

HEALTH SURVEILLANCE IS A MATTER OF GOOD “CENSUS”: AN ANALYSIS
OF THE IMPORTANCE OF USING HEALTH INDICATORS IN AN EMERGENCY CARE
UNIT (UPAs) IN SEROPÉDICA (RJ), IN THE CONTEXT OF THE COVID-19
PANDEMIC

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Abstract

Background: This article discusses the importance of territorialization in health for the management and prevention of COVID-19 in the area of operation of the Emergency Care Unit (UPAs) of Seropédica in Rio de Janeiro. The adverse context of the pandemic, which did not present anything new, brought to light the precariousness of environmental sanitation in the country. In this sense, the objective of this work was to identify the degree of social inequalities in the area of action of this UPA of Seropédica, during the COVID-19 pandemic, and to analyze whether these areas are of inadequate sanitation.

Methods: A quantitative survey was carried out using the health indicators of the Synthesis Panel by Municipality developed by the Brazilian Institute of Geography and Statistics (IBGE), and the Social Inequalities Index for Covid-19 (IDS-COVID-19) prepared by the Center for Integration of Data and Knowledge for Health (CIDACS).

Results: Finally, this work reflects that the indicators present a high degree of social inequalities for the municipality of Seropédica.

Conclusions: As well as that the pandemic is not being the same for everyone. Death by COVID-19 has color!

Key Words: COVID-19, Health Indicators, Social Vulnerability.

1. BACKGROUND

Good “Census” for what? In the context of the COVID-19 pandemic, health surveillance actions, unavoidably, need a leading role to provide reliable, skillful and predicated information on the country's health management. Faced with this situation, in which city life was brutally impacted by demands for access and organization of time in the health space. In such a way, that these difficulties in capturing the information systems of the Ministry of Health, still having as a multi-relational basis this limitation of the lack of carrying out the demographic survey, of greater and more detailed collection of socioeconomic data in the country, the 2022 Census, in due course, they make detection, notification, monitoring and control impossible for health decision-making. Consequently, the present work emphasizes the understanding of the health space as a constant environment, and in no way as a closed system, which urgently needs to fight for territorial justice. In this Brazil where I only like happy silver, the common “fall of benchmarks” for a constant future does not allow a future without changes.

As a result, it is important to emphasize that emerging viral diseases are considered threats to environmental sanitation. Two experiences that serve as a lesson in the impact of global health problems are the pandemics of

influenza that occurred in the 20th century (in the years 1918, 1957 and 1968) (Kilbourne, 2006) and the

HIV/AIDS pandemic (Piot and Quinn, 2013). This way, memory, history, and a culture of prevention are necessary for the reconstruction of this globalizing society, which needs both the reinvigoration of family and community life, as well as health actions to prevent and care for the condition of violence, isolation and exclusion.¹, that are characterized as specific situations of social vulnerability.

In line with the National Health Survey - Health indicators and the labor market (IBGE, 2013), the present study takes a stand against the pedantry of an archetype of the Unified Health System (SUS) with all the conditions to promote access to quality health care for all (2030 Agenda for Sustainable Development), that would be drying the ice. It

¹According to Bezerra and Salaroli, (2022, p.21): However, a good part of the working mass did not have access to this aid. In addition, the amount authorized by the National Congress for emergency aid, which in 2020 was R\$295 billion, in 2021 it was reduced to R\$44 billion. [...] All this, associated with the exclusion, in 2021, of 22.6 million initial beneficiaries of the program, made it even more difficult to obtain the minimum conditions for survival so that workers could remain in home isolation, and we have seen, thus, the disease has reached alarming levels in the country (BRASIL, 2021a).

is important to reiterate that the COVID-19 pandemic has asserted, especially in Brazil, the precariousness of access to health imposed by social inequalities. It is not possible to just rhyme or this or that, in this context it is essential to use health indicators because they subsidize health promotion actions, a fundamental apparatus and instruments for strengthening the performance of the (SUS) that enables preventive actions, improvement of conditions of life and consequent reduction of vulnerabilities and risks arising from the social determinants of health.

In view of the above, this study highlights the concept elaborated in 2008 and which was deliberated jointly with the proposal One World, One Health by the WHO, which guides on the promotion of collective health from the analysis of the interaction between the three dimensions – human, animal and ecosystem – constituting a foundation for understanding the natural history of some conditions or outbreak, epidemic, pandemic and endemic. Therefore, this work brings, contiguously, to the presentation of the proposal's contextualization, objectives, justification and methodology used in it.

2. METHODS

For the elaboration of this work, it was necessary to analyze the Synthesis Panel by Municipality developed by the Brazilian Institute of Geography and Statistics (IBGE), and the Social Inequalities Index for Covid-19 (IDS-COVID-19) prepared by the Data Integration Center. and Knowledge for Health (CIDACS). This selection of health indicators makes it possible to analyze the situation of social inequality in health by municipality in relation to all municipalities in Brazil. Notably, the present study stratified the area of operation of the Emergency Care Unit (UPAs) of Seropédica in the Incra neighborhood.

