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Participatory methodology as an instrument for the territorialization of Environmental Surveillance actions

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Abstract *This paper aims to show a health territorialization methodology built from the experiences of endemic control and environmental health agents in the Metropolitan Region of Recife (RMR). Ten workshops were held with the participation of three hundred Health Surveillance agents and supervisors working in four municipalities of the RMR. Techniques such as the application of questionnaires, interviews and directed discussions were used. Results indicate that the incorporation of geographical concepts to consolidate Health Surveillance field actions is incipient. The territory is predominantly adopted from an administrative perspective, and territorialization is used as a simple territorial division for the development of actions. However, there is an understanding and consensus of the need to understand the geographic knowledge, a fact that was expressed by the rich collective construction of a participatory territorialization model that should involve a range of social stakeholders. We concluded that, in practice, surveillance agents have significant abilities to participate in the territorial management and territorialization process, not only collecting data, but also mainly intervening for the collective well-being.*

Key words *Territory, Territorialization, Health Surveillance, Environmental Surveillance*

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Introduction

Environmental Surveillance has a strong geographic component in the scope of Health Surveillance. It is the monitoring of the environment as a strategy to reduce vulnerabilities and health risks of the population. This work is conceived and performed by health professionals who work from the operational scales closest to the population, vulnerabilities and risks, such as health agents, to management spheres that think, organize and distribute actions, such as municipal, state and federal managers.

Coordination between these different scales in the operational practice has shown some difficulties in the scope of territorial management, since the performance rationale of surveillance policy field operators, namely, health agents, is based on a relation of proximity and coexistence with communities. However, managerial practice builds on normative assumptions from the central sphere and on the management of human and logistic resources on an administration scale ranging from national to local health districts.

It is believed that there are great operational challenges between these two spheres of planning and operationalization of Health Surveillance actions, often due to the lack of communicative interaction between program managers and executors, which results in ineffective actions in the territory. The knowledge of geographic space and the planning of actions based on a given territorial organization can be a contribution to bring operative and management spheres closer.

These operational challenges emerge, on the one hand, from the very context of technical heritage found in current health programs. On the other, from the process of adaptation of managers of the Brazilian Unified Health System (SUS) to its progressive implementation. It is still a challenge for managers to implement public policies based on SUS principles and guidelines. There is a wide network of barriers that routinely challenge the execution of actions between conception and action.

The broad concept of health, environment and territory is incorporated into the ideology of policies, in the normatization of legal procedures and frameworks[1]; however, in the operational sphere of Environmental Surveillance, rhetoric outweighs the implementation of these concepts. Talking about territory and the environment has become almost obligatory in health policy planning, but actually, there are not so many actions that incorporate these concepts consistently. It is still much more metaphor than action!

For example, currently, thousands of endemic control agents (ACE) and environmental health agents travel across the national territory visiting properties, talking to people and intervening in the environment. Since the beginning of the 20th century, this work was conducted with the main objective of monitoring the environment and controlling possible health risk factors. It was thus with the first works of Oswaldo Cruz in Rio de Janeiro to combat yellow fever, followed by the efforts of the Brazilian government to stop malaria in the rubber producing areas in the middle of the last century[2] which are continued in relentless efforts to combat vectors transmitting arboviruses affecting the Brazilian population.

From the moment that policy operative stakeholders develop their actions mechanically, that is, without analyzing and evaluating the context in which they are inserted, metaphor will prevail over action. The "mosquito army" will continue to replicate the "same" environmental control techniques of the turn of the century, with only a change in political discourse.

Then, starting from this problem, the need arises to work on the territory and territorialization applied to Health Surveillance as a way of bringing the discourse closer to practice and the context of action. The concept of territory has already been widely discussed in its epistemological aspect[3-6] and applied to health[7-11] so as not to become just a catchword with no technical meaning. Some papers have already discussed the importance and different meanings of the territory for socio-spatial analysis. For example, Monken and Barcellos[12] and Faria and Bortolozzi[13] highlight the legacy of Milton Santos regarding the category of territory used for the analysis and planning of Health Surveillance. They reinforce the thesis that what matters in the planning and management of surveillance policies is the understanding of the use of territory as a lively space, exceeding the perspective of territory only seen as a stage.

