referents. Is it a matter of “we” versus “them”? Who are “we” and who are “they”? In other words, these utterances show evidence of a false proximity to the interlocutor, reinforcing individual accountability.

This dichotomy between the individual and the collective is reinforced by the dichotomy between the domestic and public spheres (DAMATTA, 1997), between the unforeseen circumstances of the outdoors for which the individual can be held accountable by the state and the strong hierarchic pattern they are also subject to in the space of a specific house. This is the historical and cultural hallmark of the Brazilian domestic space, inherited from rural, farm living where nothing may lack and nothing may be spoken; voice is not given. This then leads to a radical separation between those who care for each space, public or private. However, we know that these spaces maintain a dialectical relationship: there are issues of public interest in what would appear to be exclusively private, despite this historical trait inherited from colonial times that would restrict public issues to private interests.

One example of this is the utterance: “90% of breeding grounds are inside homes” (2). Not only is the information questionable, since statistical data can never be taken as absolute, but the statement exempts the state government from its role as guarantor of the rights of the population, such as basic sanitation. These markers of individuality and authoritarian discourse are taken to the extreme in the use of figurative designations such as “stupid” (1) and “be smart” (6). Here, we have other mechanisms of dichotomy and individual accountability, now focused on the evidence that the only explanation for failure must be that the citizens are stupid and devoid of intelligence. Something else also present here is the historical fear of popular uprisings sparked by poor public health conditions (PATTO, 1999), which replaces the fight for rights with the designation of incapacity caused by a putative deficit of intelligence.

CONCLUSIONS

This research opens the doors to an important sphere for public health debate and action: language. It is no secret that public health policies should be improved over time. Likewise, there can be no doubt that what guides interactions between humans, vectors, and prevention campaigns is language. Accordingly, this study presented an analysis of nine utterances, most of which were produced and published by government agencies.
Our findings also indicate directions for future research on interventions in this area and contribute to the debate on the role of the state in order to consider the historical intersections and overcome the sociopolitical tendency to hold the population accountable for its actions. This means including in our public policies measures to address structural problems such as lack of basic sanitation, the destructuring of cities, deforestation, and other crucial environmental issues.

The above considerations indicate that there is an urgent need to develop a broader field of truly interdisciplinary studies and actions that combine social and cultural considerations with language studies. When campaigns are being prepared and published, care should be taken to consider the involvement and the exercise of citizenship of the population, improving public health and education and engaging in discussions give voice to the subjects involved, who should be addressed in their singularity. This is because, as this analysis indicates, the campaigns also insist on presupposing an interlocutor who needs to be informed, who is assumed to have no legitimate or accessible knowledge of their own, and this then results in simplistic, consensus policies fabricated in everyday life.

REFERENCES