Table 1: Indicators used in the study.

Indicator	What does it measure?	How is it measured?	Limitation	Source
IDS-COVID-19	This index measures the social inequalities in health associated with Covid-19. It is made up of three domains:	<ul style="list-style-type: none"> - choropleth maps. - Time series. - Quintiles that vary by status: from very low social inequality 	Lack of availability of updated data for all municipalities that account for the multiple determination of social inequality in health for Covid-19. Thus, it was not possible to incorporate data on	CIDACS Portal: CIDACS. Center for Integration of Data and Knowledge for Health. Social Inequality Index for Covid-19 (IDS-Covid-19), Index Definitions.

	Socioeconomic , Sociodemographic and Difficulty in accessing health services.	in health (quintile 1) to very high social inequality in health (quintile 5).	comorbidities, unemployment, climate, socio-environmental issues, among others. Impossibility of identifying epidemiological cases by neighborhood.	FIOCRUZ/BAHIA. 2022. Available at: https://cidacs.bahia.fiocruz.br/idsccovid19/ Accessed in: June 2022.
COVID-19 Panel summary by Municipalities	The Panel gathers data from IBGE surveys, as well as data from the Ministry of Health (National Registry of Health Establishments - CNES) and Fiocruz/Brasil.IO, presented in three categories: vulnerable population, response capacity of the Health System and monitoring of the pandemic.	- choropleth maps. - Time Series. - Grading by quantile as low, medium, high, and very high complexity.	Lack of availability of updated data for all municipalities that account for the multiple determination of social inequality in health for Covid-19. Thus, it was not possible to incorporate data on comorbidities, unemployment, climate, socio-environmental issues, among others. Impossibility of identifying epidemiological cases by neighborhood.	IBGE Portal: IBGE.COVID-19. in IBGE.Synthesis Panel by Municipalities. Available at: https://covid19.ibge.gov.br/paineis-sintese/ . Accessed on August 04, 2022.

Source: self elaboration.

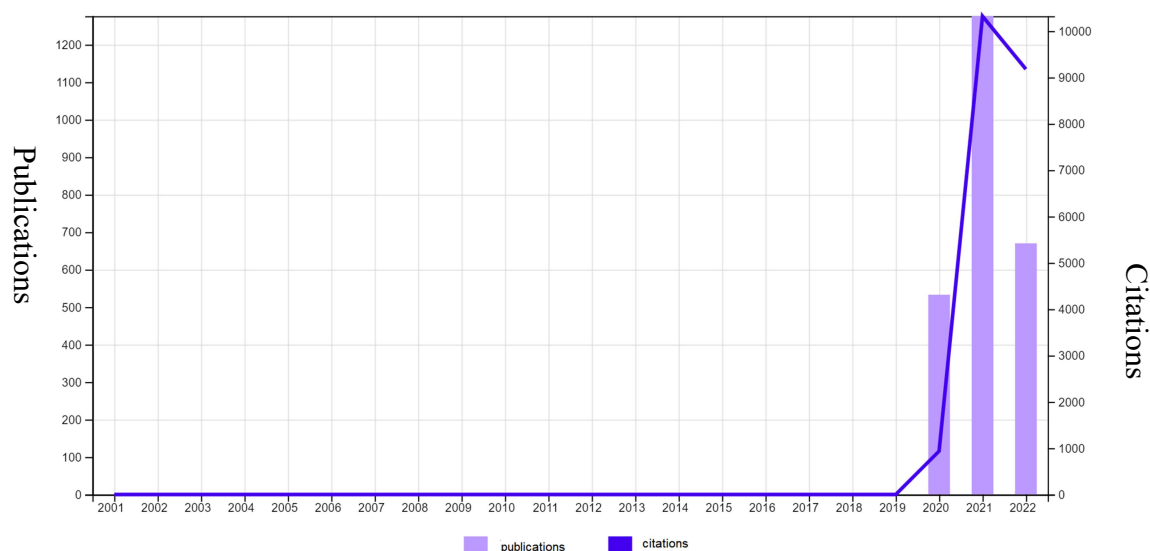
Continuing, the results are exposed and discussed from the study of this set of several health indicators important for the planning of actions to support the fight against the pandemic, such as the Synthesis Panel by Municipality developed by IBGE, and the Social Inequalities Index for Covid-19 (IDS-COVID-19) by CIDACS-FIOCRUZ, with the aim of unraveling the proposed theme.

