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The dengue control from the Bioethic's perspective

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Abstract

This research analyzed actions, social control and bioethical dilemmas concerning the dengue control. Qualitative methodology – focal groups and interviews – has been employed. We concluded that Public Health actions aimed at dengue control must follow sanitary bioethical principles. Public managers, workers and users must act to prioritize public policies that benefit as many people as possible, as long as possible, resulting in best consequences for the entire community, and not allow any private, corporate or party-political interests to put the ethics commitment in risk. We believe it's necessary to build new standards of relationship between users and public managers and between the Union, States and Municipalities, based on Bioethics and co-management.

Keywords: Dengue. Bioethics. Public health.

Resumo

Controle da dengue sob a ótica bioética

Esta pesquisa analisou ações, controle social e dilemas bioéticos relacionados ao controle da dengue. Utilizou-se metodologia qualitativa – grupo focal e entrevistas. Concluímos que as ações de saúde pública visando ao controle da dengue devem se pautar pela bioética sanitária. Gestores, trabalhadores e usuários devem agir no sentido de priorizar políticas que privilegiem o maior número de pessoas, por maior tempo possível, e que resultem em melhores consequências para toda a coletividade, não deixando que interesses particulares, corporativos ou partidários coloquem em risco seu compromisso ético. Entendemos ser necessário construir novos padrões de relação entre usuários e gestores, e também entre União, estados e municípios, baseados na bioética e na cogestão.

Palavras-chave: Dengue. Bioética. Saúde Pública.

Resumen

El control del dengue desde la perspectiva de la bioética

En esta investigación se estudió acciones, el control social y los dilemas bioéticos relacionados al control del dengue. Se ha utilizado metodología cualitativa – grupo focal y entrevistas. Concluimos que las acciones de salud pública para controlar el dengue deben seguir la bioética sanitaria. Los gerentes, trabajadores y usuarios deben priorizar políticas para el mayor número de personas, por el mayor tiempo posible, y que resulten en las mejores consecuencias para todos, no permitiendo que intereses particulares, corporativos o partidarios pongan en riesgo su compromiso ético. Creemos necesario construir nuevas modalidades de relación entre usuarios y gerentes, y también entre la Unión, los estados y las municipalidades, basadas en la bioética y la cogestión.

Palabras clave: Dengue. Bioética. Salud Pública.

Research articles

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Declaram não haver conflito de interesse.

Dengue Outbreak

In 2015, Brazil registered the major dengue outbreak in its history up to that time, with nearly 1,500,000 cases and over 800 deaths. The Southeast area has registered approximately 60% of the cases. Among the cities with population over 1,000,000 inhabitants, Campinas draws the attention – municipality in Brazil's southeast region, approximately 100 km far from São Paulo – where 65,000 cases have occurred, which corresponds to an incidence rate ratio higher than the confirmed 5,700 cases per 100,000 inhabitants [1,2].

In the previous year, Campinas also stood out in dengue statistics, with over 42,000 cases. Climate factors, as minimal elevated temperature and low rainfall through the first three months of the year, allied to the immunological situation favorable to the infection caused by the serotype DENV-1 – there were some years that it did not circulate -, besides the insufficient number of professionals working on prevention of the disease, seem to have been contributing significantly to the increase in cases in these past two years [3]. Another aspect related to dengue outbreak is related to the disordered urban expansion which generated in the past decades, social-environmental conditions which have facilitated the spread of the Aedes aegypti, mosquito disease vector.

Up to now, the most effective method of disease control is the combat to the vector, considering the inexistence of vaccine. The Ministry of Health (MH), by means of the National Program for Dengue Control - PNCD, has proposed preventive actions against the outbreak of the disease:

- creation of permanent programs;
- Development of information campaigns on preventive measures against dengue and mobilization of the people for actions on prevention;
- Strengthening on epidemiological and entomological surveillance;
- Improvement in the quality of the fieldwork for the combat to the vector;
- Integration of actions for dengue control in the basic attention;
- Multi-sectorial action through the stimulation to adequate disposal of solid waste and the use of secure resources for water storage;
- Development of more effective instruments of monitoring and supervising the actions developed by the Ministry of Health, states and municipalities; and
- Utilization of legal instruments which facilitate the work of the public power in the elimination of breeding grounds in commercial properties, abandoned houses or the refusal to access the house by the health agent [4].

