Meanings of dengue, chikungunya and zika and therapeutic itineraries in a Colombian endemic municipality

Significados de las fiebres del dengue, chikungunya y zika e itinerarios terapéuticos en un municipio endémico de Colombia

Claudia Hormiga Sánchez[a]
https://orcid.org/0000-0002-8723-666X
E-mail: chormiga@unab.edu.co

Claudia Cortes García[b]
https://orcid.org/0000-0003-1939-7653
E-mail: claudiam.cortes@urosario.edu.co

Yaneth Becerra Fajardo[b]
https://orcid.org/0000-0002-1617-5871
E-mail: yaneth.becerra@urosario.edu.co

Johan Ariza Abril[b]
https://orcid.org/0000-0002-5520-8090
E-mail: johan.ariza@urosario.edu.co

Diego Garzón Forero[b]
https://orcid.org/0000-0002-0806-1356
E-mail: diego.garzon@urosario.edu.co

Laura Cadena Afanador[a]
https://orcid.org/0000-0001-9032-3599
E-mail: lcadena@unab.edu.co

[a]Universidad Autónoma de Bucaramanga. Facultad de Ciencias de la Salud. Programa de Medicina. Bucaramanga, Colombia.

[b]Universidad del Rosario. Escuela de Ciencias Humanas. Programa de Antropología. Bogotá, DC, Colombia.

Abstract

Qualitative research to elucidate social constructions about dengue, chikungunya and zika in an endemic municipality of Colombia. Sixty-one people with subjective experience of disease participated. Semi-structured and open interviews, informal dialogues and observation notes record were used. The analysis was performed following the inductive method of social research. Two ways of understanding dengue are evident: as a "normal" disease or as a serious disease that can cause death. Chikungunya and zika are conceived as new diseases, difficult to recognize, that fall into social oblivion due to the low occurrence of cases. Two therapeutic itineraries for the three diseases are identified, mediated by the severity of the symptoms and the perception of the attention received by the health services. Drugstores are configured as a key element of therapeutic itineraries. It is concluded that the social construction of these diseases is crossed by a tension between recognition and forgetfulness. Public policies and actions aimed at the prevention and control of these events have the challenge of facing the "forgetfulness" that daily life brings, therefore they should not be limited to approaches that ignore the ways in which diseases are lived and faced.

Keywords: Dengue; Dengue: Zika; Chikungunya; Medical Anthropology; Personal Narratives as Topic.

Correspondence
Claudia Hormiga Sánchez
Calle 157, 19-55. Floridablanca, Colombia. CP 681004.

Resumen

Investigación cualitativa para dilucidar construcciones sociales sobre el dengue, chikungunya y zika en un municipio endémico de Colombia. Participaron 61 personas con experiencia subjetiva de enfermedad. Se emplearon entrevistas semiestructuradas y abiertas, diálogos informales y registro de notas de observación. El análisis se realizó siguiendo el método inductivo de la investigación social. Se evidencian dos maneras de entender el dengue: como una enfermedad "normal" o como una enfermedad grave que puede causar la muerte. El chikungunya y el zika son concebidas como enfermedades nuevas, de difícil reconocimiento, que caen en el olvido social ante la baja ocurrencia de casos. Se identifican dos itinerarios terapéuticos frente a las tres enfermedades, mediados por la gravedad de los síntomas y la percepción de la atención recibida por los servicios sanitarios. Las droguerías se configuran como un elemento clave de los itinerarios terapéuticos. Se concluye que la construcción social de estas enfermedades está atravesada por una tensión entre el reconocimiento y el olvido. Las políticas y acciones públicas tendientes a la prevención y el control de estos eventos tienen el reto de enfrentar el "olvido" que trae la cotidianidad, por tanto no deben limitarse a abordajes que ignoran las maneras en que las enfermedades son vividas y afrontadas.

Palabras clave: Dengue; Zika; Chikungunya; Antropología Médica; Narrativas Personales como Asunto.

Introduction

The control of diseases transmitted by arthropods, particularly by mosquitoes of the genus Aedes, continues to be a public health priority not only in Colombia but in many parts of the American continent and, in general, in all tropical and subtropical areas of the world (Guha-Sapir; Schimmer, 2005; WHO, 2012).

