Perception of municipal health managers regarding environmental health: Cerrado Araguaia Tocantins intermunicipal health consortium

Percepção dos gestores municipais de saúde relacionada à saúde ambiental: consórcio intermunicipal de saúde Cerrado Tocantins Araguaia

Abstract

The initiatives of health consortiums (CIS), still little explored in Brazil, promote decentralization strategies toward overall goals of SUS for regionalization and the hierarchy of the offered services. These are innovations in the public sector to improve its management, provide specialized services and increase technological density for population, because the joint action between the municipalities may bring environmental and economic gains for these public services. The prospective study aimed to analyze the perception and actions of municipal managers that compose the intermunicipal Cerrado Araguaia Tocantins consortium, with regard to environmental health problems in the northern region of the state. Semi-structured interviews of 46 managers were analyzed through the discourse of the collective subject proposed by Lefèvre and Lefèvre, which revealed a broad view towards recognition of environmental health: the existence of local environmental problems that directly affect the population. However, there is no known interaction from the government on planning political and administrative actions of environmental health. The different parts involved in this subject, including those who work in the researched consortium, need to have a clear view of their participation in an active way, and that the organizational structures may support needed intersectoral strategies to meet
the demands of today’s health problems, including environmental problems.

**Keywords:** Intermunicipal Health Consortiums; Environmental Health; Primary Care; Social Representation; Discourse of the Collective Subject.

**Introduction**

Most Brazilian municipalities, especially those farther from a central economy and with low population levels, have presented difficulties in achieving the Brazilian Unified Health System (SUS), as a result of different factors such as difficulties in the supply of qualified human resources, access to the use of technologies, and the lack of adequate physical structures. In this context, the intermunicipal health consortia (CIS) are an innovative practice of health management in Brazil and are a way to provide the assistance required to the well-being, from the most elementary levels to the most complex ones (Rodrigues, 2012; Lima, 2000).

The initiatives of intermunicipal health consortia, still little explored in Brazil, promote decentralization strategies towards the general aims of SUS for the regionalization and the hierarchization of the provision of services. This initiatives are innovations of the public sector that can be included among predominant initiatives for the reform of the State, for a better management and provision of specialized services and greater technological knowledge to the population, considering that the joint action between the municipalities may make feasible environmental and economic gains in the provision of these public services.

The state of Tocantins has 39 municipalities, distributed in a land area of 277,620,914 km², with population density of 4.98 inh/km², has 576 health establishments of SUS (IBGE, 2010) and is composed of eight regionals of health.

The Cerrado Araguaia Tocantins Health Region comprises 23 municipalities, totaling a population of 146,205 inhabitants, being Guaraí the central city for other municipalities members of that region. Thus, all organizational and administrative actions developed by the Cerrado Araguaia Tocantins Intermunicipal Health Consortium arise from the central city, along with all other municipalities.

As methodological procedure, we opted for the proposal of the Discourse of the Collective Subject - DCS (Lefèvre; Lefèvre, 2003), associated with the Qualiquantisoft software, based on assumptions of the Theory of Social Representations (Jodelet, 1989).
The article is divided into topics that constitute the theoretical basis of the research and are related to each issue elaborated and presented to the subjects of the research, through interviews, allowing the analysis of DCS for the time of discussion.

For this research, the main objective was to analyze the perceptions of municipal managers that compose the Cerrado Araguaia Tocantins CIS regarding the environmental health problems in the northern region of the state. As specific objectives, we aimed to analyze how environmental health is addressed in the basic health care according to some aspects, such as resources, planning, implementation, and to describe the role that the CIS has had in the development of strategies in the area of environmental health.

Methodological procedures

The DCS as research strategy

As a technique of statement’s processing, the DCS consists in combining, in the form of exclusive discourses written in the first person singular, contents with similar meanings. These contents of equal meaning try to cause a “collectivity speaking” effect on the readers and, for allowing an additional semantic density on social representations, make the deponents appear in an “robust”, developed, enriched, deployed way (Lefèvre et al., 2009).

As a method or search strategy, the DCS promotes the emergence of social representations with a greater volume of content (key phrases). On the other hand, this same content reinforces the identification and appointment of groups of statements with similar meanings, as well as the distinction of sets that present different anchors (Lefèvre et al., 2009).