Sanitary Bioethics and Public Health

Conflicts which oppose interests either individual/private and public/collective in the health field are relevant to bioethics, which prioritizes public and collective issues to the detriment of specific, private and individual issues [5]. The public policies must obey the ethical principles of distributive justice and of equity, prioritizing the social layers or the most disadvantaged people. The public health aims to protect the collectivity, with the adoption of measures with utilitarian orientation, that is, considered ethically correct when they result in more health for a larger number of people.

Bioethics, in its interventionist aspect, preconizes as morally justifiable, in the public scope, the prioritization of policies which benefit the largest number of people, as long as possible, and which result in the common good, that is, in the best consequences for all the collectivity. In the private field and in the individual dimension, it indicates the need to stimulate the liberation, to support empowerment and assure the emancipation of the social individuals, seeking, then, to achieve their total inclusion in the relational dynamics of society [6]. According to Schramm and Kottow, the moral dilemmas inherent to collective practices and health programs cannot be satisfactorily equated with the defender of principlism model, adequate for solving conflicts of the sphere of clinic bioethics. Such authors propose for the public health area, bioethics grounded on the principle of protection, in which the State is responsible for protecting the physical and asset integrity of their citizens and assure them quality of life, putting the collective well-being above individual autonomy [7].

According to Fortes and Zoboli, *actions in public health always require an ethical assessment and they indicate a fair way in the promotion of health of the populations and in the reduction of the iniquities. Such actions protect the dignity and the human quality of life* [8]. In short, sanitary bioethics aims to guarantee actions in public health which respect the distributive justice principles and equity in the health access, so that they may assure ways of libertarian social participation, oriented by the common good, benefiting the largest number of people, for

the longest period of time, and resulting in the best consequences for all collectivity.

Social Control

The participation of the community is the organizational guideline of the Sistema Único de Saúde (SUS) (Single Healthcare System), assured by the Federal Constitution [9] and governed by Law 8.142/1990 [10], and it occurs with the participation of social segments organized in the health conferences and in the councils, in the three spheres of the government, and with the participation in administration boards in the health services. The role of the citizens in this framework, aims to influence the definition and execution of health public policies [11].

The Conselho Municipal de Saúde(CMS) (Health Municipal Council) of Campinas is a permanent and deliberative board, which integrates the Health Municipal System, according to the articles 196 to 200 of the Federal Constitution [9], federal laws 8.080/1990 [12] and 8.142/1990 [10] and Lei Orgânica do Município de Campinas (Organic Law of the Municipality of Campinas) [13]. It is comprised of government representatives, health service providers, health professionals and users of the system, whose decisions, consubstantiated in resolutions, will be homologated by the health municipal secretary and published in the Diário Oficial do Município (Official Municipal Gazette). CMS is composed of 44 full members and their respective deputy members. 50% are users' representatives, 25% are representatives of workers' entities and health professionals and 25% are from the local government and from the health service providers, according to the law.

Among other duties, CMS is in charge of *acting in the strategic elaboration, the control of the execution and assessment of the Health Municipal Policy, establishing guidelines to be observed at preparation of the Health Municipal Plans, in view of the epidemiological aspects and of health providers' organization, in a timely manner, and monitoring the development process and scientific and technological incorporation in the health area, aiming at the observance of ethical models compatible with the social-cultural development of the municipality* [14].

Aims

The overall aim of this paper was to analyze dengue's controlling actions under the sanitary bioethics perspective. The particular objectives are: 1) analyzing dengue's controlling actions from the opinion of health municipal councilors; 2) analyzing social control in the fight against dengue; and 3) knowing the main bioethical dilemmas related to disease control.