3. DISCUSSION

From this excruciating conjuncture, it becomes essential to analyze where the Municipality of Seropédica is. Since this pandemic made the reproduction of the naturalization of the structural inequalities of the Brazilian population more intense. In addition, this painful reality requires the strengthening of an awareness of the impact of our actions, since the right to health promotes the dignity of work and the extraordinary that is life. According to environmental activist Krenac (2020, p.72):

“In the meantime - while your wolf does not come - we have been alienating ourselves from this organism of which we are a part, the Earth, and we have come to think that it is one thing and we are another: the Earth and humanity. [...] Everything is nature.”

Figure 1: It presents 2,479 records of publications on the topic (Social Inequality and COVID-19) with the clipping of the time between 1945 to 2022.



Source: Portal Web of Science. Available at: < <https://www-webofscience.ez30.periodicos.capes.gov.br/wos/woscc/citation-report/c36fd880-cd1a-4ef2-bec7-2042ef294833-47662b37> >. Accessed on August 6, 2022.

In relation to Figure 1 above, it is observed that there is an intensification in the pattern as of 2019 and continues to be maintained today, in these studies that study the correlation between Social Inequality and COVID-19. This fact signals that, from these records of publication by the Web of Science Portal, these researches in relation to the COVID-19 pandemic are investigating and analyzing the multiple dimensions that involve the social, socioeconomic and sociocultural determination with the pandemic. In this understanding, this study highlights the need for a meticulous and *suis generis* look at health management between each city and states, that is, health surveillance in primary care needs reliable information about this epidemiological pattern so that dialogue between cities and states present effective health actions in response to socially vulnerable groups in the pandemic, such as: the new variants of the coronavirus - SARS-CoV-2 in relation to the increase in transmission, the high mortality in the elderly, people with sequelae of COVID-19 and with comorbidities, the conditions for

carrying out protection measures and social distancing for the group in social vulnerability, the increase in SARS, as well as access to vaccination. Consequently, the CIDACS Portal (2022) explains the reason for the great concern of recent research with the variants in Brazil:

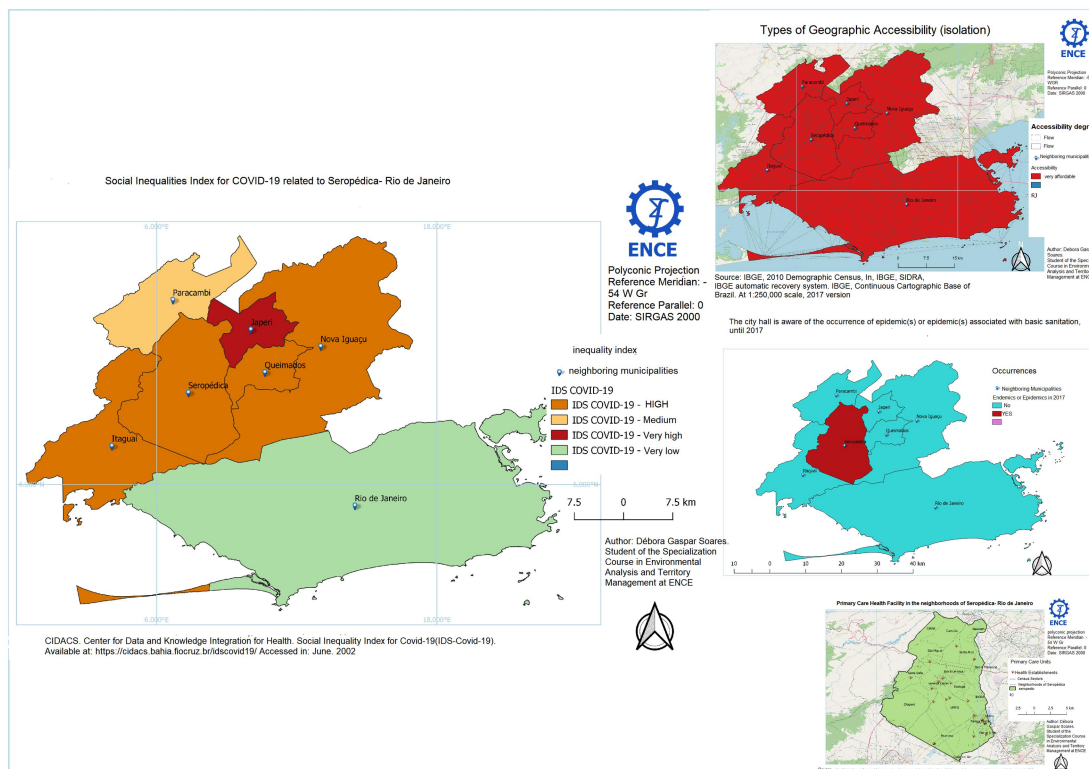
“The new variants have a high ability to infect people who are vaccinated, compared to the first variants that emerged at the beginning of the pandemic. [...], this fact served as evidence to discuss the necessary isolation time in people with Covid-19”.

