

EDITORIAL

Disease and space control: issues about dispersion and isolation in pandemic times?

Doença e controle espacial: questões sobre dispersão e isolamento em tempos de pandemia

Enfermedad y control espacial: preguntas sobre dispersión y aislamiento en tiempos de pandemia

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Speculation about the coming pandemic, some form of an infectious disease most likely a respiratory illness that will reach epidemic proportions, has become part of the global vernacular [...] because we dealing with infection diseases, whether in the form of virus, bacteria, or parasites, dealing with a biophysical phenomenon [...] however the spread of infections disease could only occur if certain social practices, conditions, and circumstances were in place.

S. Harris Ali e Roger Keil, *Networked Disease: Emerging Infections in the Global City - Prefácio*, 2008.

WHO has been assessing this outbreak around the clock and we are deeply concerned both by the alarming levels of spread and severity, and by the alarming levels of inaction -@DrTedros #COVID19

We have therefore made the assessment that #COVID19 can be characterized as a pandemic -@DrTedros #coronavirus.

World Health Organization, Twitter, march 11th, 2020.

When compared, the arguments of S. Harris Ali and Roger Keil,¹ and the OMS press releases differ with respect to the way they reach their readers. There are differences regarding the means of publication, the number and kind of people reached and the language used, probably due to the 12 years separating them. However, in both cases, in spite of the time, the subject is the same – a pandemic due to a respiratory disease, which needs to be contained by the articulation between biophysical knowledge and those related to social-spatial practices.

Since December 2019, COVID-19 has summoned international institutions, governments, professionals and populations to apply certain strategies and face difficulties that were already foreseen and discussed, since 2003. According to the science perspective, we are before situations that began to be planned and matured, mainly, after the events involving the Severe Acute Respiratory Syndrome (SARS), which seemed very distant when observed through the lenses of common sense. All judgements aside, it is worthwhile to recall that at

the time, several countries faced a disease originated in Asia; but, differently from what had happened years before, it rapidly spread through the territories of European and North American countries causing deaths and having an impact on the economy of these countries and others.

It was on this occasion that areas such Health, Geography and other fields leading with space management started investing greater attention in socio-spatial dynamics associated with the control of infectious and contagious diseases. The SARS virus showed to all countries affected that contemporary movements accelerate or delay the growth in number of infection cases; and also, they connect distinct locations of the world, from the poorest to the richest. Such fact also strengthened the concerns related to space control and social dynamics; as an example, the mobilization at the time of WHO to an update of the International Health Regulations,² after 36 years without any type of revision.

It is important to emphasize that the development of technologies linked to transports and the need of time optimization resulted in the idea of space compression, when it was related to the crossing of certain extensions.³ The crossings among large or small distances became more common, once both fares and travel time changed to more accessible ones. The situation triggered a new analytical demand: new diseases – generally associated to the poorer territories and/or regions, after they were inserted in the global circulation dynamics – can be spread into areas in which a greater concentration of people and economic potential can be observed, precisely due to the number of visitors these places attract.

Thus, the notion regarding the control of diseases was adjusted in order to cope with the social dynamics that bring different locations closer, different risks and different demands, in short periods of time.⁴ Therefore, the safety measures, even though being initially directed to the countries considered the most precarious and/or dangerous, they also start being applied in the regions with greater economic representation, since they concentrate a large number of people and movement of products.⁵

In this regard, the space must be understood as continuous, interconnected by the constant movements of people, products, animals and microorganisms. The risks involving specific areas of space, including the possibility of viral mutations, can (and must) be considered as possible global problems. Therefore, new advances are included to compose the strategies of disease control, considering among other issues, what we call individual scale.⁶ This is the equivalent to saying that in relation to the control of infectious and contagious diseases, the individual behaviors can significantly impact the collective security on a global scale.

That said, it is necessary to recall that in the past, the spread of disease models configured in longer periods stains that increased or moved, gradually, in certain regions, in a linear or continuous way. However, nowadays, these models can be considered under several points, spread around different countries and with the ability to multiply almost simultaneously the cases of infection resulting from new diseases, until new alternatives of immunization are found.⁷⁻⁹

In this sense, it is necessary to comprehend space as a “dispersion” area,⁶ characterized by the flow of different people who share risks associated to microorganisms they transport. Such situation allows us to understand that it is through space control, or social isolation, that we can decelerate the dissemination of diseases in relation to time, especially while efficient vaccines, medicines or health care facilities are not available.

In Brazil, certainly, such dynamics occur the same way. This places us at the circuit of global connections, from big cities to small communities, making us vulnerable to problems caused, for example, by the coronavirus. As long as the individual movements are intense, even the daily ones, the chances of connection among people, streets, neighborhoods, cities and nations increase; and consequently, potential risks to health. Allied to that, we shall take into consideration a history of errors and successes related to Public Health, in accordance with the situation in another countries,^{10,11} which demonstrates the importance of effective strategies of prevention, while possibilities of immunization and treatment capacity are studied.

Bearing in mind the contents exposed thus far, it is important to emphasize the argument introduced by the authors mentioned on the epigraph. It is necessary that the knowledge concerning the Biophysics field advance jointly with those related to social practices, especially in the case of COVID-19. It is known that many issues regarding the functioning and the impacts caused by this disease are still available to be detailed and understood; yet, it is urgent that security measures and knowledge sustained by science are undertaken in order to decrease the negative impacts.

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