Method

Taking into consideration the proposed objectives, the qualitative methodology was chosen, once one searched to obtain concepts and opinions. The qualitative research is based essentially on observation and/or conversation, which was the method used, by means of a focal group and interviews (important tool for the collection of data) [15,16]. When using such technique, what is relevant is the interaction among its participants, making it possible the diversification and deepening of the contexts related to the issues of interest, by the sharing of people's experiences, their opinions, desires and concerns. In other words, the value of the focal group is grounded in the ability to raise information, build opinions and attitudes by means of the interaction of the participants [17].

The group has to be comprised of 6 people, at least, and 15, at a maximum, and the criteria for its formation has to be compatible with the aims of the study; that is, the sample is intentional, considering that the individuals selected are the most adequate for providing useful information for the research [18]. For the conduction of the tasks, a mediator is needed, whose function is proposing situations to the participants, to keep the focus of the discussion and make summaries and reassume the issue when it deviates eventually. Their presence is vital for the task, and their role is indispensable, but their intervention should to be discreet, in order to allow the emergence of contents without a directive approach that would prevent the free expression of the participants. It is recommended the presence of an assistant, to act as an observer, reporter of facts and eventual interventions, so as to facilitate the course of the activities [19].

The focal group was chosen to obtain the opinion of the Health Municipal councilors, as representatives of the users. Six councilors participated of the group. The interaction among researchers and health municipal councilors representing workers and the administration happened through interviews, in face of the difficulty in gathering all informants in a focal group. All the information was obtained with the help of a script with items or

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topics, previously established, according to the issue of interest. Two interviews were performed, one of them with the workers' representative and the other one with the administration's representative. Researchers acted as moderators and observers of the focal group and of the interviewers during the interviews.

The free and understood authorization form– approved by the Ethics Committee in Research – was read and explained to all participants of the research before the realization of the focal group and of the interviews. Both focal group and interviews were taped. After the transcription of the speeches, they proceeded to their analysis according to three thematic aspects defined by the researchers: 1) Dengue control actions; 2) Social control in the fight against dengue; 3) Bioethical aspects in dengue control.

Outcomes

Dengue Control Actions

Usually, the councilors, which are representatives of users and workers, tend to see the preventive actions taken as insufficient, but they have evaluated as sufficient the aid provided in the assistance sphere, with the outbreak under way. They consider the preventive actions very relevant, but have emphasized that the investment in that field is insufficient:

"Currently, I think the prevention is primordial. It is not fighting the problem when it is already happening and it left nothing to be desired (...) It is like a saying, tackle the evil at its roots. (...) We saw the outbreak in 2014 happen and we had expectations that some actions would be taken, as well as some measures, and we have not seen anything along 2014 and 2015 (...) The prevention has not happened (...) dengue's incidence has diminished, then, the issue is finished. This should have been the time for preventive actions in the streets; and we are not doing that. We still have people reporting they have got dengue right now. So, at the time we should be working on prevention, we are not doing it; prevention only occurs at the peak" (User Councilor)

With respect to prevention, they highlighted as main problems the insufficient number of health and environmental control agents, and the campaigns in the media. These would have the objective of bringing awareness to people about preventive actions. According to these councilors,

"there was a reduction in the advertising in order for people to become more cautious, but, in reality they have relaxed. (...) and not even the old dengue advertisements have been presented in these past years. Nothing was invested in that. (...) Publicity is important. (...) Concerning the divulgation in the media, more was expected. It is a highly relevant way of preventing." (User Councilor)

A factor regarded as significant for the receding from prevention actions was the dismissal of environmental control agents hired by a private institution which provided outsourced services to the city hall. They were agents who had worked on the fight against dengue for many years, and, thus, had much experience. Their dismissal, without an immediate replacement, seems to have substantially compromised actions such as installation of mosquito screening in water storages, detection and elimination of breeding grounds, education of the population and joint actions with the health community agents. The councilors have understood such fact as decisive for the increase in the number of dengue cases within the municipality.

