Globalization has caused the circulation of viruses and bacteria on a global scale, compelling health authorities to pay attention to the dynamics between space and diseases. Consequently, the World Health Organization (WHO) plays an essential role concerning knowledge production and information spreading as a health standard regulation. Using discursive practices analysis, about disease control, through document analysis written by the WHO where arise discussions about biopolitical strategies and spatiality production. In those documents the national spatialities are produced and valued according to the prevention and control of diseases capacities in each country member, especially in crisis periods.

Keywords: Disease. Health. Pandemic. WHO. Spatialities.
Introduction

The increase of globalization process has caused a greater permeability of national borders due to the intense people circulation, animals, goods, and information. Such dynamics also boosted the spread of old and new diseases, as well as the information that surrounds them, promoting a greater need for investment in actions related to space control and health education.

Disease circulation and emergence are nothing new. Bubonic Plague, Cholera, Spanish Influenza, Avian Influenza, Influenza A, among others, are part of human history in terms of their arousal, their development and how they produced useful knowledge to face the crises that followed them, such as that related to Covid-19. What stands out, however, is the increasing speed of the spread of these diseases. In 1894, for example, the Bubonic Plague pandemic, which started in Hong Kong, took 5 years to reach Brazil. In the case of Avian Influenza (H5N1), the interval between cases in humans, which occurred in 2003, in a Chinese province, it was spread to 20 other countries, was 2 years. In 2009, the diagnoses of influenza A (H1N1) occurred in 207 countries, almost simultaneously.

Therefore, for years, epidemics and pandemics have put different health professionals and agencies on alert. Since the vaccine development, and the relative cases of influenza A control, scientists around the world have predicted the emergence of a new disease with the potential to spread throughout the world, promoting a new pandemic. In this case, space management and educational actions emerged as prominent tools in discussions and strategies for disease control context.

In 2019, a new type of coronavirus (Sars-CoV-2) caused the Covid-19 pandemic. The first cases occurred in Wuhan, China, and subsequently, millions of people, spread over 188 countries were infected. In comparison to the cases of influenza A, it is possible to see an increase in the time spread of the virus by different countries. This occurs as a result of the spatial control and education strategies that were put into practice by several government officials and popularized through different media.

In the case of government officials, the closing of borders, the circulation of goods and social isolation / distancing control exemplify health safety standards that have been adopted in different countries. Regarding the media, since the beginning of the crisis, several platforms and means of communication have attempted to inform and educate the population in terms of prevention methods, the risks of exposure and a set of sanitary and political maneuvers that until then they were popularly unknown. In many cases, such strategies cause conflicting feelings on certain populations, but they slow down the circulation of the virus in regions where there is greater popular adherence to the ideas that individual actions interfere in collective dynamics and, mainly, that the physical structures of care and national social dynamics regulate the chances of success against the disease.

Hence, from the articulation between the conceptions of biopolitical strategies and spatialities, the production of national spatialities occurs through the World Health Organization (WHO) discourses. The strategies witnessed to cope with Covid-19 have
been part of the Organization’s discourses since at least 2003. As pointed out by Darsie and Weber⁹, the crisis created by the Avian Flu has triggered new ways of understanding the relationships between diseases and space. As a result of this, the WHO discourses started to guide governments, professionals, and populations towards adopting spatial control measures according to the experienced and produced spatialities in each country.

The main argument of this article recognizes that the spatialities, thought in an articulated way about biopolitics, have been produced and modified by health area experience. However, this is not a one-dimensional dynamic, as biopolitical strategies are also transformed according to spatialities.

In order to support this argument, the text was produced from documentary analysis, to tension the discursive practices identified in official publications, manuals and reports produced and disseminated by WHO, between the years 2005 and 2012. Such documents, as distant as they look, present a set of knowledge and practices that shape the understanding ways, practicing and narrating the disease control strategies used today.

Thus, at first, the relationship between the concepts of biopolitics and spatialities is presented to be thought as an articulation that subjective subjects in relation to space and the way it is measured by scientific data. Afterwards, the production of national spatialities constituted and strengthened based on the discourses of the World Health Organization is stressed.

Biopolitics and spatialities

In the Foucauldian perspective, power can be understood as a “network of strategic relationships, a set of mechanisms and procedures in which one seeks to exercise power and maintain a correlation that is favorable to those present in that network”. Therefore, the power development is established by connections between authorities who try to govern, from different interests and aspects of social life, acting on individuals and communities¹⁰ (p. 2).