Specifically in Colombia there is a large presence of the Aedes mosquito (more than 90% of the national territory located below 2,200 mamsl), which together with the introduction of Aedes albopictus and the urbanization of the population caused by displacement due to problems of violence, among others, have been reflected in an intense and increasing transmission of dengue fever, with epidemic cycles every 3 to 5 years, as well as the recent internal transmission of chikungunya and zika virus (Castrillón; Castaño; Urcuqui, 2005; Jaramillo-Tobón, 2015).

In the almost three previous decades (1990-2016), 1,401,240 cases of dengue were recorded in the country, with a progressively stronger upward trend from 2010 (Padilla et al., 2017). In the interior of the country, Floridablanca, in Santander, is one of the municipalities with the highest number of cases of dengue and severe dengue reported every year (Castrillón; Castaño; Urcuqui, 2005; Padilla et al., 2017). In line with the behavior of dengue, Floridablanca and Santander have also been territories with the highest number of reported cases of chikungunya and zika fever at national level and have high accumulated incidences of these events.

Behind the presence of the mosquitoes that transmit the viruses which cause these three diseases (and other potential ones), there are large-scale social, cultural, political, economic and environmental factors that impose a great challenge to achieving their control and, consequently, the reduced presence of circulating viruses and sick people. Following guidelines from international agencies, different campaigns have been developed in the country during the last decades focused on controlling and preventing

the occurrence of dengue fever, as well as raising awareness about the disease (Suárez et al., 2005, 2009). For this purpose, interventions aimed at bringing about a change in behavior in populations in order to promote lifestyles that improve human health were implemented, mainly using methodologies based on a behavioral approach for the understanding of human behavior in order to shed some light on diseases transmitted by vectors (Suárez et al., 2005).

However, the cultural aspects of dengue fever, what it means in people's daily lives, and in general, the social determinants of dengue fever are little studied in terms of the global context (Arauz et al., 2015; Guha-Sapir; Schimmer, 2005). Research in medical anthropology shows that in Colombia there is a lack of understanding between the realities of dengue fever in international agencies and official institutions and the daily experiences of social actors (Suárez; González; Viatela, 2004; Suárez et al., 2005).

Given the recent introduction of the other two viruses transmitted by Aedes mosquitoes in the Colombian territory, it is important to advance in the study of the combined behavior of these diseases and to elucidate aspects that influence their occurrence in local contexts. This report is part of a mixed-approach investigation aimed at understanding the distribution and transmission of dengue and zika fever in the municipality of Floridablanca (Santander) based on the geospatial and temporal behavior of individually reported cases during the period 2014-2015 and the links between dengue, chikungunya and zika with socio-cultural aspects of the population between 2016 and 2018.

Specifically, this report focuses on the symbolic constructions of the three diseases based on the way they are understood as well as on the forms that therapeutic approaches are established in the face of these diseases in everyday life. Conceptually, therapeutic itineraries are the paths that define people seeking to restore their health condition and express individual and collective subjective constructions of the disease process and forms of treatment, shaped under the influence of various factors and contexts (Cabral et al. 2011).

These approaches include multiple alternatives that interact in parallel and form hybrid responses (from home care and religious practices to the predominant biomedical devices), showing that the health-disease-care process responds to different interpretative possibilities and action logics (Alves; Souza, 1999). In this perspective, following Menéndez (2003) and Abadía-Barrero and Oviedo-Manrique (2009), the notion of therapeutic itineraries is a theoretical and methodological tool that offers an approach to interpreting how the experiences of the sick and their care are created, redefined, responding to and reproducing in the dynamics of global and local environments. From this knowledge we can bring the languages of the health system and the control bodies closer to that of people's daily lives. This research was approved by the Institutional Committee of Ethics in Research of the Universidad Autónoma de Bucaramanga.

Methodology

Based on a geospatial and temporal analysis of cases reported during the years 2014 and 2015, urban conglomerates selected in the municipality of Floridablanca concentrated a high number of dengue and zika fever cases. All the clusters corresponded to sectors of socioeconomic strata 1 to 4 (low and medium), where ethnographic approaches were made in December 2016 or January 2018.

Sixty-one residents (38 in 2016 and 27 in 2018) with subjective experience of illness participated and were contacted via community leaders or by indirect contact. Semistructured and open interviews, informal dialogues and recording of observation notes in a field diary (voice and written) were used to collect information. With this approach, the main focus was on the value concept of people and their perception of: first, the social meanings acquired by the Aedes mosquito and diseases and how people live with them; and, second, the ways people respond socially based on

their knowledge, perceptions and representations, configuring therapeutic itineraries in relation to their own experience with the disease.