For the content of the individual statements to become social representation, we need to build it as a narrative discourse that connects a given opinion to the researched subject, because only a narrative text is able to convey one or more meanings revealing different opinions.

Finally, we must recognize that these texts relate to the chosen theme through strategically developed questions, in a way to make the given answers constitute the best possible access to social representations (Lefèvre et al., 2009).

Participants for data collection

For this research, we defined as sample the set of two managers of each municipality of the Consortium, in the positions of Municipal Health Secretary and Coordinator of Basic Health Care. The sample amounted to 46 representatives of the municipalities.

We established some criteria for the selection of the research subjects:

1) being a city manager and part of the Cerrado Araguaia Tocantins intermunicipal health consortium, acting in the Basic Health Care;
2) having voluntarily accepted to participate in the study;
3) signing the informed consent form.

As the procedure for obtaining information, a semi-structured interview script, consisting of eight open questions was designed, based on the objective proposed by the study.

A pre-test was conducted in the neighboring municipalities Miranorte and Fortaleza do Tabocão (members of other health regional center), to verify the information gathering ability of the semi-structured script that guided the interviews. The interviews were recorded by prior approval and signing of the informed consent form.

Due to the difficulties of displacement in routes/itineraries between the municipality of Guaraj and other municipalities of the Consortium, because of commitments and frequent postponements and/or cancellations of the interviews by the managers and the precarious conditions of regional roads, the researcher has requested an agenda point in five meetings of the Regional Intermunicipal Consortium, in order to carry out the interviews with the managers of 46 municipalities members of the Consortium. Her request was accepted.
Analytical procedures

After the interviews, the information collected and subsequently transcribed were analyzed by means of the methodology of the discourse of the collective subject (DCS), which seeks to describe and interpret social representations (Rocha et al., 2011).

The proposal of the DCS (Lefèvre and Lefèvre, 2003), associated with the Qualiquantisoft software (www.spi-net.com.br) and based on assumptions of the theory of social representations (Jodelet, 1989), enumerates and lists a series of possibilities on the content of the statements collected in the interviews, using open questions. The Qualiquantisoft software has a highly discriminating function, or paradigmatic and qualifying, allowing to identify and distinguish each direction or opinion present in statements or semantically equivalent sets of statements (Lefèvre, 2012).

At the end of the process, the DCS presents collective statements developed from the individual statements, conveying an opinion or position, with the purpose of producing the effect of a collective opinion on the receiver, as if speaking directly by the “mouth” of a single discourse subject.

This method proved suitable for this research in terms of data analysis, since it encompassed different synthesized and analyzed statements. In this way, to collect the different statements, certain common elements that drafted the collective discourse were noticed, constituting the social representations which characterized the interviewed group.

In this sense, the speeches brought, within them, the set of key expressions from the statements, which contain central ideas and/or anchors with similar characteristics. This procedure allows the expression of certain opinions or positioning on a theme considering social and cultural aspects (Alcântara; Vesce, 2009).

The DCS establishes a bridge between popular and scientific knowledge, starting with the reconstitution of a collective thinking based on the theory of social representations, enabling to access common knowledge, treating the subject as possessors of a shared rational and cognitive character (Oliveira Junior et al., 2013).

The option to submit the results of this research followed the technique of tabulation and organization of qualitative data. To get to the results, we used the discourse analysis tools (DAT) 1 and 2, with three methodological figures: key expressions, central idea and the discourse of the collective subject. In this case, the key expressions are the methodological figure that reveals the essence of the statement. In other words, it is what the individual said about a particular topic. The central idea is to describe the meaning of the key expressions.

For the construction of DCS, we developed an analysis under an overview of theories of social representations, aiming at building a renewed understanding of nature and the operation of social representations.

Results and discussion

The answers of the interviewees were organized in boxes for each of the questions, showing the DCS. In all boxes below, opting for the reliability and no distortion of the speeches, we present them in full, as generated by the Qualiquantisoft software.

Box 1 presents the perception of managers on health promotion as a strategy to verify the degree of knowledge regarding a theme, for it is this perception that directs, mostly, health planning in the municipalities.

Health promotion emerges as an important answer, aiming to overcoming the biomedical model of health-disease process. However, for the universe of this study, the DCS shows the maintenance of the health-disease binomium, as it relies on educational activities aimed at the prevention of diseases.