Associated with the idea of population, power relations allow us to think about what Foucault called governmentality and biopower. According to Foucault¹¹, governmentality includes the entry of the State in the micropower issues. This way, the author discusses how the art of governing (understood here as conducting conducts), formulated in the 16th century, suffered, throughout the 17th century, a kind of obstruction, especially due to the problem of exercising sovereignty as the main form of theoretical understanding and political organization. Furthermore, along with this sovereignty framework, the model of the art of governing was too narrow - the family – and it did not find a dimension of its own¹¹.

The unblocking of the art of governing took place only during the 18th century, with the fundamental emergence of population concepts. It is from the idea of population, constructed through the perception of phenomena existence that are not reducible to
the individual and that can be obtained through statistics, that the family is no longer a model to become a segment within the population. In addition, according to Foucault\textsuperscript{12}, the power techniques emergence, aimed not only at individuals, seeking the construction of useful and docile bodies, regarding species-body, that is, at the “body drilled by the mechanics of being, and as biological processes support” (p. 131). This is what constitutes a population biopolitics. Such extremes - a disciplinary power and a power that is exercised over the species - characterizes biopower, that is, a power that affects bodies management and the calculative management of life.

Biopower acts on life and is based on two logics that should not be considered antithetical nor negative. The first concerns the bodies disciplining, and the second is anchored in the thought of population regulation and both, associated, represent two extremes that interconnect and that sustain the power over life\textsuperscript{13}.

As it is deduced from these theoretical foundations, there is no way to conceive the biopower dissociated from biology, a subject that also began to organize itself at the end of the 18th century. [...] It may seem trivial, as if there were no other ways to narrate life, but what is always said is: we live after we are born and until the moment when we die\textsuperscript{14}. (p. 9)

Biopower, therefore, is exercised in a positive way over life, to guide its management at the individual and at the population level. Hence, the common biological traits that involve the human species are considered - through biopolitical strategies - and the individual behaviors that can be disciplined in order to make the different subjects engage in the functioning of the rules followed by the populations\textsuperscript{13}.

In this way, biopolitics designates the entry of life and its mechanisms in the domain of statistical calculations. It is no longer an individual body, but a collective body that has multiple individuals, which can be quantified. “Biopolitics deals with the population and the population as a political problem, as a problem that is both political and scientific, as a biological problem and as a power problem [...]”\textsuperscript{13} (p. 292-3).

In addition, the nature of these phenomena is altered because, on an individual level, events are configured as unpredictable, while from the collective point of view, it is possible to estimate through the numbers, the probabilities related to time in which the range of reach and the risks where populations are vulnerable. Thus, the focus of biopolitical strategies is on population lives management, and knowledge production to manage, transform, and above all, improve it\textsuperscript{13}. In this perspective, Foucault\textsuperscript{15} (p. 288) points out that power is defined as an action mode on possible actions, exercising from freedom and operating through a field of possibilities, characterizing itself as the government of men, and that governing, here, is in a sense of “structuring the eventual action field of others”.

Rose\textsuperscript{16} said that quantifications and statistics undertake actions as important tools regarding the population management mechanisms. According to him, this “pedagogy of numbers” (p. 683), makes subjects follow certain trends based on their own choices,
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which are guided by information that is generated in contexts produced by themselves. After all, as Traversini and Bello17 alleged, a better governance is not just about extracting knowledge about the population (from anthropology, social psychology, demography ...), but it is necessary to produce data, quantify certain aspects, make comparisons, between others, in order to promote administrative intervention decisions, this, to maximize the positive elements and reduce those that are considered as inconveniences to what is considered acceptable. Statistics, therefore, is an indispensable knowledge for governmentality.

However, when the term “authorities” is used, there is no attempt to establish the State importance in power relations. In contrast, the aim is to highlight the authorities that are located horizontally, throughout society. They are the authorities’ relationships regarding competition and adherence to the state and other authorities - school, university, industry, army, and many others - that establish the power relations. Health institutions are particularly notable, as they also connect to / in power networks to produce truths about their precepts and, therefore, produce subjects while they produce and transform their own structures and guidelines18. Consequently, it is understood, from Miller and Rose19, that such power strategies are grouped into forces and institutions considered as complexes strategies policies, with devices that focus on the individual management and collective behaviors, but which are still understood as not political. Such complex forms a governing machine that “connects the regulation of public conduct to the subjective emotional and intellectual capacities and techniques of individuals, as well as the ethical regimes through which they conduct their lives” (p. 239). From this, the authors emphasize that it is possible to understand how power, through ‘non-state’ forms, is one of the characteristics of contemporary societies.