All interviews were conducted at the participants' homes or workplaces (marketplaces, shops, convenience stores, tire repair shops or drugstores). With the prior consent of the participants, the interviews were recorded on audio and later transcribed into text files.

Information was collected until the categories were saturated, having the daily life, the local knowledge and the therapeutic plurality as axes of analysis. The analysis was carried out in two subsequent moments of the data collection periods, which allowed the 2018 field work and analysis to be guided by the findings obtained in 2016.

For the analysis of the information, the inductive method of social research was used (Miles; Huberman, 2000) following the stages: open reading, codification by cycles (Saldaña, 2013), structural analysis and critical interpretation. Initially, the entire research team carried out text coding, and in discussion meetings category reduction and critical interpretation were done. The information corresponding to the categories was managed in qualitative analysis matrices using spreadsheets for their systematization and to advance the relational analyses. To guarantee the quality of the information, the collection and analysis process was subjected to theoretical triangulation by the researchers.

Results

The symbolic constructions of these three diseases are mediated by people's learning and experiences, from which derive, on the one hand, the lay or popular knowledge that shapes their identity; and on the other hand, the ways of facing them in everyday life. These two aspects highlighted some of the relationships between the population and the country's health system. The following are the emerging categories about the identity of the diseases, the definition of a medical pluralism in the resolution of these, and in this framework, the establishment of therapeutic itineraries linked to the confrontation of the symptoms and sequels. Testimonies of the participants are included to support the findings presented.

Dengue, chikungunya and zika: constructions from the experiences and learning in the recognition of the disease

Dengue fever and severe dengue fever (hemorrhagic fever) are considered as separate diseases. The first, recognized by people as a "normal" or "traditional" disease, represents a frequent experience of illness, characterized by fever, malaise and body pain, clearly differentiated from a cold or flu, because unlike these, dengue did not include respiratory symptoms (Table 1, citation 1). Second, with stronger manifestations such as **rash** and **bleeding**, dengue is associated with severity and the possibility of death (Table 1, citation 2).

Zika and chikungunya are conceived as distant, benign, new diseases difficult to distinguish, especially in the participants interviewed in 2018 (Table 1, citations 3 and 4). They are mainly related to residual joint pain and discomfort (Table 1, citation 5). In the particular case of zika, there is a direct reference to pregnancy as an aggravating factor (Table 1, citation 6).

Most participants recognize a mosquito with particular characteristics whose bite transmits or causes all of these diseases, although descriptions about it are imprecise, its scientific name is rarely mentioned, and little reference is made to viruses involved (Table 1, citations 7 and 8). The symptoms are what allow people to get close to which of these specific diseases they have. **Rash**, **bleeding**, and **decreased platelets** (indistinctly referred to defenses) are evidence that something is wrong and differentiate "normal" dengue from "hemorrhagic" dengue. Severe joint pain during and after the course of the disease is characteristic of the notion of new diseases, especially chikungunya.

These notions are related to the ways people access knowledge about these three diseases. In our case, when we talk about access to knowledge, three major influences become evident, which

generate learning about these diseases and the ways to deal with them: the mass media (television, internet and radio), the educational campaigns of the health secretariats and "word-of-mouth." The definition of the diseases is perceived as having a temporary presence linked to the periods of greatest presence of cases in which the "word-of-mouth," the community presence of the health services and the information from the media are more accentuated (Table 1, citation 8). However, the ability to identify "new" diseases and differentiate them from dengue is diluted when their presence in the territory decreases, and it is common to identify a main symptom, **fever**, to express the occurrence of some of these diseases, thus leading to a temporary "forgetfulness" of them (Table 1, citation 9).