Incurring on the living conditions of the population, health promotion goes beyond the provision of clinical and social assistance services. It assumes cross-sector actions involving, for example, education, housing, income, sanitation, nutrition, occupational health, environment, leisure and access to goods and essential services (Azevedo et al., 2012; Sículo; Nascimento, 2003).

In this perspective, health promotion assumed health as a social production and went on to enhance the social, economic and environmental determinants to stimulate political commitment and
Box 1 – Managers of the Tocantins Araguaia Region Intermunicipal Health Consortium and the understanding of health promotion

DCS

It is to be fit to convey to users the issue of improvements for health promotion [...] It is to promote educational actions for the population not to get sick [...] It is the joining of several educational and preventive methodologies with aim of reaching actions and living conditions [...] To promote policies, plans and programs for public health, to teach the population to take care of their health [...] Plans, programs with actions focused on helping people not to acquire diseases [...] Health professionals and managers promote actions to avoid people falling ill [...] Working beforehand with pregnant women, hypertensive people, students and all the community.

cause social transformations. The Ottawa Charter, designed in 1986, still stands as the centerpiece of the strategy targeting health promotion throughout the world, especially when emphasizing the social dimension and the importance of five key strategies to achieve full health: public policy, healthy environment, strengthening of community action, creation of personal skills, and reorientation of health services (Heidmann et al., 2006).

Observing the following excerpt from the DCS: “To promote educational actions for the population not to get sick”. We did not notice the interaction of Government and health services with other social and productive sectors or actions directed at individuals, families and communities aiming to improve living conditions and health.

The municipal consortia favor health promotion strategies towards general objectives of SUS for the regionalization and tiering of the provision of services, including, among others, the creation of favorable environments to health, strengthening of community action, development of personal skills, and reorientation of health services (Neves, 2001).

Box 2 presents the understanding of managers about environmental health and is at the base of the understanding of the interrelationship between health and the environment, critical to promote the integration of the environmental dimension in health actions in the municipalities.

The DCS points to the recognition of the environmental health theme, the existence of local environmental problems, and the necessity of preserving the environment, recognizing that these problems directly affect the health of the population. However, still according to the DCS analysis generated by the interviews, again, it points to the maintenance of the health-disease binomium and not to its extension and overcoming by understanding the environment-health relationship as intrinsically related and fundamental factors to environmental health, identifying strategies for reversing the current Brazilian health care model (Silva; Andrade, 2013).

The conception of environment and its relationship to health, described in the 1st National Seminar on Health and Environment with Social Control (Brasil, 2013), considers it as a complex socioeconomic system, hierarchically organized, diversified (with social, cultural, historical, physical, and chemical components) and that, in addition to the energy flows, comprises the flows of social relations.

It is worth mentioning that, despite the recognition of the role of social and economic determinants and constraints on people’s health situation, including in them the environmental issues, the field of actions and interventions still focuses on diseases. Such situation shows that the progress of the last decades in the concept of health has overcome the forces that underpin the biomedical paradigm and the biological focus regarding health and disease concepts.

In Brazil, the Ministry of Health has translated the concept of WHO as “the working field of Public Health that deals with ways of life, of substances and conditions around the human being, that can exert some influence over their health and their well-being” (Brasil, 1999, p. 96).

In this sense, it is a vast field of study, involving professionals from various fields, highlighting the cross-sector approach in planning concrete actions to promote environmental health.
Box 2 – Managers of the Tocantins Araguaia Region Intermunicipal Health Consortium and the understanding of environmental health

| Environmental health is the protection of the environment where we will avoid burnings, prevent siltation of rivers, because protecting the environment, people’s health is also protected. We have to avoid burnings because many people suffer from respiratory diseases […] It is to worry about the environment, in which people are inserted, deforestation, burnings, garbage on the streets. […] Environmental health aims to improve society’s health, not only concerning pathology, but also take care of the ecosystem, the environment in which society coexists. […] For me, environmental health is the environment, where we live, the air we breathe, is to take care of plants, of our rivers, our streams, not to throw garbage on the side of roads […] it is everything related to the environment. For example, we have to take care of the water, soil, sewage, burnings […] Preserve the recycling issue, the issue of garbage incineration, which has an illegal effect. I believe that all municipalities should have appropriate landfills; they assist in the prevention of environmental health. |