Traditionally, territory was seen in health as a mere spatial receptacle, an institutional selection, which logic of division and of labor itself is not investigated or questioned. This merely institutional conception of the territory is pointed out as old-fashioned and limited[14-16] because it reduces the capacity to understand the territory as a political-social instance, although the same authors recognize that the health sector has traditionally always worked in this perspective and

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only recently have further discussed other essential aspects, such as the use of territory and the existing power relations.

Pereira and Guimarães[17] have evaluated the working conditions of health workers in Recife and identified too much emphasis on meeting work objectives rather than analyzing health situations. Bitoun[18] says agents at the forefront of surveillance programs cannot be seen by the superior hierarchical structures as mere data collectors, since they have a great interventionist potential in the territory.

Rigotto and Augusto[19] and Marandola Júnior[20] discuss how territory has been incorporated into Brazilian health policies, especially with a focus on actions on social inequities in environmental health analysis and public policy planning. Based on this transdisciplinary debate, we intend to show how the concepts of territory and territorialization have been addressed in Environmental Surveillance practices. As a main result, we will submit a territorialization methodology for Health Surveillance constructed in a participatory way from the experiences of surveillance agents, as well as the role of these stakeholders in this process and the main operational challenges in field practice.

Methodology

The study is applied and uses a qualitative approach. The main research techniques were the participatory research and case study[21]. The analysis' objective is focused on the studies on the meaning of action and policy evaluation[22], since one will try to use research techniques to contribute objectively to the understanding of a certain social phenomenon, as well as to propose political management tools that can be implemented in practice.

The study cutout of the Metropolitan Region of Recife consisted of fourteen municipalities with approximately 3.5 million inhabitants. We selected four municipalities, namely, Recife, Olinda, Jaboatão dos Guararapes and Camaragibe, which show a significant level of integration, but also have socio-spatial singularities that differentiate the daily operational practice of surveillance agents in the territory, besides different training processes of this contingent of workers.

After selecting the municipalities, we visited each municipal manager responsible for the Environmental Surveillance policy. The objective was to submit a proposal of workshops (Chart 1) to surveillance agents in order to discuss their daily practice focusing on actions in the territory. The idea was to devise a practical research strategy that valued the participation of social stakeholders through autonomy in the discussions and the exchange of accumulated experiences[23].

Thus, workshops were designed in partnership with the Environmental Surveillance management of the municipalities studied seeking to facilitate a greater participation of stakeholders involved. It was defined that twelve classes, each of them with forty participants, would be viable for the study, as they would be a significant sample and would meet the organizations' demands regarding the issue of continuing education. This

Chart 1. Synthesis of the methodology of workshops with Environmental Surveillance stakeholders.

1st moment	2nd moment
- Presentation of workshop objectives and participants; - Presentation of the concepts of Territory and Territorialization applied to Health Surveillance actions.	- Group dynamics with the objective of evaluating individual and collective perception about the representation of territory through music, drawings and discussion of ideas in the groups.
3rd moment	**4th moment**
- Construction of the Territorialization process; - Who does it? Why territorialize? The challenges of Territorialization. (Exhibition of the video "Territorialization and health" – Health Polytechnic School Joaquim Venâncio / FIOCRUZ); - Discussion and Debate	- Discussion of the challenges to participatory territorialization. - Strategies and tactics, territory planning and management in Health Surveillance. - Closing of workshop with synthesis of discussions and acknowledgments

calculation built on the number of agents/supervisors in each municipality. The distribution of classes adopted equitable and staff availability criteria, resulting in two classes each for the municipalities of Olinda, Camaragibe and Jaboatão dos Guararapes and six for Recife.