On the importance of updating the surveillance and health care network, Maziero and Ferreira (2021, p.129) highlight that: “The articulation between the health sectors, such as epidemiological, sanitary and environmental surveillance, information systems, laboratory, primary care, hospital and pharmaceutical assistance and press relations, is essential for the good performance of regular activities and the preparation for an adequate response in case of new epidemics. We also remember the need for articulation with other departments, such as education, tourism, agriculture and livestock, economic development, transport and others, in addition to the participation of the private sector and the third sector. In the case of respiratory viral diseases with zoonotic potential, surveillance must be integrated, with the participation of human health, animal health and the environment and shared data.

The present study highlights the need for spatial criticality for the analysis of these health indicators, since the understanding of social inequalities for COVID-19 in Seropédica goes beyond the geographic space of the area of action of the UPAs of Seropédica. Also, the compilation, arrangement and combination of economic, sociodemographic, cultural, and socio-environmental subjects. Now, the pandemic is also being unequal because of our choices, because the data robustly present the notifications of endemic diseases before COVID-19. Thus, this unequal spatial condition of this municipality is the product of the construction of our trajectories and our social relations in a broader sense. Recent studies by Fiocruz warn of inequalities in health conditions between whites and blacks. Death by COVID-19 has color!²

Figure 2: Social inequalities index for COVID-19 in Seropédica.

²The article Racial inequalities and death as a horizon: considerations about Covid-19 and structural racism reveals a drop in hospitalizations and deaths in whites and an increase in blacks, in a few weeks, which indicates the path taken by racial inequalities in the country. The work was highlighted at Agência Brasil. More information at: <http://informa.ensp.fiocruz.br/noticias/50204>.



Source: CIDACS Portal. Available at: <https://cidacs.bahia.fiocruz.br/idsccovid19/> Accessed: September 12, 2022.

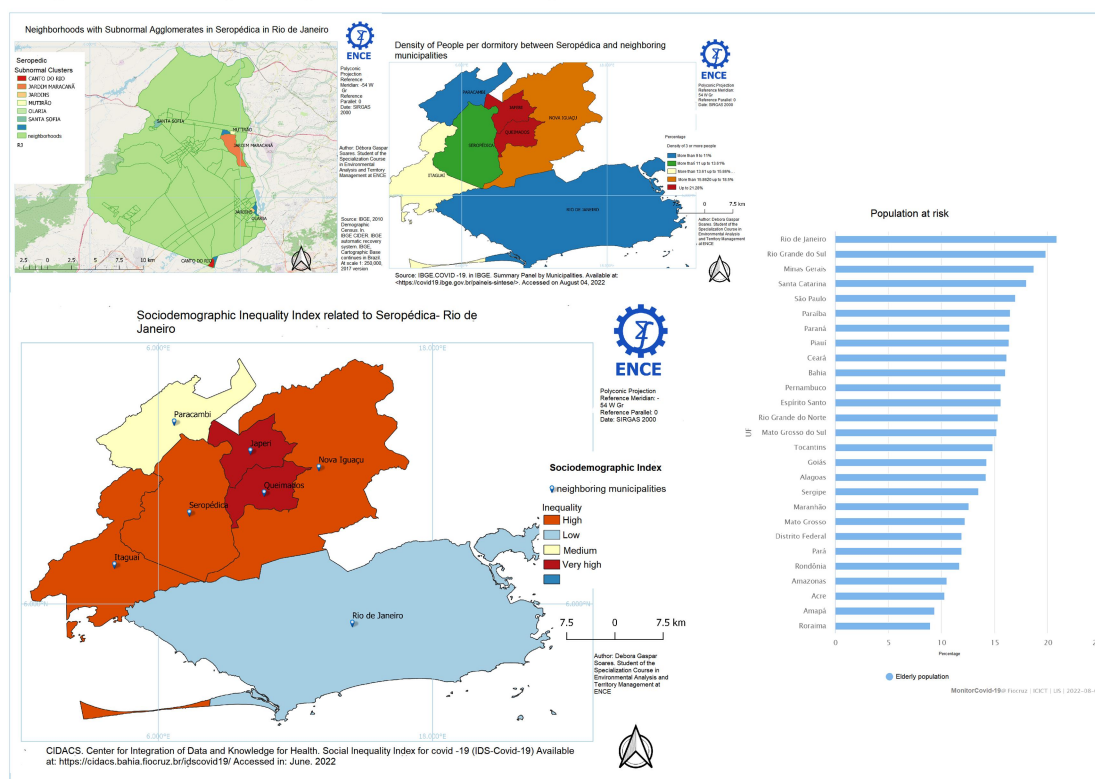
According to the Summary Panel of COVID-19 by Municipality from the IBGE Portal and the Social Inequalities Index for COVID-19 by Municipality from the CIDACS Portal, the Municipality of Seropédica, which belongs to Macroregion II and is located in the Region of health: Metropolitana I, presented a high rate of social inequalities, with an epidemiological pattern for confirmed cases of COVID-19 of alterity, such that around May 2020 the epidemiological week shows an ascendancy in the transmission of the coronavirus, maintaining this predominance intermittent throughout 2021, and from 2022 onwards it attenuated.