It stands out here the idea that knowledge developed through outbreaks of past illnesses or from statistics published in different media that produces subjectivities, ways of being in space, and mainly, to avoid and measure risks regarding to certain space and to other subjects. These are questions that are supported by official data that aim to be productive and that, consequently, interfere in power relations through official information.

As Lopes18 points out, the illness risks and to be ill has brought medical power to an extent never seen before. In this sense, Medicine started to act in the direction of evaluating and qualifying a body that previously was single, in an increasingly collective way. Therefore, the spatial “slice” in which this body - individual / collective - is inserted also starts to be assessed6. One of the main routes of this production is through data quantification and dissemination. Good examples of this could be represented by information from the Johns Hopkins University8 websites, and the Brazilian Ministry of Health20 in which data about Covid-19 are presented.

Even though the Covid-19 pandemic is not this text’s emphasis, the information available by these sites gives us numbers related to infections, recoveries, and deaths regarding different locations, on a global and national (Brazilian) scale. The information is constantly updated, while in the first case, it highlights the countries where there is a higher incidence of infections and, in the second case, it draws attention to the states and
cities most affected in Brazil. Thus, if statistics are understood as knowledge that “produces truths, and shapes the realities of quantification societies”, establishing itself as a new way of scanning and controlling the population” (p. 148), it is also possible to think about the ways in which learning, and valuing parcels of space and spatialities take place.

“What are the best places to face this crisis?”; “Which populations have the best conditions to face diseases?”; “Which countries have the best health systems?”; “Which subjects have the least risk when they arrive in my country?” Questions like these, help to explain the argument. Certainly, the answers to these questions depend on a set of knowledge, based on numbers and other information, which will make it possible to think in different directions, according to the different thoughts they establish. However, as pointed out by Weber21, the data about health leads in the direction of evaluating and comparing different subjects, based on the spatialities that compose them.

Massey22 highlights that, space is the product of relationships - social and natural -, constituted through interactions that can be thought from a global to a local scale. Space is the possibility sphere of existence, multiplicity of elements, factors, and ways of living. It is the product of the coexistence with multiple trajectories that allows for the events heterogeneity, while they provide opportunities for their existence and their transformations. Therefore, for the author, space produces spatialities while it is produced by them.

Having this in thought, spatialities are the ways in which subjects live and transform space, and at the same time, are produced by it, without hoping to reach a final form. Operating through the spatial bias means to consider space as a continuous phenomenon and with multiple rhythms of existence and events, with different interconnected scales. Therefore, spatialities are modified and classified, among other things, by incidence, prevalence, and diseases quantification23, as dictated by the epidemiological knowledge and practices.

Consequently, there is a first point to be addressed: biopolitics. Broadly speaking, it produces ways of being / living related to space. In this way, biopolitical strategies, as a way of investing in population’s life, are organized from different devices (news, official data, booklets, public policies, etc.) and educate about health care and diseases, in view of normality standards to be attained and levels of vulnerability to be avoided. In the same way, these strategies aim to monitor the risks that must be avoided and the ways to be adopted for the individual’s safety, and mainly, at collective levels.

Starting from this, in the next lines, official documents of the World Health Organization are approached to problematize the national spatialities production based on the agency speeches that are highlighted.
The production of national spatialities through WHO discourses

The discourse must be characterized as “a production dimension of social reality, and not a mere gathering of utterances in the exclusively linguistic sense, of speech or writing acts” (p. 1). Thus, in the Foucauldian perspective, the discourse is characterized as a practice, that is, a conjunction between ways of saying and ways of doing. Discourse, therefore, is taken as a discursive practice and, as a result, as Hillesheim and Cappellari warned, some guiding principles must be adopted for discourse analysis to be developed. First, it is necessary to analyze speeches at the said things level, so that the very complexity of the discourse appears. Second, it is not a matter of understanding it as a mere representation of reality, but as a practice that systematically forms the objects of which it speaks.

Hence, the publications, handbooks and reports analyzed in this article, indicate the World Health Organization ways of being / doing / saying / producing, constituted for some years. They materialize a set of precepts that are adopted and practiced by the agency and, mainly, they produce what they talk about. Among other issues, the WHO documents help to understand how spatialities are produced through discursive practices related to diseases and disseminated by the Organization.