"Things were okay until the occurrence of a misunderstanding that the agents were employees of sector C and that fact left the city unprotected (...) Some professionals were dismissed and they were not replaced (...) We will hire health agents, but we also need environmental agents (...) I think the hiring of environmental control agents has not gone so well as I expected. The outbreak 2014 has started with a gap of dismissed agents from sector C and they have not been replaced" (Worker councilor).

Conversely, some participants demonstrated suspicion and they claimed that the hiring of environmental control agents would not be sufficient to control the dengue outbreak: they considered a mistake thinking that an increase in the number of professionals would solve the situation. Although they have considered that not even the increase in the quantity of agents would have been able to revert the increase in the mosquito infestation, they seem to understand the relevance of the prevention actions, considering that their importance was even more evident in the regions where a long drought period occurred, leading the population to stock water, which was the case in 2014 in the Southeast. Thus, one of the factors indicated as responsible for the high number of dengue cases was such change of habit characterized by storing of water:

"Everything has to be thought of in the storage of water, and this is hard, challenging for all of us, for all the sectors of society. (...) one of the answers given by the administration is one that puts the responsibility on the population due to the lack of water, because they are storing (...) It is too easy for us to talk about the water accumulated in a bottle top at the backyard by the housewife (User councilor)".

An important strategy of fighting against dengue, adopted since 2014, was the creation of a Municipal Managing Committee, constituted of bodies and entities of the municipal public administration. Such committee aims at the discussion of dengue in an integrated way, considering the social sphere so important as the biologic dimension regarding the illness. The Committee is directly subordinate to the Head Office of the Mayor and is comprised of two representatives (a full member and a deputy member) of the municipal government departments. Besides the head office, the following areas also participate: administration; communication; education; human resources; health; and green, environment and sustainable development; as well as the Departments of Public Services and of Housing. Civil Defense, Sociedade de Abastecimento de Água e Saneamento S/A (Sanasa) (Company responsible for Water Supply and Sanitation) and, when necessary, community representatives, public and private entities, also participate.

By means of intersectorial and integrated actions, the Committee seeks the increase of the capacity of the municipality in the prevention and fight against dengue outbreak. The Secretaria de Habitação (Department of Housing), as an example, expropriates areas at risk and does not allow the disposal of waste, which probably would become new breeding grounds. The employees go to the defined places, then expropriate and do the cleaning, plant trees, take care of the spaces and, thus, fight the mosquito. The remaining departments collaborate in the identification of the risk areas of mosquito's spread, in the advertisement of campaigns of dengue's prevention and fight, in the actions of epidemiological control and zoonosis, as well as in the treatment of the infected citizens.

Social Control in combating dengue

Dengue outbreak was topic of discussion in several CMS meetings. However, the interviewed councilors have emphasized only the CMS's role of inspecting and demanding actions, which seems to have limited their participation: "*The Council itself, unfortunately, I think particularly that the only thing we can do is demand from the administration, of secretary* (...) *And it does not compete, CMS does not execute. It only evaluates, proposes, resolves, it has that power to decide what has to be done"* (User councilor). Even though it has brought the situation of dengue to the municipality during its meetings, CMS kept distant from formulations and discussions that occurred in the municipal managing scope, which was effectively responsible for the concrete actions taken for fighting outbreaks.

The CMS' distance from the decision sphere became evident when one asked about the legal authorization allowing municipal health agents to enter an uninhabited, closed, abandoned property or with prohibited access by the owner in all the municipality, for the elimination of possible breeding grounds of the Aedes Aegypti:

"CMS is not invited and is not informed about anything concerning this. (...) They do not have interest in the councilors' participation and they do things kind of hidden (...) They do not have interest in letting CMS participate, support (...). She was not taken to CMS (...) She came at head office level, board (...) It was informed that there was a high rate of refusal and that when one needed to come in the police had to be called , ask judicial authorization for entering and so on. There was no discussion of that law within the CMS. It was a technical, internal approach, together with the legal area and, due to the relevance, the law was made" (Worker councilor).