Regarding the characterization of the indicators of the category "Vulnerable population" (Synthesis panel of COVID-19) and "Sociodemographic" (IDS-COVID-19), which inform the high degree of the numbers of people potentially more susceptible to the disease, the following were observed. households with 3 or more residents per bedroom according to the Census (2010), representing 12.82%, around 10,024 units in the municipality, and in the federation unit, it represents 11.52%. In

addition, the population aged 60 years and over (2010) corresponds to 10.25%, approximately 8,014 inhabitants of the municipality, and in the federation unit it represents 13%. Also, that the households in subnormal agglomerations (2019 estimate) constitute 2.81%, around 703 units in the municipality, and in the federation unit they represent 12.63%. As well as there are no Indigenous Localities (2019 estimate) or Quilombola Localities, highlighting that about 103 inhabitants, corresponding to 0.13% of the population of the Municipality, declared themselves indigenous (2010). Finally, the population of the municipality by age group (2010) corresponds to 8,014 people over 59 years old – 10.25%; to 30,593 people between 30 and 59 years old – 39.13%; and 39, 579 people between 0 and 29 years old – 50.62%.

With this information, it can be said that it is essential to strengthen protective measures such as social distancing in the Municipality, since the mortality rate is pre-eminent and the impact on life is decisive for the elderly, especially among those who are already vaccinated. and so they can relax in care impacting the lives of other families in the city.

Figure 3: Percentage of Population at Risk in Seropédica.



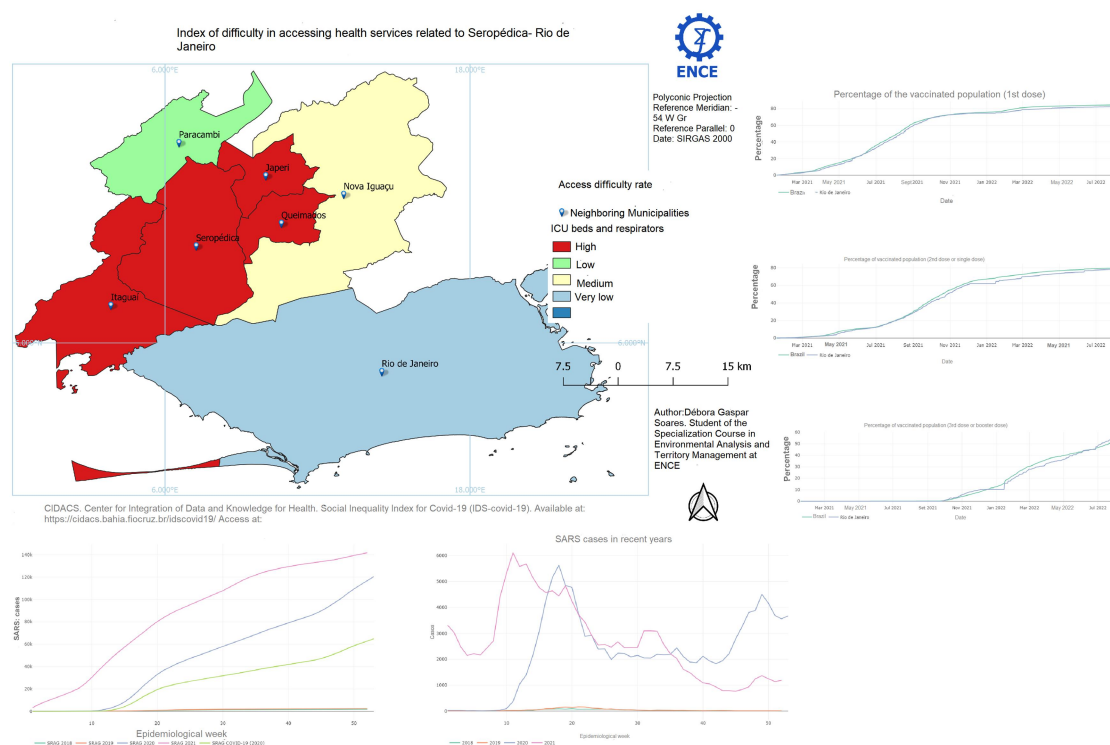
Source: Portal MonitoraCovid-19. Available at: < <https://bigdata-covid19.icict.fiocruz.br/>>. Accessed on August 9, 2022.