Thus, three publications from the agency stand out at the beginning: “International Health Regulations”, a document containing the general rules for disease control, on a global scale; “General Work Program of the World Health Organization”, in which the goals and challenges to be faced by WHO are presented; “Global Immunization Vision and Strategy”, where vaccination actions are outlined worldwide.

As in other publications, its pages show that the logic under which WHO guidelines are produced considers the relationship between the individual and global scales. Consequently, its guidelines consider the relevance of individual actions and behaviors (personal / local scales) to control negative events, on a collective level (global scale). Therefore, the WHO understands that individual behaviors, loaded with local cultural crossings, interfere on the global scale.

Legg said that when considering different modes of population distribution, migration, socio-spatial relations, as well as cultural variations that occur at national, regional, and local levels, it operates from a biopolitics perspective. For him, the increase and decrease in scales ensure that biopolitical strategies cross the collective body with the aim of reaching different individuals and vice versa.

Still, it is highlighted that there is a dynamic that is repeated in different publications. First, through numbers, that are produced by WHO offices and employees, the main risks to which certain populations are exposed are presented. At this stage, it is common data about HIV cases, Cholera, Hepatitis, and various types of flu to be used as examples. Consequently, to those problems; spatial intervention, education and treatment strategies are established that aim to reverse or to stop the growth of disease cases, taking into account individual and collective aspects that operate together.
Souza⁶ points out that conceptions linked to politically established borders and educational actions about health and disease, help to make populations aware of certain situations that need to be avoided individually to have effects on a global scale. In cases like these, WHO establishes relationships between certain populations and risks of infections due to different diseases that are spread across different countries. With that in mind, it establishes that a good containment strategy for these diseases is the individual care that needs to be intensified depending on the countries where the subjects are. Thus, we understand that health problems are associated with subjects according to the countries in which they are located, becoming part of a set of international concerns that articulate diseases to cultural, social, and economic elements in each territory.

Such concerns are disseminated, discussed, and shared in different parts of the world, by government officials, specialists, and populations, due to the intense circulation of information that defines the globalized world. In this context, national spatialities are highlighted as problematic by the Organization’s specialists as they are signified by diseases and coping strategies performed in each place. From there, subjects begin to be understood and to understand each other through them and through the spatialities narrated by them.

As a way of exemplifying the way in which the disease becomes a global topic of discussions and produces different spatialities, the English magazine editorial, *The Lancet*⁴⁶, with the edition about Covid-19, stands out. The text exposes the Brazilian political crisis through the national government negligence regarding disease control in the country. Therefore, it problematizes and popularizes the impacts that the pandemic can cause on the indigenous population and on another 13 million Brazilians who live in slums and do not have minimum security conditions in the pandemic context.

By warning about the risks associated with the problem, it works in a informing sense (and creating educational mechanisms) to the global population about what happens in Brazil and, also, if associated with other materials analyzed in this article - for example, “Health Guide to Standardize Information in Epidemics”⁴⁵, “Cities and Public Health Crises”⁴⁷ - makes it possible to think about how a country’s neglect of Covid-19 may impact others. In this context, there is a given tension of spatiality - Brazilian - marked by something that can be understood as typically Brazilian (indigenous and favelas) and it challenges foreigners and Brazilians concerning health risks faced in Brazil that can affect other countries.

Populations are educated to fear certain health risks, and the risks associated with disease control fit into a global logic from which they are enhanced⁴⁷. The speeches about risk and health are the result of the Epidemiology discourse, which, in turn, is the logical, and measurable concepts application, and applied methods to problems that involve the individual care of patients and societies⁴⁸. In this sense, it is worth noting that it is through epidemiological calculations that most of the guidelines and actions of the World Health Organization are produced and planned, and that the
bases of part of the scientific knowledge that involves this discussion are produced. However, it is necessary to consider possible getaways of a social order, because “the challenges in dealing with risk perception and communication are heightened by the multiple nature of communication processes and the difficulty of obtaining verification as to the return of the messages disseminated to broad audiences” (p. 3).

The spatialities value is based on the risks control related to social behaviors and investments in individual behaviors that derive from science and the numbers that quantify life. Thus, it is possible to point out qualifications attributed to the space through data surveys and monitoring related to cases of diseases, such as the statistics produced by the World Health Organization regarding the number of infections by different viruses in Asian’s, Latin American’s, and African’s countries.