Box 3 – Managers of the Tocantins Araguaia Region Intermunicipal Health Consortium and the description of environmental problems that affect the region

| Box 3 presents environmental problems that managers experience and the ability of resolving and integrated actions with other departments and potential interlocutors in each municipality. |

| Environmental problems are related to the issue of burnings, and with the increased production of soybeans there is the unappropriate use of insecticides, and we still have the issue that the region had a lot of mining, the issue of soil contaminated by mercury. […] This is dirt in the river, right, pollution, we don’t have basic sanitation as we should have, the issue of sewage treatments that we don’t have in the city yet, that’s it. […] The use of pesticides in crops that are contaminating rivers and water sources […] The region is affected by burnings and has problems with the toxic waste, which contaminates the water sources, being common to find dead fish […] It’s the burnings, and the garbage too. We don’t have a landfill, that doesn’t cause big problems […] Water pollution is an environmental pollution. […] Deforestation, burnings, erosion of rivers, contamination by using pesticides that are used on sugar cane, soy plantation. […] Burnings and the use of pesticides that pollute the rivers. |

Box 3 presents environmental problems that managers experience and the ability of resolving and integrated actions with other departments and potential interlocutors in each municipality.

The DCS points to the recognition of environmental problems, as observed in this excerpt: “Burnings, which usually develop a lot of respiratory problems, the other is the issue of vacant lots that are often not properly managed by the owners, encouraging the development, for example, for there to be cases of dengue, leishmaniasis, diseases directly linked with the control of the environment. […] Environmental problems are related to the issue of burnings, and with the increased production of soybeans there is the unappropriate use of insecticides, and we still have the issue that the region had a lot of mining, the issue of soil contaminated by mercury. […] This is dirt in the river, right, pollution, we don’t have basic sanitation as we should have, the issue of sewage treatments that we don’t have in the city yet, that’s it. […] The use of pesticides in crops that are contaminating rivers and water sources […] The region is affected by burnings and has problems with the toxic waste, which contaminates the water sources, being common to find dead fish […] It’s the burnings, and the garbage too. We don’t have a landfill, that doesn’t cause big problems […] Water pollution is an environmental pollution. […] Deforestation, burnings, erosion of rivers, contamination by using pesticides that are used on sugar cane, soy plantation. […] Burnings and the use of pesticides that pollute the rivers.

In addition, when mentioning the domestic waste or urban waste and their incineration by individuals, urban environmental degradation is enhanced, compromising the environmental health. The problems described are evidence of contemporary environmental issues and have direct impact on health and quality of life of the local community.

In this socio-environmental context, substandard housing are proliferated. The result is an increase in the number of families exposed to numerous health risk factors related to the quality of the housing, such as thermal conditions, humidity, presence of mold, poor ventilation, great density of individuals per room, infestation by insects and rodents, as well as factors associated with non-availability of essential basic services such as water, sewage, and garbage collection (Abrasco, 2009).

With the situation described, health managers should expand health promotion actions. As Ianni and Quitério (2006) advert, not just the interre-
relationships between environmental degradation and health are already established, but also, on the other hand, the understanding of how vital it is to maintain the integrity of ecosystems and the preservation of biodiversity, ensuring the continuity of environmental services and support to the way of life of traditional communities.

In the environment, the processes of social and economic production and development affect ecological relationships when determining and contributing to the existence of risk conditions that influence the pattern and levels of public health, in which changes may occur in their profile of morbidity and mortality, based on different sources and methods of pollution (accumulation of abiotic elements causing diseases) and of contamination (presence of biological agents of diseases) (Araújo et al., 2009).

The expansion of deforestation, burnings, solid domestic waste, expansion of agriculture and pesticides and pollution of water sources (rivers and streams) are factors that are associated with the increase of tropical and neglected diseases such as malaria, and contagious diseases, such as diarrhea. Yet, it is considered that the contamination of the environment by chemical pollutants (pesticides and medicine residues, for example) is an important factor in the generation of harms to health.

Box 4 presents the vision of planning of municipal managers about actions in environmental health and its relationship with access to available financial resources, characterized by a strong dependency of resources from the State and the Union.