Regarding the indicators of the category “Health System Response Capacity” (Synthesis Panel of COVID-19) and “Difficulty in accessing health services” (IDS-COVID-19), which inform the high degree of difficulty of access to health services, as well as on the existing infrastructure at the beginning of the pandemic with regard to physical and human resources for each municipality. They report that it was observed that ICU beds in the SUS (2019) represent 0/100 thousand inhabitants, there are no units available in the municipality, in the federation unit it represents 6.96/100 thousand inhabitants, and corresponds to 0% of the percentage provided by the SUS (2019). Furthermore, that hospital beds in the SUS (2019) are equivalent to 6.07/100 thousand inhabitants, reflecting 5 units for the municipality, in the federation unit it represents 72.32/100 thousand inhabitants, and corresponds to 100% of the Percentage made available by SUS (2019). In addition, that Respirators in the SUS (2019) constitute 13.36/100 thousand inhabitants, representing 11 units for the municipality, in the federation unit it represents 24.29/100 thousand inhabitants, and corresponds to 84.62% of the percentage available by SUS (2019). In addition, that Doctors in the SUS (2019) correspond to 34.02/100 thousand inhabitants, expressing 28 doctors for the municipality, in the federation unit it represents 165.03/100 thousand inhabitants, and corresponds to 75.68% of the Percentage made available by SUS (2019). Furthermore, that the Nurses in the SUS (2019) is equal to 32.8/100 thousand inhabitants, constituting 27 nurses for the municipality, in the federation unit it represents 113.32/100 thousand inhabitants, and corresponds to 96.43% of the population. Percentage made available by SUS (2019). Finally, that the Health Facilities with observation and hospitalization support available in the municipality are 3 units (COVID-19 Campaign Hospital, Maternity, and UPA), and 560 establishments available in the federation unit, as well as that the Hospitals of There are 21 primary health care units available in the municipality, and 1,925 establishments in the federation unit.

As a consequence of what was observed, in the municipality, access to health services is intermediate, therefore, when it is correlated with the profile of the city's families and the exclusive road modal as a means of public transport for locomotion to work. This makes measures to control the transmission of the coronavirus ineffective, such as maintaining social distance? In this understanding, the present study highlights that health management needs to respond effectively to the conditions to overcome access to health services in the city, as well as the reverses to protect from infection, and the search for adequate treatment. It is worth emphasizing that Fiocruz's research warns

that vaccination coverage³ in the country was not so good. Although at the beginning it reached 85% of the population, there was no continuity, and with the decrease in later doses, it led to a reduction to about 50%. Consequently, nowadays, with the vaccinated population, there is not even a guarantee of protection against contamination. So, this moment is to guarantee access to vaccination. Without vaccination of the population, there is no protection!

Figure 4: Index of difficulty in accessing health services in Seropédica.



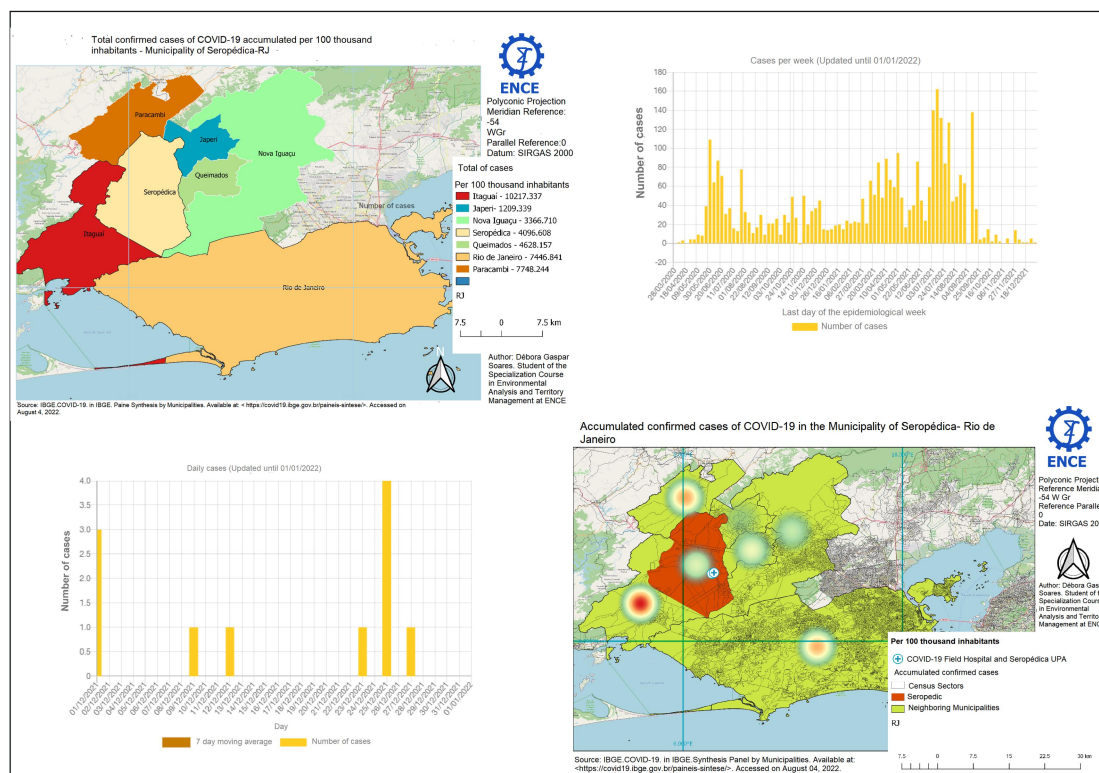
Source: CIDACS Portal. Available at: <https://cidacs.bahia.fiocruz.br/ids-covid-19/> Accessed: September 12, 2022.