Table 1 – Citations about the recognition of dengue, chikungunya and zika

Citations	Text	Source
1	*Is that dengue doesn't cause the flu. The flu sometimes gives you a chill, causes a headache...* [in dengue] *what I'm saying is the pain in the abdomen and the pain in the bones, all of the bones that you can't even move.* [The symptoms are there and one says] *"there's a malaise, a virus." When I arrived at the clinic and they left me there and I said "no, what a virus."*	Interview man, 2016
2	*Dengue, for me dengue is the most serious... the girl, when she had a crisis, it was so bad, she didn't open her eyes, she didn't speak, she swelled up, she had heart deficiency. They were even looking for an ICU* [intensive care unit] *at the hospital, but they were not available, so they left her there, they only put a nurse there all night long... just imagine, a doctor also told me "the girl is very sick, but trust in God"!*	Interview woman, 2016
3	*here in the house as four* [who had], *but what I say, the truth is that we did not know what it was, if it was zika or chikungunya...* [was not dengue?] *not because the pain, that is to say it was very strong, but not as a dengue.*	Interview woman, 2016
4	*Chikungunya, as I understand it, is very similar to dengue fever which is like a headache, bone pain, the strong joint pain, and a rash caused by the decreased platelets. I don't know what that has to do with it, that's what I understand, and the zika, I know that I've heard that it's just a headache, a strong headache.*	Interview woman, 2016
5	*I have heard that chikungunya and zika have sequels and that this is repeated after two to three months... people have joint pain, they are not the same as they were before, if they are going to hold up a bowl or something it hurts here, that is, the sequels remain.*	Interview women, 2016
6	*Well the zika what one hears, the zika is more scary than the other two ... because in the case of women who are pregnant, is a very terrible disease for the baby, then I am more afraid because this and it causes malformations in case of a pregnant woman and her baby.*	Interview man and woman , 2016
7	*The Zika is transmitted by the same mosquito that produces that Aegypti. The Aegypti is the one that produces the dengue or that is the classic dengue, the same mosquito transmits the Zika and transmits the chikungunya.*	Interview woman, 2016
8	*Well, that's practically for the, for the mosquito this, this, what's it called? The aedes agyptus? What's its name? The little mosquito that... That's the transmitter of dengue and so there you have boards where, where they show to the community why this disease occurs.*	Interview woman, 2018
9	*We remember diseases only when they are popular, when everyone talks about them... but while there is no such thing, there is nobody who remembers them.*	Interview man, 2018

Among herbs, juices and "remedies": differentiated paths to the experience of illness

The therapeutic itinerary is composed of during and after the illness experience. This itinerary includes what people do, avoid, where they go and the management or treatment they undergo. The during, understood as the period when the illness is noticed and confronted, combines elements such as self-care, traditional and popular management of the illness and health care.

In self-care, each person defines what "treatment" or what direction to follow based on their close resources and previous experiences (Table 2, citations 1-2). Folk or home remedies and self-medication emerged as the first strategies to contain the disease. Among the multiple home remedies, we can emphasize the following: (1) red fruit juices; (2) consumption of citrus fruits; (3) infusions of different plants; (4) baths with plants; and (5) specific diets (Table 2, citations 3-4). Table 3 shows the "remedies" considered by the participants. Many of these home remedies work both as measures to prevent disease and as a way to cope with it. These measures were recurrent, showing the great confidence they have in the remedies, especially to control "decreased platelets " or "increased defenses in the body."

Table 2 – Citations about therapeutic itineraries during and after the illness experience

Citation	Text	Source
1	*Then my body, or I, felt the ability to carry on with the disease and, upon investigation, I realized that I was not dying, it was simply a process I was going to go through, and I was going to overcome it by following the recommendations they give me.* […] *I was irritated. So the symptoms of Chikungunya, the symptoms of Zika, to see how to identify them, each of them, what are the treatments to carry out, in certain cases to attend the emergency doctor. Then one would carry that very punctually.*	Interview man, 2016
2	*With zika and chikungunya I stayed at home for several days because I also knew how to treat it, drinking blackberry juice, acetaminophen is the only thing one could take, but not. So why waste time* [with the doctor] *when you know what you have to do? Take care of yourself, don't get wet with rainwater, don't sunbathe, have as much rest as possible. That's what I did.*	Interview woman, 2018
3	*I treated it* [chikungunya] *with acetaminophen, aromatics, chicken or meat broth and fruit and grape juices that I put in a pan without any water and let it boil a little bit... I let the black little grape boil a little bit, I let it cool down and I liquefy it in a little bit of water so that the juice of the grape will be good for me and with that I treat the children, I treated my children when they all were sick at home.*	Interview woman, 2016
4	*when my platelets started to decrease a lot, they gave me chicken leg broth and that's because chicken legs increase it a lot; grape juice; jelly with milk, juice of... there are some juices, recipes* […] *people who eat a lot of liver and that's good for their defenses, but I don't eat that.*	Interview woman, 2016
5	*One has to wait 4 or 5 days for a result (laboratory). Then while that result comes out what do we do? We look for alternative medicine, and if we see that the boy or the person does not progress with what we are giving, we don't go to talk to the doctor, we look for our ancestors, we ask them and we say: we have this problem and so what should we do?*	Interview man, 2016
6	*At least when I have the child sick, if I feel he has a fever, I run to* [druggist]* *what do I do? And he measures his temperature and gives him the medication... that's what's good, you feel safe because he's around... that's really good that, that he's watching and people know how we're living in the neighborhood, because this neighborhood is very big.*	Interview woman, 2018
7	*Here people come with money or without money to obtain medications. And what can we do? When they have money, they pay me, or if not, they don't, and that's how I have worked with the community.*	Interview man, 2018

continued...