According to the interviewed councilors, CMS has practically not participated in the elaboration of proposals for the efforts against dengue in the municipality, limiting itself to executing the social control only as an inspector, without having the opportunity to participate in discussions with the executive.

Bioethical aspects in dengue control

The main bioethical dilemmas detected in the interviews are related to sanitarian bioethics, that is, when there is a conflict among public and private, collective and individual interests. The first dilemma refers to exoneration of professionals, especially the environmental controlling agents, which has caused damage to the fight against dengue in the municipality, as a whole. Even though it has been due to legal requirement originated from supposed irregularity

in the way the Municipality used to have an agreement with a partner institution, employer of such workers, their dismissal resulted in the discontinuity in the actions of controlling the disease, either in the prevention plan (environmental control agents) or in the assistance plan (urgency and emergency service professionals). So, the ethical dilemma, in this case, lies in the dismissal of the workers to the detriment of the continuity of the disease control, without their replacement by other professionals to execute their actions of preventing and controlling the outbreaks.

Another bioethical conflict which arose from the comments refers to the utilization which can be made of the publicity campaigns around dengue outbreak. In other words, when the advertisement in the media has the objective of alerting the people for such situation and stimulating their collaboration, it preserves the ethical character of the knowledge transmission process, reinforcing the empowerment of the citizen. Conversely, when such advertisement aims, above all, to promote any group or institution, the process loses its ethicality. In this case, the interest of a group, who detains the power, is what leads to the advertisement of actions of fight against and control of the outbreaks, overrunning the interests of the whole, of the collectivity, and actions of advertising become just mere mechanisms to produce recognition.

It was observed divergence of opinions among the administration representatives and the users/workers representatives in reference to the responsibility for the failure of the actions on dengue control. For the administration representatives the population keeps on producing breeding grounds in their properties making the outbreaks eradication difficult. For the users/workers, the administrators made a mistake due to the insufficiency of personnel and materials for the outbreak control. The interviewed councilors have also pointed ethical dilemmas in face of the legal instrument which authorizes the entrance of health agents in private properties, even without the owners' authorization. They have alerted to the fact that depending on the way the law is used, it can lose their primordial function of instrument of fight against the vector to transform itself into an instrument of government's propaganda.

Discussion

The magnitude of the current dengue outbreak in a large part of the nation allows the assumption that the measures that aimed at the fight against the vector, such as information campaigns and people mobilization, strengthening of epidemiological and entomological surveillance, fieldwork, multi-sectorial acting and use of legal instruments, have not brought the desired outcome. Explanations for the relative failure of these measures are varied and are not consensual: few collaborations from people in the prevention and elimination of the mosquito breeding grounds, desordered occupation of urban space and change in habits – water storage -in face of the drought which reached the Southeast in 2014. Besides this, insufficiency of official campaigns, insufficiency of skilled personnel for the field actions and reduction of investments in the preventive actions in general.

If we add to this scenario the phenomenon of global warming, responsible for the highest minimal temperatures, which seems to increase the number of vectors, we can conclude that the outbreak cannot be explained by just one factor. The multiplicity of possible explanations shows that each group chooses as true those that make more sense for them, opening room for technical disputes, and also political ones. In that context of fragility of understanding the epidemical phenomenon, in which it seems there is no triumphant theory, dispute among different theories is possible, which means, not rarely, according to Kuhn, a matter of faith [20].

The arrival in the country of another disease – zika -, also transmitted by the Aedes aegypti and associated to severe complications, such as microcephaly and Guillain-Barré syndrome, has alerted the authorities and the population in general. The Ministry of Health has declared sanitarian emergency of national character and has prepared a plan to face the malformation. The plan *approaches action aspects to fight against the mosquito, medical care to patients and researches development which help to improve the knowledge about zika* [21]. The main focus is still the fight against the vector, which shall accelerate even more the debates on responsibilities and the most indicated strategies.