The DCS shows that health planning is still tied to financing with resources from the State and the Union, releasing the municipality of plan actions and develop strategies linking the improvement of local health conditions with the need for federal funding, subjected to the approval of projects.

The DCS also reiterates the lack of municipal resources and consequent dependence on federal funding. That is, health promotion depends on the achievement of projects related to federal health programs through funding. Thus, it is the role of municipalities to execute such programs.

This finding allows the perception of managers without initiatives, without planning and without actions or strategies towards the municipality, which, in part, highlights the lack of municipal investment in health, based on the lack of health professionals or limited resources for salaries. The fact of only executing projects and programs highlights the disassociation of the Department of Health in its own health promotion and the disassociation of other departments that could be involved in actions within the projects and programs financed by the Brazilian Ministry of Health.

CIS is an autonomous initiative of municipalities that are linked to manage and provide specialized services and of support to diagnostics of higher technological knowledge to the population of the participating municipalities, in a joint manner.

From a legal point of view, the consortia are legal entities of private partnerships, allowing them greater administrative flexibility, hiring of personnel according to market logic, with payment of competitive salaries to specialists, also offering bonuses for

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<th>Box 4 – Managers of the Tocantins Araguaia Region Intermunicipal Health Consortium and planning of access to financial resources and the development of actions of basic care in environmental health</th>
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*First, we do the survey, the project, writing projects, both programmatic and financial, are forwarded to Brasilia to get funds, and after approved for carrying out the activities, [...] We plan on our actions in health, which last for four years. There is a series of actions, but the money you receive is too little, not even enough to pay for the server and provide the services, typically, that is the role of the municipality. [...] In fact, we do a four-year plan of health and we end up including some environmental issues, but it’s not something regarding environmental health specifically [...] There is a department responsible for this, I can’t even tell you how they work there, there is the secretary and the coordinator of the environment [...] Environmental health programs are discussed with the team, establishing the basis for the elaboration of a RAD plan. The implementation is not more effective only because of lack of work force.*
productivity, which would enhance the performance of professionals and increase the quality of the services provided (Rodrigues, 2012; Teixeira, 2003).

Box 5 presents the main interlocutors involved with environmental health issues cited by the managers as a way to highlight the level of responsibility in the process of planning actions to promote environmental health.

The DCS points to different interlocutors, with differentiated and structured roles and assignments according to their specificities. You can organize these interlocutors in two sets: (a) public authority, constituted by City Hall, Department of Health, Department of Environment and their professionals; (b) civil society, namely, churches, merchants, radio stations, community associations, and local residents.

When mentioning city halls as the first or main interlocutors, DCS denotes a direct dependency on planning health promotion actions to the mayor, limiting, in part, the planning and/or conditioning it to the perception that this social actor has about health services and, consequently, about the resources that could be addressed for these services.

Here, a challenge to the Consortium: to mobilize the organized civil society for a study of the environmental health situation in the municipalities, in order to plan actions for health promotion.

Box 6 presents the level of knowledge that managers have about the Ação Primária em Saúde Ambiental [Basic Care in Environmental Health] (APRIMA), which will interfere with the planning and performance of integrated practices between different municipal departments in promoting environmental health.

The DCS shows that interviewees know little or nothing about the existence of APRIMA and its strategy, which contributes to the lack of collective works between the different municipal departments in promoting environmental health.

It is clear that there is a “critical node” regarding the ignorance of the APRIMA concept on the part of municipal managers interviewed. In these cases, it is necessary the development of qualification actions in the State Board of Health and other instances of social control; to strengthen popular movements; to establish partnerships with civil society; to work the insertion of the “National Policy of Environmental Health” in the three levels of government, based on a pedagogical model that considers its principles and guidelines and the qualification of multipliers who have experience in social control; to establish the possibilities of integrating the discussion and construction of sustainable economic models to environmental health and promote financing with criteria for use of “clean technologies” (Brasil, 2007, p. 49).
Box 7 – Managers of the Tocantins Araguaia Region Intermunicipal Health Consortium addressing the region’s environmental problems

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<td>Then, when this consortium actually works, we’re going to have an, you know, an environment far more attenuated [...] We need to move forward with the consortium, for controlling burnings, for water quality control, whether of the soil, or of the air [...] When there is a commitment of managers, not only of the city, not of the regions, thinking about the future of Brazil [...] When the consortium deals with the financial issue, the fundraising along with governmental, local, state authorities, and municipal guidelines. [...] When everyone understands that health is working strategies.</td>
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Box 7 shows the ways of addressing the municipal environmental problems developed by managers and their degree of commitment to environmental health.