Municipalities were responsible for hosting classes and made available auditoriums part of the municipal health equipment. Workshops had a workload of eight hours per class, totaling eighty hours of presentations and discussions. The target audience gathered endemic control agents, field and general supervisors and in some cases counted on technicians and surveillance analysts, as well as managers, totaling approximately 300 health professionals.

Results and discussion

Participatory territorialization process

The health territorialization process advocated by Monken and Barcellos[12], Bezerra[15], Gondim et al.[16] only makes sense if conceived through the discussion with stakeholders about what does the territory represent, why territorialize and the role of health agents in this process. Thus, results discussed in the workshops brought to the forefront a unique knowledge of the ACEs in the process of participatory territorialization. Agents were asked about what the process of territorialization of Environmental Surveillance actions is all about.

According to the ACEs, territorialization is something still very far from the actual working reality of agents themselves. In most cases, such as Recife, Olinda and Camaragibe, ACEs work on a fixed territorial basis, but are commonly called out of their territories to cover areas without agents, which makes it impossible to perform a more robust work in their territory of origin. In the case of the municipality of Jaboatão dos Guararapes, the work process has already followed this rationale, but for operational reasons it was decided to adopt the random territorial base in the joint effort regime. Another factor that deserves to be further analyzed is the false idea that the distribution of areas for the work process is already configured as territorialization. Actually, this is but only one step of the whole process.

The territorialization process stages were constructed and systematized throughout the workshops by the agents themselves and reflect a proposed participation of several stakeholders in what in their view would be the ideal way to establish a working procedure in the territory. According to stakeholders, the territorialization requires, firstly, area recognition, which is called diagnosis. In this stage, it is possible to know the work location, mapping the main urban equipment and socio-environmental problems. Diagnosis is an essential step for the agent to be acquainted with the work territory before even performing interventions. This stage is part of what is characterized as understanding the context. The idea is based first on the identification, collection and analysis of information about the system of objects and actions in the territory[8]. According to the ACEs own report, actually, this is not the case, because once they assume their duty, they go to the field with another more experienced agent to learn only the work process and later continue actions. Historically, the closest procedure to area diagnosis would be the geographical recognition, which was performed by FUNASA agents to subsidize field actions, making up sketches and counting property and population. However, as a diagnostic tool, it emphasizes quantitative rather than qualitative aspects.

After the diagnosis, the second suggested step was the division of territory for the development of actions. This step depends on the first one to be well performed, since the knowledge of the area helps in the territorial division process, from the spatial specifics. Bezerra[24] discusses a territory division methodology based on the inherent characteristics of agents' fieldwork and adopts the following key variables for this process: distance traveled, geographic barriers, soil morphology and property density in the area. Actually, what happens is the random division of territorial sectors, based on a sum of property and clusters of blocks through the criterion of proximity, that is, the area is seen as a mere stage in which actions must be developed. However, both agents and managers know that this space is complex and the random distribution of stakeholders ends up not meeting the principle of equity advocated by the SUS. Thus, only conceiving territory division into a cluster of blocks for surveillance or establishing areas of primary care coverage is not territorialization; it would be overly reducing and simplifying this management tool.

The third phase is characterized by the implementation of individual territories, a stage that requires stakeholders' discussion on sectors under the responsibility of each agent, since the territorial appropriation process begins there[16], in which the ACE will seek to coordinate with several social stakeholders in their territory to submit

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their work proposal and organize community support for the development of surveillance actions. At this stage, the ACE establishes partnerships with the basic healthcare facility, schools, community leaderships, churches and religious centers, merchants, sectoral bodies and residents in general. Partnerships are very important to consolidate the territorialization process of an area, since participation of several stakeholders at the beginning of the process translates care by listening to the other and understanding the social dynamics of their workplace. In ACEs' work routine, these partnerships occur much more spontaneously than planned, since in daily routine, social stakeholders get closer to agents to point out issues and demand solutions.