Table 2 – Continuation

Citation	Text	Source
8	*You get there and they tell you to relax and say that zika doesn't kill you, it's a virus and you're burning up and they tell you to relax, it's not an emergency. Then one arrives at the hospital, a person is unconscious or has no vital signs... In my case, we always use the natural plant baths.*	Interview man, 2016
9	*many Colombians don't go to the doctor properly for that, because they have to pay to go to the doctor, paying for the transport and they have to pay for this (referring to acetaminophen), because they give us few pills, it's not enough, seven thousand, eight thousand, ten thousand and here, here (in the drugstores) the pills cost one thousand five hundred, one thousand three hundred.*	Interview man, 2018
10	*but now I'm afraid of dengue, I'm very afraid of dengue, and I always give them acetaminophen when they get sick until I don't know what the doctor says, because by mistake, someone can give them something that makes them sicker.*	Interview woman, 2016

*pharmacist.

Table 3 – Home or popular "remedies" for symptoms of dengue fever, chikungunya and zika

	Home remedies	Composition
a)	Red fruit juices	Blackberry Green grape Black Grape Complemented with other foods such as lentils and spinach
b)	Citrus consumption	Lemon Orange Tangerine Juices or in the diet
c)	Infusions from different plants	Aromatic of grapefruit Aromatic of Flower Aromatic of Chamomile Aromatic of Lemon balm Aromatic of Basil "Herbal water"
d)	Baths with plants	Boiled mango pit Oat Flakes Aloe Vera Marigold Avocado
e)	Specific diets	Carrot Fish Banana Watermelon *Purpura* with milk and pure bee honey Meat and chicken broths Chicken leg broth

Traditional medicine is less recognized for the control of the first symptoms, referred as alternative medicines, natural and traditional family medicines. Therapeutic interventions linked to geographical and cultural mobility that lead to hybrid treatment options are identified. In the particular case of an Afro-Colombian interviewee, the approach from the "natural" was more significant, *where culture and race are the basis for differentiation.* Traditional and popular management of the disease also involves local people recognized as "specialists." Figures such as the *sobandero*, an expert in natural medicine in the neighborhoods, and the spiritist, with knowledge of "medicines" and natural medicine, are required to prescribe and recommend actions. Use of traditional medicines or these figures appeared as a provisional measure before going to health care, unless the course of the illness ended (Table 2, citations 2 and 5).

Finally, health care includes drugstores and health services. Drugstores are recognized as a first-hand resource that provides access to "cost-effective" care. This cost-effectiveness is manifested in less time for care, closeness and trust (including affection) with the person receiving treatment and lower direct and indirect costs of attending health services (transportation to care centers, co-payments and money loss). Similarly, people perceive that they obtain rapid relief from pain and discomfort, even though they do not know the therapeutic methods or "remedies" used by the pharmacist and his way of acting to resolve their illnesses. Within this therapeutic arsenal, people mentioned the use of acetaminophen, vitamins (thiamine) and pharmaceutical cocktails, called **marriages** (Table 2, citations 6-9). The health services, on the other hand, are consulted when the symptoms are complicated, when previous interventions fail or when experience (especially in serious cases) suggests that they are the ideal resource for treatment (Table 2, citation 10).

Later, defined as the process of appropriating and coping with the effects of the disease, elements such as subsequent pain, in the case of chikungunya or zika, and fear, particularly of death after the experience of dengue hemorrhagic fever, were found. These feelings reflect both the marks of illness on the body and their meanings in everyday life, as well as the lessons and fears in redefining and coping with what has been experienced. This itinerary is connected with the preventive measures that people take to avoid, anticipate or face a future episode of illness (Table 2, citation 11). From these elements, it is clear how therapeutic itineraries are configured and reconfigured based on the lessons learned from the experiences of the illness.