Sanitary models based on bioethics are social constructions resulting from relations of disputes and agreements between different segments of the society which conflict their interests, values, faith, in the different social arenas. The health councils and the spaces for elaboration of health public policies are examples of that game of forces. From what we have detected from this study, the social control, represented essentially by health councilors, in practice, seems to be limited to the inspection and

demand of actions, keeping away, in large proportions, from the elaborations and sound proposals for health actions, such as those of fighting against dengue.

According to the answers given by the three interviewed groups it is possible to verify that some have understood that this is exactly what CMS must do: stimulate, inspect and demand actions from the Executive Authorities. For others, however, CMS could have more functions. Such arrangement, in which those who inspect and control, participate, little or not at all, in the elaboration and execution, seems to contribute to the debate around dengue control not being meaningful and restricted to expressions of discrepant opinions and points of view.

It seems possible to read between the lines said by the councilors, that it would be worth bringing to a new discussion the health councils' role, mainly because it is expected that they participate in the elaboration of strategies to be executed in the area. However, we understand that its role as one who elaborates should not be isolated, in a centripetal and endogenous way, but that should act jointly with the administration. The divergences of interests, phenomena understanding and the differences of power should not prevent the co-administration of processes of collective interest, such as dengue control.

The dengue current epidemiological situation is worrying and requires a social participation closer to the administration. Campos, in his Método Paideia (Method Paideia), defends prevention measures with the users, and not about them, and he emphasizes that it is not sufficient *to improve information, but also ensure the ability of understanding and decision to several sectors engaged in a project, and furthermore, to have concern about the construction of new personal relationship models* [22]. Summarizing: It is only possible to have genuine adherence and effective participation of people in government's initiative or program when they are able to understand that such process meets their direct interests, and realize that it will happen only when each one takes the power and is the protagonist of their own story.

Thus, it can be evidenced that more than polemical environments, health councils shall work as co-administration tools, both participative and propositional. They should not be limited to conflicts between those who execute and the ones who charge and inspect, even if it is understood that the strategies of fighting against dengue are not restricted to merely technical measures, but also carry within them inseparable ethical and political elements. The current sanitary moment in the country requires rapprochement in such sense.

The person incorporated into the health council, as a user, health professional or administrator, assumes the ethical commitment to prioritize public and collective issues. So, their decision and actions should go in that sense, leaving in the background the individual's interests or the interests of the group they belong to. It seems to us that having in mind the sanitary bioethics' commitment may be the interesting and promising trend to join councilors and administrators and enable the co-administration of dengue control program.

One of the risks inherent to gap between administrators and users is the possibility that public policies be constructed in a reductionist manner, transforming complex sanitary problems into individual behavioral deviations, transferring the State's responsibility to the citizen, who keeps breeding grounds and refuses the visit of health agents. That kind of relationship results in "top to bottom" actions, paternalist behavior, disregarding the autonomy of the individuals, failing to take advantage of that in the sense of empowering the citizen as an important assistant in fighting against the breeding grounds [23]. That transference of the administrator's responsibility to the citizen tends to produce an effect of putting the blame on the citizen, who, as a consequence of that, may feel less interested in inspecting and requiring actions from the public administrator.

Another bioethical dilemma which frequently challenges public administrators is the mere obedience to legal or bureaucratic regulations which can bring damage to the community health. The interviewed councilors mentioned the dismissal of environmental control agents, largely experienced in actions of fighting against the vector, as response to the requirement of regularization of the agreement, existing for over twenty years, and that used to be a guarantee of continuity of those professionals. From the sanitary bioethics and the public health point of view, the dismissal of those workers jeopardized the physical integrity of the citizens and the human life quality.