The fourth step refers to the actions developed in the territory. Perhaps this is the most frequent phase in the work routine of ACEs, because actions happen regardless of the accomplishment of the previous procedures. However, the development of these actions, when carried out based on territorialization process, tends to be more successful and effective, since knowledge of the area[25] and the establishment of partnerships convey greater confidence to the population about the role of ACEs in the territory. The community sees the agent as an "insider" rather than an "outsider". When ACEs start to "belong" to the community, recognized as State representatives in that territory, their work tends to be more respected and optimized, since social barriers fall, unlike when they enter an unknown field and must conquer the trust of residents just to enter properties.

The fifth stage occurs simultaneously to the fourth, since it is data collection and evaluation. The collection facilitates the feeding of health databases that allows the description of the environmental health situation in a given context in different temporal and spatial scales. As important as data consolidation is the construction of the information that will support evaluation and decision-making by operational teams and management itself. Actually, this phase has a fragmented development, since data collection is performed daily, systematization weekly and consolidation with each cycle of visits that corresponds to approximately sixty days. However, the generation of information based on data and the evaluation itself are not always strictly followed stages, especially in the operational scope. Augusto and Branco[26] argue that the establishment of an environmental health information policy would be a good starting point for grouping data produced and generating systematized and non-fragmented information. Thus, Oliveira and Faria[27] and Brasil[28] show possible ways of working with environmental health information for the generation of indicators that can subsidize analyses and actions. This is one of the most important challenges in ACEs practice, accessing the information generated from the data collected and, more than that, being able to evaluate their work to redirect strategies in the territory. Throughout workshops, some supervisors reported that they hold evaluation meetings with the ACEs teams, but most agents and supervisors confirmed that these are rare times and generally only to address administrative and operational issues.

The last step can be characterized by feedback, both between the managerial sphere and the operative sphere and between the operative sphere and the attended populations. Once the population is willing to contribute to ACEs' actions, it has the right to know about the community's environmental health situation. ACEs' work is not limited to the practice of monitoring the environment, intervening through environmental treatment techniques and education, but also informing people in the visited properties about the health situation, based on data collected during routine visits and observations of the context. This strategy draws surveillance and population closer, since it invites within the process people who do not generally participate directly in the actions; in addition, it confers a character of co-responsibility in the field of health in that territory.

One of the greatest challenges to the implementation of this proposal is the need for effective participation of the different stakeholders. Even if they occur simultaneously, stages require their own evaluation, and the ACEs should not carry out individually this evaluation, but rather all those involved in the territorialization process. Participatory bias is fundamental for the success of actions in the territory and the decision-making based on a collective understanding of health situations. Nevertheless, ensuring social participation is not taken for granted, although ACEs mention it is essential throughout the process. Perhaps this fact demonstrates how isolated ACEs actually feel in their daily work routine.

Stakeholders and their participation in territorialization

Usually those who lead the first steps of the territorialization process are the health policy managers themselves. It should be emphasized

that, in the studied municipalities, we did not find any territorialization model based on the stages shown in the previous item. Generally, what exists is only the division of the municipality into supervision areas, and each supervision area subdivided into micro areas for ACEs' action. This stage, although only the first in the process, represents an advance in the way of conducting territory-based policies, since, prior to the decentralization of the 1990s, ACEs acted on a random basis without a fixed territorial basis. Currently, some municipalities indicate and implement fixed bases for action.

Although there is a prominence in the manager's position, through workshops, agents were asked to answer regarding who would be the other important stakeholders for a participatory territorialization. Thus, we identified ACEs (supervisors, class heads, field and operational agents); the community (leaders, councils and associations representatives and delegates from the participatory budget); schools and health facilities representatives (health professionals); private sector representatives; and sectoral bodies with a direct participation in environmental interventions in the municipality.

ACEs have the greatest capacity of subsidizing the process of territorialization; after all, they are the stakeholders acting at the forefront of surveillance programs and have the most detailed knowledge of the singularities of the territory. Pereira[29] identified how much ACEs geographical knowledge can help in the understanding of the urban space, its contradictions and operational challenges. One of the main complaints of ACEs in relation to the dialogue with management is that their proposals and suggestions are hardly heard.