With regard to the indicators of the “Pandemic Monitoring” category (COVID-19 Synthesis Panel), which reports on their relationship with the number of confirmed COVID-19 cases, as well as the daily and weekly evolution by municipality. Associated with data from the category “Difficulty in accessing health services in the municipality” (IDS-COVID-19), which considers the rate of beds per ICU and respirators, per 100,000 inhabitants, considering the distance between the municipalities of the macro-region of health and the population of each municipality. It was observed that the new cases on 01/01/2022 meant no new occurrences in the municipality, and in the federation unit they represent 28 new cases. In addition, it was observed that the cases in the last week -

³ According to Maziero and Ferreira (2021, p.125): “the current objective of vaccination against COVID-19 is to reduce morbidity and mortality caused by the new coronavirus, as well as maintaining the operation of essential services, preserving the workforce and providing assistance the health.”

ended on 01/01/2022 reproduce 1.21/100 thousand inhabitants, which constitutes 01 new case in the municipality, and in the federation unit represent 2,032 cases. As well, the accumulated cases were observed, corresponding to 3,372 cases in the municipality, and in the federation unit they represent 1,352,852 cases. Finally, they were analyzed for an estimated population in 2019 of 82,312 inhabitants in the municipality, which represents 0.48% of the state population. It must be noted that the Portal of the Municipality of Seropédica informs that the cases accumulated in the municipality constitute 8,406 observed until 07/22/2022.

Figure 5: Total Confirmed Cases of COVID-19 Accumulated per 100,000 inhabitants in the city of Seropédica.

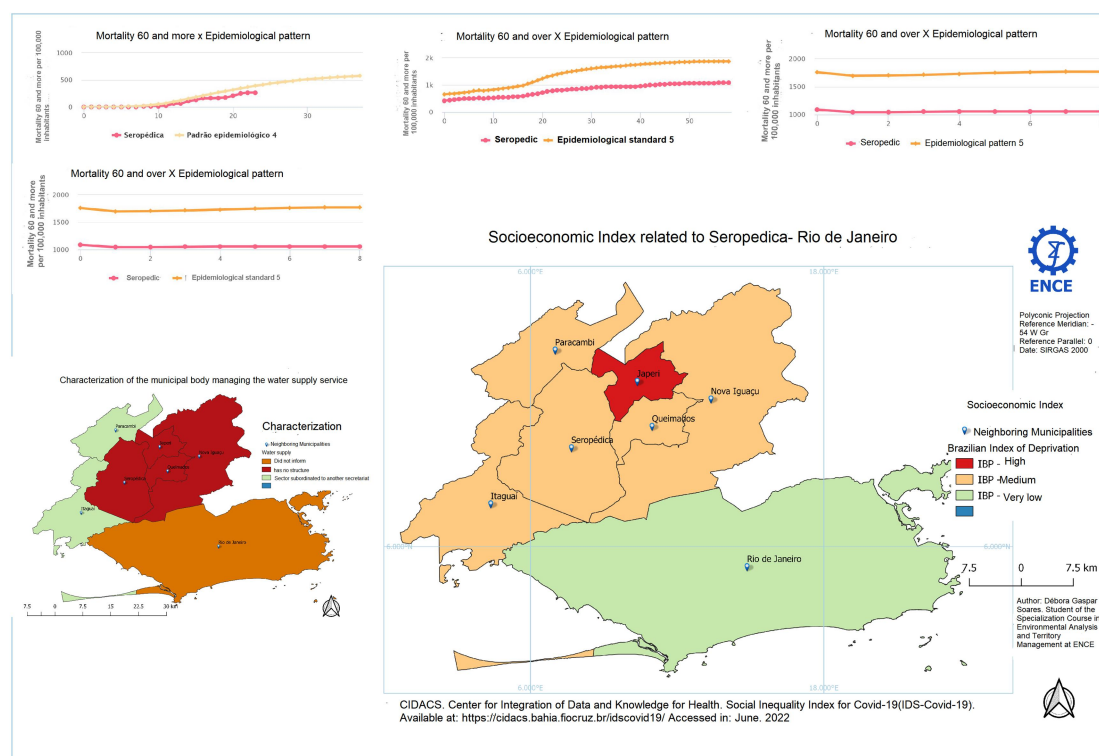


Source: IBGE.COVID-19. in IBGE.Painel Síntese por Municípios. Available at: <<https://covid19.ibge.gov.br/paineis-sintese/>>. Accessed on August 04, 2022.