In accordance with Cohen and Segre [24], an ethical posture requires a perception of the existence of a conflict and of the possibility of facing it in an autonomous and coherent way. So, it is not just a matter of obeying rules, but perceiving the conflict and taking coherent decisions, even though, sometimes, they conflict with moral rules or bureaucratic decisions. Then, in face of the context of

severe outbreak of dengue, a judicial decision of dismissing professionals in charge of fighting the vector could be perceived as a damage to the population. Thus, the greatest thing would be to postpone such dismissal, as, from the sanitary bioethics' point of view, the professionals could be kept to guarantee the fight against dengue's vector.

Another major challenge to control dengue – which spreads in urban areas, in the most varied types of containers, generally introduced in the habitat by the human being – has been the access to private properties. Sometimes the professionals in charge of the controlling services, find closed properties or have their access to the property prevented by the owners. Indeed, all effort may be compromised in case the field workers do not have access to the houses [25]. Despite the publicity made through campaigns, which alert the populations about the risks of the disease and stimulate the collaboration of all in the elimination of breeding grounds, some citizens refuse to allow the entrance of environmental controlling agents or agents from the Family Health Strategy in their houses. Many of them do not agree with the use of insecticides, mainly when it is done by vehicles which spread it in the environment (fumacê). As a consequence, the rate of pending issues – properties which have not been visited by the health agents – has been considered high.

The use of law which authorizes the entrance in private properties, even though it compromises the individual autonomy, is justified by the need of protection of the collectivity, here prevailing the utilitarian principle of obtainment of more health for the greatest number of people. However, it is important to be careful that the publicization of the law does not become more important than its implementation. In other words, the publicization of the law aiming at self-promotion or advertisement in favor of the group which is, at that moment, in the position of administrator may acquire anti-ethical traits, besides generating rejection even bigger in the collectivity in relation to the measures used to fight against the vector.

Final Considerations

Health public actions aiming at the control of dengue shall be based on sanitary bioethics, interested in the conflicts contrary to the public and private, and collective and individual interests. Administrators, workers and users should act in order to prioritize policies which benefit the greatest number of people, for the longest time, and that result in best consequences for all the collectivity, not letting private, corporate or party interests compromise their ethical commitment. Combating the vector *Aedes aegypti*, dengue, chikungunya, zika and urban yellow fever virus transmission agent, is still the most indicated strategy for controlling such diseases, and largely depends on the articulation ability among the different players involved in this struggle. We understand it is necessary to build new relationship standards among users and administrators, and also between different entities– Federal, State and Municipal Governments – with a wider ability to understand and take decisions, in the co-administration logic.

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Andréa Aparecida Romano de Souza Rodrigues has participed of the study planning, data collection and final writing of the article. Rubens Bedrikow has participated of the proposal of study, of the planning and of research orientation and final writing of the article.

Research articles

Appendix

Data Collection

Guidelines

1. How does CMS summarize the 2014 dengue outbreak in the city?
2. What has been discussed by CMS about the outbreak?
3. Which would be CMS' role in face of an outbreak like that one?
4. Which actions has CMS effectively taken?
5. How have CMS and the other agencies reacted?
6. In which way could the public agencies have avoided the great number of cases?
7. In your opinion, which reasons did not allow those measures to be successful in stopping the outbreak?
8. Has CMS discussed at any time the municipal law that authorizes the entry of inspection agents in places where they are prevented by the owner or in abandoned properties?
9. What is the opinion of the members in relation to the law?
10. Was there consensus or divergent opinions?
11. How have you perceived the reaction/acceptance of the population concerning the law?
12. What was the disclosure of the law to the population like?

Introduction of the printed photo disclosed in the public media

A. Were you together at that moment?

B. Did you know about it?

C. What is your opinion about it?

Introduction of the concept "sanitary bioethics"

A. Which were the ethical challenges that CMS faced to improve the fight against dengue?

B. How do you face the ethical deadlock of the Law as part of the fight against dengue?