According to an ACE statement: "If you place here those up there, they will not know how to point the specifics of the field. They usually do not listen to us" (verbal information). Regarding this, Bitoun[18] and Bezerra[24] affirm that between management and the forefront lies a communication gap that implies dissatisfaction of field agents and management's pressure to achieve goals. By failing to recognize ACEs' potential over their territory, the management structure minimizes their odds of implementing more effective actions in the territory.

Even in the face of this conflict, there is the realization that the process of territorialization only makes sense if it is carried out jointly. The reading of this data allows some interpretations, the first one quite positive for management, is that health surveillance's base underpinned by the ACEs is willing to collaborate in the discussion of territorialization processes, although a representative group of ACEs questions the lack of dialogue with management or, at least, complain of not being heard in their suggestions. This issue also appeared in experience reports and literature[18,24,29,30].

Most favored arguments to justify this joint construction refer to the technical capacity that managers can have to visualize the territory on a larger scale, complementing the ACEs' empirical knowledge on the territories' specificities.

Of the other stakeholders who can assist in the process, we highlight community representatives, understood here as independent leaders, directors of councils and associations, delegates of the participatory budget, etc. These stakeholders are fundamental throughout the process, because besides having a knowledge of the issues and potentialities of the communities, they exercise some power in the control of actions developed by the State. In the standpoint of ACEs, there is a difficulty in dealing with community leaders, generating a confrontation between technical and political rationale. This argument appeared in some workshops when the ACEs mentioned that some leaders seek to use ACEs work to promote themselves individually in the community. We can clearly understand from the experience report below: "The case of channel cleaning in a certain area – they want to discuss everything but the cleaning of the channel. Leaders feel like they have the upper hand and do not allow the organization of meetings by ACEs" (*verbal information*). According to many agents, most leaders are difficult people to deal with, since they treat ACEs as their own employees. In addition, excess of leaderships fighting for power in the communities makes it difficult to talk to the public power. In the same way that there are conflicts, agents also report partnerships with leaders: "Leaders help us by pointing out the problems we should address to our superiors and thank us when the solution is implemented quickly and effectively (*verbal information*)."

It is also emphasized that territory-based work in the urban setting receives the direct action of Health Surveillance and primary care. In addition, the Health Ministry proposes the progressive union of these sectors, especially with regard to the territorial base and fieldwork[31]. Thus, the stakeholders of basic health units, nurses, doctors, dentists, community health agents are very important players when we think of the territorialization of surveillance actions in the

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communities. On this subject, Borba[32] develops a methodology of integration between primary care and Health Surveillance in the municipal sphere. Gondim[33] believes that ACEs' increased focus on family health may also represent an advance in the attempt to reduce fragmentation of SUS sectors.

ACEs have divergent opinions regarding this subject. During the workshops, the question was about the relationship of ACEs with the UBS, especially with the ACS that perform similar duties. There were several responses, but there is a general perception that the ACE figure enjoys greater respect and recognition in the communities and in the health sector. An important issue that has appeared in all municipalities is the discriminatory treatment that ACEs receive at the UBS. As most UBS host ACE support, the worst spaces are often provided as support site for Environmental Surveillance. In addition, the ACEs report that there is no effective dialogue with the ACS, either in a timely or systematically, according to the account below: "UBS people unfortunately do not value the work of ACEs. It's as if they do not know that our work directly affects their work". Bezerra et al.[34] show these conflicts, emphasizing that they are more a rule than exception. Health agents with fixed and spatially close territorial bases do not communicate with each other as they should, emphasizing fragmentation. However, some ACEs have reported that the relationship with the ACS of the area is positive and there is mutual aid in the development of actions.