Due to this information, it can be said that epidemiological surveillance measures are still necessary, the present study emphasizes that health geoprocessing for monitoring confirmed cases of COVID-19 needs to be updated by health management. In this sense, it is essential that health information must be increased for articulated use between health surveillance and primary care. Since Fiocruz's research warns of the increased incidence of confirmed cases of COVID-19 and SARS. Thus, monitoring with health geoprocessing is essential for planning and special attention both for vaccination in children and adolescents and for health actions aimed at subjects with

COVID-19 sequelae, which may or may lead to aggravation of comorbidities, or health complications, increasing the risk of premature death. It is still necessary to ensure the availability of mass testing for COVID-19, taking into account the low availability of tests in the country. In other words, guarantee both access to health services in the municipalities and the strengthening of vaccination campaigns. “Take what's yours, and get out”, carrying out mass tests combined with social isolation measures save lives. In other words, geoprocessing in health makes it possible to overcome the difficulty of reconciling distant local actions with few human and physical resources. As well as, track cases and monitor your contacts for focal actions in Public Health Surveillance.

Figure 6: Socioeconomic inequality index in Seropédica.



Source: Portal CIDACS. Disponível em: <https://cidacs.bahia.fiocruz.br/ids-covid19/> Accessed on: September 12, 2022.

Regarding the indicators of the "Socioeconomic" category (IDS-COVID-19), spatial patterns are observed in a contiguous way, that is, several areas of average rates, which may be related to the geoflow of multiple fixed/flows, proposed by Milton Santos (1970), reflecting the form of socioeconomic organization of the municipality of Seropédica and neighboring cities. The present study analyzes these high average rates contiguously, taking into account the deprivations of capacities and the consequences linked to the minimum references for the well-being of these people, such as access to

sanitation and water services, which reflect a measure of decent housing. As a limitation of (IDS-COVID-19), it is not possible to analyze which households have, at the same time, water supply by the general network, sanitary sewage and garbage collection done directly. Therefore, the present study highlights the need to complement this analysis for the municipality of Seropédica with another health indicator, the dengue rate, using data by census sectors, as Soares and Silva (2019) explain, these characterizations, identifications and relevant information that can be useful and effective in organizing a planning process for this health territory to face COVID-19. For example, verifying where the neighborhoods with socio-environmental precariousness are, for a strategy of differential action of action measures that contemplate the demands/needs felt by the local population. In other words, the analysis of a health indicator by neighborhood allows the tracking, isolation, and contact monitoring of cases, in order to analyze the epidemiological period of exposure distributed in the region, which are systematically evidenced by the analysis of the health situation.

4. CONCLUSION

It was concluded with this work the urgency of carrying out the demographic survey, of greater and more detailed collection of socioeconomic data in the country, the 2022 Census, for the use of Geoprocessing in Health by the Health Teams of the UPAs in the country, in the pandemic. On the other hand, the difficulties in capturing the information systems of the Ministry of Health, make it impossible to detect, notify, monitor and control for decision-making in health in the municipalities. Thus, the geoprocessing in health for the monitoring of confirmed cases of COVID-19 needs to be updated by the health management, it allows for greater inspection of health management. Geoprocessing in health represents compliance with the law! It appears that there is a high degree of difficulty in accessing health services, as well as on the existing infrastructure since the beginning of the pandemic with regard to physical and human resources for the municipality. This makes evident the urgent need to overcome the high degree of difficulties in accessing the city's health services with the consolidation of the COVID-19 Emergency Hospital in Seropédica! It is noteworthy that the indicators inform the high degree of numbers of people potentially more susceptible to the disease. It is the direct responsibility of public action to provide the

good conditions of these health determinants that are diametrically involved in the prevention of endemic diseases and preservation of the environment. Death by COVID-19 has age range! It is worth mentioning that the people of Seropédica are the best of this city, and this socio-environmental inequality imposes on them not having the minimum living conditions, and the precariousness of these services imposes to survive inharmonious with the environment. As a result, the Geography of Health resignifies the Struggle for territorial justice, so much so that access to drinking water as well as other infrastructure services are essential for life. Finally, this work reflects that the indicators present a high degree of social inequalities for the municipality of Seropédica. As well as that the pandemic is not being the same for everyone, and "there will be a horrible end for you". Death by COVID-19 has color!

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