Acetaminophen and AUTO-acetaminophen: agreements and disagreements with the health system

Two itineraries were identified in the approach to these diseases: one in line with the health system, and the other in resistance to it. The first, called "acetaminophen" in this paper, corresponds to measures that follow the medical guidelines established by the health system to address the diseases in order not to saturate the care services and prevent complications. Following these itineraries involves: controlling symptoms with analgesics (specifically acetaminophen) during the first few days and coming to health institutions after the third day for a medical evaluation and laboratory tests to define a diagnosis and treatment plan, unless a symptom is severe. This itinerary was especially present in people with their own or nearby experience of a serious dengue episode (Table 4, citations 1 and 2).

Although this is the guideline defined by the health system and followed by many people, other participants said that attending nearby health centers has become the last option for treating the symptoms that occur when having one of these diseases. This was due to a failed expectation regarding the medical care provided by health services generating "mistrust" or "dissatisfaction" due to three factors. First, the delay in providing the service, which disqualifies it in terms of its quality and has a negative impact on daily life, either because it takes people away from their duties and, in many cases, impedes them from gain resources from their informal work (Table 4, citation 3). Second, the costs in terms of economic expenditures represented

by travel to the care centers. Third, the medications prescribed. Here the perception of acetaminophen is central, since it is the drug prescribed to treat any of the three diseases (and others), which is perceived as "bad" and "cheap" (of low cost), configuring a perception of precariousness in the care offered by the health system that does not provide access to the "best drugs" (Table 4, citations 4 and 5).

Table 4 – Citations about agreements and disagreements with the health system in the care of dengue, chikungunya and zika

Citation	Text	Source
1	*The ideal is to take an exam, go to the doctor, take a test to the doctor tell you, or to eliminate the possibility, for example... For me this, in the case of my family, this is what I recommend. I'm not like those people who usually self-medicate... for me, dengue cases and other things are delicate... I mean, I always handle it that way with exams and precaution, but always with the doctor.*	Interview woman, 2016
2	*Well, the headache and the chill. Always when I see them looking a little sick I ask them "What's wrong? What hurts?" and if they tell me their head hurts a lot and if I see them with a chill and that they are not eating, so I go to the clinic... that is, I am afraid that it is a dengue because I think that dengue is a fever, headache, chill, they do not eat and sleep.*	Interview woman, 2016
3	*For the famous zika I made here some mango, avocado, and lemon sticks and with that I made baths and I bathed. But the zika weakens the joints a lot, the man from the pharmacy gave me medicine because I didn't go to the doctor. Because if you go to the doctor you have to wait 5 days to get an appointment and 8 days to be attended, so there is no reason for you to go to the hospital because of this illness.*	Interview man, 2016
4	*In the case of the zika, I had a rash, but the reality is that I didn't go to the doctor, that is, I didn't go at the time. That is, I'm against going to the doctor, because if I go to the doctor, they'll give me an acetaminophen and I'll have to wait all day. That's the reality. But I've had to go to the doctor and... What did they give me? An acetaminophen! How much is an acetaminophen? In a drugstore it's worth 500 pesos. How much is it costing me to go to the doctor? 4000 pesos, and the wait, and the time, because they don't give more for that, they don't give more than an acetaminophen and rest, and rest and they don't give you more than this!*	Interview man, 2016
5	*After my brother was taken to the doctor, he even had a fever and with the symptoms he had they just gave him acetaminophen. So we assumed to take acetaminophen and not go to the doctor, so we didn't go to the doctor, neither did my mom, nor me... my partner also was sick but the same thing... since the only thing they are supposed to take is acetaminophen... So that was what I was telling him "take acetaminophen, you can't take anything else. Well, if you want, loratadine for the rash" that would help him. Those were the two suggestions I had in my experience.*	Interview woman, 2016

It is in the face of these dissatisfactions that the second itinerary, called "AUTO-acetaminophen" in this study, is configured. This concept refers to the set of measures for dealing with the disease without consulting the health service, given that acetaminophen is perceived by the persons interviewed as "the same as always" or "the only thing they give to you." Thus, people prefer to take acetaminophen by themselves than to go to a health service, since this medicine is easily available, and without the need to invest more time and money.

These two therapeutic itineraries reveal the learning that is produced by the experience of the disease and some relationships that people build with the Colombian Health System. The disagreements observed reveal the questions about the cost and benefit of seeking health care. For the participants, making use of the health system gives them a knowledge about the diseases, about their management and care, which does not necessarily come from an education of the medical professional, but comes from their own or close experience with them. In this scenario, drugstores and pharmacists or druggists acquire a relevant role in the daily experience and resolution of health problems (Table 2, citations 6-9).