The other stakeholders mentioned were representatives of schools, private initiative and municipal sectoral organs. In relation to schools, ACEs do not see much contribution from school administrators, except in the aid of educational actions that must be carried out continuously with children and young people. One of the experience reports pointed to this issue: "The work of health and environmental education in schools is important because there are cases in which children remember the educational actions promoted by the ACEs in schools and intercede with parents to facilitate our access to households" (*verbal information*). On the other hand, traders and industrialists must participate in the territorialization process insofar as their properties are very representative for the size, nature or even intense movement of people, and can work as a space for multiplying information. Finally, the participation of sectoral bodies can ensure greater effectiveness of intersectoral actions. When the representatives of these bodies feel part of the process and are familiar with the local reality, the possibility of a relationship of trust with the environmental health teams to intervene in problems of the territory of action opens up.

In general, the full participation of all these stakeholders has not yet been tested by any of the municipalities studied. The proposal submitted here could be a way of generalizing a participatory methodology to work territorialization aspects with the objective of mitigating local environmental issues and ensuring the social control of the process. Social stakeholders should play their citizen and public agent role, but also monitor the implementation of public policies in the municipality. It should be stressed that the conception of ideas started from the ACEs based on the experiences of these players in their routine actions.

Final considerations

The results and information discussed in this paper, while investigated at the local level, can be taken nationally because of the similar surveillance work process and discussion found in literature. Thus, we will now highlight some important challenges to the process of understanding and applying territorialization in Environmental Surveillance.

Firstly, it should be noted that Health Surveillance agents are not the only ones in the territory; they are part of a larger network and must learn to deal with other political projects there. These political projects at the local level will impose operational challenges that managers and agents must incorporate into daily practice, with the understanding that this is part of the territorial dynamics, so one cannot think of territory in the topographical-red tape perspective, but rather as a complex system which involves political disputes that decisively guide interventions.

Another challenge refers to the specificities of the territory, characterized by the physical and social conditions of the environment that can generate constraints on agents' performance. These conditions are represented by geographical characteristics of the areas, from flooded areas to hilly areas, as well as different urban morphologies that condition to a greater or lesser difficulty surveillance work, such as areas with scattered properties and areas with high property density.

An obstacle that often hinders actions in the territory refers to the different languages used in

household visits. Due to socioeconomic differences that characterize territories, it is sometimes necessary to use different communication techniques to achieve work objectives. This language adaptation is not only intended to bring the agent closer to the community, but especially to make the message transmitted to the recipient clear. In the poorer areas, intervention work tends to be stronger, due to the precarious conditions of infrastructure, which does not exclude educational work. In upscale areas, monitoring is performed with fewer interventions (chemical and mechanical treatment).

In the operational field of territorial management, an ongoing effort needs to be devoted to dialogue between field stakeholders and management. The lack of dialogue or the unilateral process wears out a relationship that due to work's nature has to be good. There are many complaints from ACEs who argue that they are not heard or that their claims have not been met. Dialogue should be encouraged, because there is no room for arbitrary decisions in the participatory territorialization process.

Another current challenge is to ensure sufficient human resources to uphold the principle of universality. Failure to guarantee a complete ACE team in the field generates a ripple effect in surveillance actions, from territories temporarily not covered by differentiated work strategies, such as joint effort schemes, which is not good for territorialization because it does not bind a particular stakeholder to a fixed territory. Something similar is the turnover of agents and teams in different territories, whose objective is not to fix an ACE/supervisor in a territory for a long time in order to avoid getting too comfortable at work, but that hinders the ACE/community collaboration process.

Finally, one of the operational challenges to the territorialization of health surveillance is the poor communication between stakeholders of environmental, epidemiological and health surveillance. As we have already pointed out, integration between these spheres can ensure a better implementation of surveillance policies, but if these are treated singly, these advances will not be perceived.

Collaborations

ACV Bezerra worked on the design of the text, implementation of workshops and final writing. J Bitoun guided and made the critical review of the work.