These are numbers that are associated with the ways of life practiced in these countries and that support attempts at interventions that seek to change them. This occurs due to the approximation between new and old knowledge that involve disease control and redirect behaviors while producing new meanings related to different spatialities. Perhaps, this is better understood when explaining that during the months of January and February 2020, while the largest numbers of cases of infection by Sars-CoV-2 were concentrated in China, the country where Covid-19 appeared, several manifestations with prejudiced people assessed eating habits of the Chinese, as pointed out by BBC News, from Brazil. However, months later, as infections quantifications gained notoriety in other countries and China decreased its sums, other spatialities started to be evaluated. A good example, already mentioned, is the case of Brazil and its political crisis during the pandemic, discussed in The Lancet.

In this context, ruptures that can be identified in debates about biopolitical investments, as well as the social problems and cultural contexts that configure many of the existing spatialities. After all, the meanings that emerge about national spatialities experienced in areas that are classified as safe or dangerous, considering the resources and health structures that are available in them, as well as the investments for diseases prevention for those who live or transit in them.

In the publication entitled “Global Framework for Immunization and Health Surveillance”, the existing contrasts between regions covering African, Asian, Latin American territories and territories located on the European and North American continents are addressed. According to the Organization, rates related to various diseases, there are significant contrasts that are also caused by lack of access to the main resources necessary for equitable health conditions.

From this, it is suggested that different concerns emerge that are supported by the understandings that are produced about the most problematic countries. This takes place according to health-related figures, produced and disseminated, especially by the World Health Organization. Therefore, the information does not only act to demonstrate the territorial data health conditions, but also constitute meanings related to the spatialities that surround them. Classifications appear associated with the areas and the people who pass through them or who live in them, considered as more ‘dangerous’ or ‘safer’ in relation to the spread of diseases, in a global context.
Conclusion

Studies about the relationship between space and disease, generally use areas delineation for quantification and localization of epidemiological information. Thus, they seek to analyze favorable environmental elements to problems they identify. However, in view of the issues presented in this text, a logical inversion was made that made possible to observe the ways in which different national spatialities have been produced through what is said and practiced regarding disease control.

On the edge, instead of evaluating the space to demonstrate practices linked to crisis management, through its materialities and dimensions, such practices were taken to problematize paths by which they mean certain places. Hence, it stands out that the information contained in documents organized and published by the World Health Organization, represents discursive practices in which portions of the space are signified. Therefore, two assumptions were observed: 1) the subjects are part of the space and, consequently, they are produced and signified while they produce and signify it; 2) due to its position of relevance, the WHO produces and disseminates data on health and disease that mean, in a relevant way, the spatial plots of which it speaks.

Based on this, the numbers and other data released by the Organization cross internationally, government officials, professionals, and populations, causing national spatialities to be established and evaluated through knowledge in health. Such spatialities, although not fixed, rise ways of understanding different people, from different countries, while they position us and create ways to understand ourselves.
Authors’ contributions

All authors actively participated in all stages of preparing the manuscript.

Conflict of interest

The authors have no conflict of interest to declare.

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Reference


A globalização ocasionou a circulação de vírus e bactérias em escala global, fazendo autoridades sanitárias atentarem às relações entre espaço e doenças. Assim, a Organização Mundial da Saúde (OMS) desempenha papel central na produção de conhecimentos e na divulgação de informações que regulam normas sanitárias. Por meio da análise de práticas discursivas ligadas ao controle de doenças, discutem-se, aqui, estratégias biopolíticas e a produção de espacialidades, tendo em conta a análise de documentos publicados pela OMS em que são apresentados os preceitos da instituição. Neles, destaca-se a produção de espacialidades nacionais que passam a ser valoradas de acordo com as capacidades de prevenção e controle de doenças de cada país membro, especialmente em momentos de crise.


La globalización causó la circulación de virus y bacterias en escala global, haciendo que las autoridades sanitarias observen las relaciones entre espacio y enfermedades. De esa forma, la Organización Mundial de la Salud (OMS) desempeña un papel central en la producción de conocimientos y en la divulgación de informaciones que regulan normas sanitarias. A partir del análisis de prácticas discursivas vinculadas al control de enfermedades, se discuten aquí estrategias biopolíticas y la producción de espacialidades, llevando en consideración el análisis de documentos publicados por la OMS que presentan los preceptos de la institución. En ellos se subraya la producción de espacialidades nacionales que pasan a valorarse de acuerdo con las capacidades de prevención y control de enfermedades de cada país miembro, especialmente en momentos de crisis.