The DCS reaffirms the administrative territory, the municipality, having no view or perception of the area covered by the Consortium beyond the municipal limits and boundaries. In this case, the problem, when there is one, is always “of the other municipality”, and never of the note of concrete actions undertaken by the municipality of its administrative responsibility. That is, “[...] when the other or all, at the same time, do” the problems will be solved, and the Consortium will work in its fullness, i.e., it will achieve its purposes.

The public health consortia were defined by Rocha and Faria (2004) as the union or association of two or more federated entities aiming at solving management problems and provision of services in a specific region. They represent the pursuit of common objectives, using cooperative human resources, regional and collective planning, materials available.

Overcoming the limits and the boundaries of the Consortium, in terms of actions and strategies to promote environmental health, has been a matter of great difficulty in the implementation and monitoring of public health policies, particularly in the political, economic, and health care dynamics, but which, overall, causes problems in the implementation of health plans and programs.

Throughout the development of the research, some obstacles have emerged and demanded resilience, for example:

The organization of the structure of health services of some municipalities studied did not present a coordinator of the basic care, allowing a high turnover of people hired by political influences;

Difficulty of compliance with schedules of the interviews, caused by unavailability of managers who would participate in the research, forcing new schedules and delaying the schedule of work.

Final remarks and recommendations

The intermunicipal consortia occupy a strategic position in the hierarchical organizational structure of municipalities, allowing the development of cross-sector strategies and practices. These consortia have autonomy necessary for building partnerships and planning that go beyond political and administrative boundary of the municipalities, which is essential for an approach in environmental health.

This study, of qualitative approach, proposed a descriptive approach to the achievement of environmental health in the Araguaia Tocantins Cerrado Intermunicipal Health Consortium, a discussion still incipient on the current academic scenario.

The results obtained suggest a dichotomy between the vision of the theme expressed by the standards and the legislation in force and its operationalization, through central ideas contained in the discourses of the municipal subjects of the researched consortium. Is not identified a symmetry between the discourse of different subjects and the discourse contained in theoretical references of public health policies.

The DCS analysis generated by the interviews points to the maintenance of the health-disease binomial and not to its extension and overcoming based on the understanding of the environment-health.
relationship as intrinsically related and fundamental factors to environmental health, in addition to identifying strategies for reversing the current Brazilian health care model (Silva; Andrade, 2013).

The results also point to issues related to the incorporation of environmental health by inter-municipal consortia, but, mainly, to the capacity of SUS to modify the model of care and walk towards the deployment and implementation of the model of health surveillance. Therefore, the different subjects involved, including those who work in the researched consortium, need to have a clear view of their participation in an active way, and that the organizational structures may support cross-sector strategies required to meet the demands of current health problems, including environmental problems.

The DCS highlights that health planning is still tied to financing with resources from the State and the Union, releasing the municipality of planning actions and developing strategies, linking the improvement of local health conditions with the need for federal funding, subjected to the approval of projects. This finding allows the perception of managers without initiatives, without planning and without actions or strategies towards the municipality, perceived in the lack of municipal investment in health, lack of health professionals or limited resources for salaries.

Lastly, the DCS shows that managers know little or nothing about APRIMA and its strategies, which contributes to the lack of collective works between the different municipal departments in promoting environmental health. Thus, it is necessary the development of qualification actions in the State Board of Health and other social control instances.

SUS faces the challenge of modifying the still hegemonic health care model in current health practices. To effect these changes, they must be concomitant with the changes in the education process of health professionals, which is still focused on the care perspective.

References


RIGOTTO, R. M.; AUGUSTO, L. G. S. Saúde e ambiente no Brasil: desenvolvimento, território e


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**Authors’ contribution**

Morais was responsible for developing the project, collecting and analyzing the data, and writing the article. Chaves guided all steps of the study and participated in the revision and writing of both the project and the article.

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