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References

1. Ramos RR, Machado CJS. Contribuições teórico-metodológicas para o estudo das relações entre saúde, meio ambiente e território. *HYGEIA*, *Revista Brasileira de Geografia Médica e da Saúde* 2010; 6(11):80-90.
2. Varga IVD. Fronteiras da Urbanidade Sanitária: sobre o controle da malária. *Saúde Soc* 2007; 16(1):28-44.
3. Raffestin C. *Por uma Geografia do Poder.* São Paulo: Ática; 1993.
4. Claval P. O Território na transição da pós-modernidade. *Geographia* 1999; 1(2):7-26.
5. Saquet MA. As diferentes abordagens do território e a apreensão do movimento e da (i) materialidade. *Geosul* 2007; 22(43):55-76.
6. Souza MJL. O território: sobre espaço e poder, autonomia e desenvolvimento. In: Castro IE, Gomes PCC, Correa RL, organizadores. *Geografia: conceitos e temas.* Rio de Janeiro: Bertrand Brasil; 2001. p. 77-116.
7. Pereira MPB, Barcellos C. O território no Programa de Saúde da Família. *Hygeia - Revista Brasileira de Geografia Médica e da Saúde* 2006; 2(2):47-59.
8. Monken M. Contexto, território e processo de territorialização de informações: desenvolvendo estratégias pedagógicas para a educação profissional em saúde. In: *A geografia e o contexto dos problemas de saúde*. In: Barcellos C, organizador. Rio de Janeiro: Abrasco, ICICT, EPSJV, Saúde e Movimento; 2008. n. 6. p. 141-164.
9. Monken M, Barcellos C. O Território na promoção e vigilância em saúde. In: Fonseca AF, Corbo AD, organizadores. *O território e o processo saúde-doença.* Rio de Janeiro: EPSJV/Fiocruz; 2007. p.177-224.
10. Monken M, Peiter P, Barcellos C, Rojas LI, Navarro MBMA, Gondim G, Gracie R. O Território na saúde: construindo referências para análises em saúde e ambiente. In: Miranda AC, Barcellos C, Moreira JC, Monken M. organizadores. *Território, Ambiente e Saúde*. Rio de Janeiro: Editora Fiocruz; 2008. p 23-42.
11. Guimarães RB. Política nacional de saúde, concepções de território e o lugar da vigilância em saúde ambiental. *Hygeia. Revista Brasileira de Geografia Médica e da Saúde* 2008; 4(7):90-99.
12. Monken M, Barcellos C. Vigilância em saúde e território utilizado: possibilidades teóricas e metodológicas. *Cad Saude Publica* 2005; 21(3):898-906.
13. Faria RM, Bortolozzi A. Espaço, território e saúde: contribuições de Milton Santos para o tema da geografia da saúde no Brasil. *RA´E GA* 2009, 17:31-41.
14. Mendes EV, Teixeira CF, Araújo EC. Distritos Sanitários: conceitos chaves. In: Mendes EV, organizador. *Distritos Sanitários: processo social de mudanças nas práticas sanitárias para o Sistema Único de Saúde.* São Paulo: Hucitec; 1993. p. 159-185.
15. Bezerra ACV. Discutindo o território e a territorialização na saúde: uma contribuição às ações de vigilância em saúde ambiental. *Revista de Geografia* 2015; 32(3):222-244.
16. Gondim G, Monken M, Rojas LI, Barcellos C, Peiter P, Navarro MBMA, Gracie R. *O território da Saúde: a organização do sistema de saúde e a territorialização*. In: Miranda AC, Barcellos C, Moreira JC, Monken M, organizadores. Rio de Janeiro: Editora Fiocruz; 2008. p. 237-256.