Discussion

In this study, daily meanings and therapeutic itineraries in relation to dengue, chikungunya and zika are evidenced, mediated by the experiences of illness and the agreement or disagreement with the care provided by the Colombian health system, which constitute means for learning that define the daily action in relation to these diseases.

To address population knowledge and behaviors related to the diseases, the Knowledge, Attitudes and Practices (CAP) methodology has been widely used. CAP surveys have found that dengue is not massively recognized as a disease of infectious origin, yet it is largely recognized that it is contracted by the bite of a mosquito, although knowledge about the vector and the mechanism of transmission of the virus is limited. They also show that participation in mosquito control activities is low, although favorable attitudes towards control are evident (Cáceres-Manrique et al., 2009; Cooke et al., 2010; Diaz-Carrión et al., 2017; Hernández-Escolar; Consuegra-Mayor; Herazo-Beltrán, 2014; Jaramillo-Ramírez; Buitrago Álvarez, 2017).

The CAP methodology is framed in the biomedical language and, therefore, does not allow the recognition of the notions of the disease itself. Therefore, the failure to identify dengue fever as a viral disease transmitted by mosquitoes is interpreted as a lack of knowledge or ignorance of people, which must be solved by education, disease prevention measures or promotion of healthy lifestyles from the perspective of health professionals.

In contrast to these studies, the approach of this work allows us to enter into the everyday notion of illness and the ways in which experience provides knowledge about these and how to face them. In this line of work, a pioneering anthropological study conducted in Colombia (Villavicencio) found that dengue is referred to with a common cold that can be easily treated with over-the-counter medicines and a little rest. The worsening of symptoms is what allows people to identify that they are not with a cold but could be dengue (hemorrhagic) (Suárez et al., 2009). To address these diseases, the authors identified a common procedure that began at home with self-medication, asking neighbors for advice, going to the pharmacy, then visiting lay practitioners and, as a last resort, visiting the official health center or a licensed physician.

Another study conducted in Colombia (Neiva) in the early 2000s also identified two models of perceiving the disease: one traditional "bonebreaker" and another institutional "dengue," both referred to as flus but differentiated by the greater intensity of the symptoms, the presence of bleeding, rash, vomiting and the possibility of dying from "dengue." The causes were also differentiated, being unknown in the case of the "bonebreaker," which would correspond to the classic dengue, while for dengue (hemorrhagic), mosquitoes coming from contaminated waters were identified as the cause. This distinction in the causes and symptoms of the two diseases was transferred to their therapeutic management, with the bonebreaker being treated with the family's or the community's resources, while for dengue fever, institutional medical care was sought (Fajardo et al., 2001).

Two types of dengue were also identified in Floridablanca, with symptoms clearly distinguished from a cold or flu, and severe dengue (with hemorrhagic manifestations) was clearly related to the possibility of death. However, in the three municipalities therapeutic itineraries were found that are built around the degree of severity and the possibility of being cured, either by the people themselves or by health providers. Furthermore, as stated by Suárez et al. (2009), these itineraries show that people have learned to live with the vector and the diseases, without perceiving that the mosquito or the diseases are the great threats referred by the health sector. Mosquitoes about which little is known in biomedical terms, as is also shown by the CAP surveys.

As a novelty in our findings, the identified pathways are not only linked to the severity of the symptoms but to the perception of the care provided by the health services, which mediates the relationship with the health system in the social contexts of the participants. Specifically, the itinerary called AUTO-acetaminophen shows how

people tend to face the disease in a condition of socioeconomic vulnerability, in which the approach of the health system is not perceived as satisfactory, due -among others- to a negative social construction of acetaminophen, as a low-cost, widely used and easily acquired drug.

Although it is necessary to go deeper into this finding: the health care in which communication is developed makes no sense to the patient. In contrast, it is not possible for the patient to perceive the indications and benefits of this medicine for the treatment of the diseases studied, as it is possible to learn significant lessons in favor of good decision-making in health care and a relationship of trust with the health system, which in the case of Colombia paradoxically includes as one of its great achievements the increase in coverage, including the population at a socioeconomic disadvantage.