17. Pereira MPB, Guimarães RB. Condições de trabalho do agente de saúde do PSF e PSA a partir do discurso dos sujeitos. *Anais da VII Jornada do Trabalho* 2007, Presidente Prudente-SP. p. 57-66.
18. Bitoun J. O espaço geográfico na vigilância ambiental em saúde: interações operacionais no Programa de Saúde Ambiental do Recife. In: Augusto LGS, Carneiro R, Martins PH, organizadores. *Abordagem ecossitêmica em saúde. Ensaios para o controle da dengue*. Recife: Ed. UFPE; 2005. p.279-284.
19. Rigotto RM, Augusto LGS. Saúde e ambiente no Brasil: desenvolvimento, território e iniqüidade social. *Cad Saude Publica* 2007; 23(4):475-501.
20. Marandola Júnior E. Novo olhar sobre o espaço: território e vulnerabilidade. *Cad Saude Publica* 2007; 23(Supl. 4):S475-S501.
21. Minayo MCS. *O desafio do conhecimento: pesquisa qualitativa em saúde*. 12ª ed. São Paulo: Hucitec; 2010.
22. Deslauriers JP, Kérisit M. O delineamento de pesquisa qualitativa. In: Poupart J, Deslauriers JP, Groulx LH, Laperrière A, Mayer R, Pires AP, organizadores. *A pesquisa qualitativa: enfoques epistemológicos e metodológicos.* Petrópolis: Vozes; 2008. p. 127- 153.
23. Tripp D. Pesquisa-ação: uma introdução metodológica. *Educação e pesquisa* 2005; 31(3):443-466.
24. Bezerra ACV. *Subsídios à Gestão Territorial do Programa de Saúde Ambiental: contribuição da geografia à construção de mapas operacionais para territorialização dos Agentes de Saúde Ambiental no Recife-PE*. Recife: Ed. Universitária; 2008.
25. Barcellos C, Rojas LI. *O território e a vigilância em saúde.* Rio de Janeiro: Fiocruz, EPSJV, Proformar; 2004.
26. Augusto LGS, Branco A. Política de informação em saúde ambiental. *Rev. Bras. Epidemiol.* 2003; 6(2):150-157.
27. Oliveira MLC, Faria SC. Indicadores de saúde ambiental na formulação e avaliação e de políticas de desenvolvimento sustentável. *Revista Brasileira de Ciências Ambientais* 2008; 11:16-22.
28. Brasil. Ministério da Saúde (MS). *Saúde Ambiental: Guia básico para construção de indicadores*. Brasília: MS; 2011.
29. Pereira MPB. *Conhecimento geográfico do agente de saúde: competências e práticas sociais de promoção e vigilância à saúde na cidade do Recife–PE* [tese]. Presidente Prudente: Universidade Estadual de São Paulo; 2008.
30. Albuquerque KM. *Saúde e Ambiente no nível local: Avaliação das Ações do Agente de Saúde Ambiental (ASA) na Cidade do Recife* [dissertação]. Recife: Fundação Oswaldo Cruz; 2005.
31. Brasil. Portaria nº 1.007, de 4 de maio de 2010. Define critérios para regulamentar a incorporação do Agente de Combate às Endemias - ACE, ou dos agentes que desempenham essas atividades, mas com outras denominações, na atenção primária à saúde para fortalecer as ações de vigilância em saúde junto às equipes de Saúde da Família. *Diário Oficial da União* 2010; 5 maio.
32. Borba CS. *Plano de Integração da Territorialização entre a Vigilância à Saúde e a Atenção Básica no Município de Abreu e Lima* [monografia]. Recife: Fundação Oswaldo Cruz; 2010.
33. Gondim GMM. *Territórios da Atenção Básica: múltiplos, singulares ou inexistentes.* [tese]. Rio de Janeiro: Fundação Oswaldo Cruz; 2011.
34. Bezerra ACV, Bastos PF, Bitoun J. Agentes de saúde ambiental (ASA) e agentes comunitários de saúde (ACS) na cidade do Recife: por que atores de uma política local agem tão distantes? In: *Anais do III Simpósio Nacional de Geografia da Saúde/ II Fórum Internacional de Geografia da Saúde: Geografia, medicina e saúde*: do diálogo de saberes aos desafios da espacialização do processo saúde-doença; 2007; Curitiba–PR. p. 234-248.

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