This finding should be interpreted in the context of the Colombian health system, which authors such as Abadía-Barrero et al. (2008), Martínez, Pinilla-Alfonso and Abadía-Barrero (2018) and Hernández (2002) described as having increased access barriers with its reform in the 1990s, resulting in services that are full of inequalities in relation to the needs of the population. In this sense, the AUTO- acetaminophen itinerary can be understood as a response to the indifference of a health system perceived as discredited by a large part of the population.

In contrast to the health services, the drugstores (and the druggist) were configured as a more consulted and valued scenario, constituting a key element of the itineraries. The recognition of community pharmacies as the first points of health care has been proposed since social pharmacology, a position that contrasts with the scarce recognition that the figure of the pharmacist receives within the population's biomedical services (Armando; Vega; Uema, 2011). However, they can participate in an appropriate therapeutic approach when they are included as part of the population's care process (Armando et al., 2005). In line with the findings, it is important to recognize the importance of pharmacies in the daily management of the diseases studied, so they should be integrated with health services, ensuring that the therapeutic approach used is in line with the care algorithms in force in these three events.

Following Augé (1996), the itineraries reveal three senses of illness and its attention: the geographical, the intellectual/cognitive and the historical situation that allows us to understand the complex social processes of health. Like other works about therapeutic itineraries (Pinho; Pereira, 2012; Nabão; Maruyama, 2009), this study shows this configuration of the itineraries. All these instances provide learnings that define subsequent itineraries at the intersection of political, economic, social processes, everyday interactions, and biographies.

On the other hand, the recognition and identification of the "new" diseases, chikungunya and zika, was mediated by the presence of cases in the territory. Given the apparent absence of cases, these events are "forgotten" or understood as other ways of calling the already known diseases, in this case, dengue. This way of "forgetfulness" and "appropriating" new terms is a collective phenomenon evidenced in other areas of the country with a high presence of dengue (Pacheco; Martínez, 2013). Since no clear differentiation is perceived between these events and dengue, the two therapeutic itineraries were proposed indiscriminately for the three diseases.

Thus, the social construction of dengue, chikungunya and zika is crossed by a fundamental tension between recognition and forgetfulness. This tension forces an analysis of the way in which these diseases are inscribed and transformed into the rationalities, beliefs and interests of both health personnel and decision-makers, as well as the people of a territory. In the context of the higher and lower temporary presence of cases, "recognition and forgetfulness," the role of mass and alternative communication media such as the Internet and "by word-of-mouth" as important sources of health knowledge are highlighted. These media allow the appropriation of knowledge that may or may not be in tune with biomedical knowledge, but is socially valued and important decisions are made based on

it, such as whether or not to approach care services, so the role of these media in people's health agency should be considered seriously. In this sense, it is essential to ensure that each contact with the health system represents a source of significant learning for the health care of those who use the health services, considering that their perceptions and opinions are a source of knowledge for others. This learning should be based on the dialogue of knowledge between health workers and people of the community, not on the vertical imposition of biomedical knowledge.

Final remarks

This article reflects on the role of health institutions, the beliefs of individuals about diseases, and the many therapeutic processes for coping with them.

The findings on the social construction of dengue, chikungunya and zika mediated by recognition and forgetfulness tension, call for a review of the ways in which these diseases are subject to public policies and actions, in which community participation is expected, either to cut the mosquito reproduction cycle inside their homes or to make rational use of care services. These policies and actions have the challenge of confronting the "forgetfulness" that comes with everyday life, that is why it is fundamental not to limit ourselves to strategies and approaches that ignore the ways in which diseases are lived, felt and faced.

On the other hand, the identified therapeutic itineraries highlight the active role of people in decision making when faced with a range of therapeutic methods that they encounter in their daily lives. In a scenario of medical pluralism, there are clearly many reasons for taking one therapeutic option or another, but it should be considered that people decide according to their own notion of the cost and effectiveness of the options available to them, which they build up through their own and close experiences of illness, care and results obtained.

In line with these arguments, it is proposed to explore the following in greater depth: (1) the assistance that individuals have for the resolution of their health problems and the role that the mass and alternative media have in this; (2) the role that healthcare professionals have as educators for the health of people and groups; (3) the relationships that people build with the healthcare services and the health system and how these can favor or not the health of both people and populations.

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Author's contribution

Hormiga and Cortés designed the research and led the phases of information gathering, analysis and elaboration of the manuscript. Becerra, Ariza, Garzón and Cadena participated in the collection, analysis and elaboration of the manuscript.

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