

EMERGING SOLIDARITIES ON THE GROUND IN THE MANAGEMENT AND APPROACH OF THE COVID EMERGENCY

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EMERGING SOLIDARITIES ON THE GROUND IN THE MANAGEMENT AND APPROACH OF THE COVID EMERGENCY

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Editorial: Emerging Solidarities on the Ground in the Management and Approach of the COVID-19 Emergency

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Editorial on the Research Topic

Emerging Solidarities on the Ground in the Management and Approach of the COVID Emergency

The manuscripts published in the Special Issue *Emerging Solidarities on the Ground in the Management and Approach of the COVID emergency* made it possible to approach the different coping strategies and management of the COVID 19 pandemic in different parts of the world, reveals the enormous human capacity to respond to problems as challenging as the pandemic was and still is. Whether in large European cities or within the Brazilian Amazon, in different forms of social organization, it was possible to perceive an enormous capacity for resistance and resilience in the face of a problem of incalculable proportions and damage.

This Special Issue gathers eight different papers, from authors representing Latin American institutions, and Canadian and European.

The first manuscript, *The Covid-19 Emergency and the Risk of Social Fragmentation in the Palermo case*, by Siino, the experiences of associations working with people belonging to the weakest part of the community were analyzed from the social context in Southern Italy, in Palermo. Siino interviewed representatives of the main local associations as privileged witnesses, highlighting how the activities of local actors and how the dynamics of solidarity are influenced by the global Covid-19 phenomenon.

Also referring to Italy, the manuscript *The Italian Deaf community at the time of Coronavirus*, by Tomasuolo et al., presented an analysis of the impacts of the pandemic crisis on the Italian deaf community as a linguistic minority. Authors also analyzed, how social media were exploited as a basis to promote social cohesion and share information about the emergence of the coronavirus, and how the deaf community shaped interpretation services in the public media. Hence, the use of social media allowed Deaf people to create a new virtual space.

Moving to a different geographical context, the manuscript *Covid-19 and the Brazilian Reality: The Role of Favelas in Combating the Pandemic* by Carvalho Fernandes et al., showed that favelas' inhabitants are victims of the enormous social inequalities present in Brazilian society and that these are even more severe in the slums. Favelas suffer from lack of access to decent housing, potable water, and a minimum income for survival, what makes the effects of the pandemic more devastating. However, the organizing of actors on the ground and the creation of "Crisis Offices" in the slums led by social organizations and support institutions, has made possible to facilitate mechanisms for assistance.

Three manuscripts in this Special Issue tackle the issue of COVID-19 and how it has impacted on the Brazilian indigenous communities, either deepening on how these communities have taken an

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active role organizing to put up actions to serve their communities in a moment where the government was not succeeding to do so, or reflecting on how these communities have put up indigenous knowledge to shape these strategies and make them more effective.

First, in *Afro-Indigenous Cosmographies of Mobility: Fishes, Viruses and Other Amazonian Lives at the Confluence With the Sars-CoV-19*, Baines et al., depict the susceptibility to death that certain Amazonian peoples are facing as a result of their particular migratory demography which, instead of being contained, has been exponentially intensified by the outbreak of COVID-19. The article demonstrates how the cosmographies of mobility of these populations are being challenged by the changes and strategic conditions imposed by the pandemic.

Second, the manuscript *The Articulation of the Indigenous Peoples of Brazil in Facing the Covid-19 Pandemic*, da Silva et al., analyzed how the indigenous communities of Brazil have organized autonomous actions and strategies to confront the COVID-19 pandemic. What is interesting for this case is that in articulating these actions and strategies, indigenous communities have brought in their lifeworlds and their own historical experiences, their health conceptions, partnerships with scientific communities and other segments of society that support the indigenous struggle.

And third, the paper *Urgent considerations on the relationship between the advance of Covid-19 in indigenous territories in Brazil and the impacts of monoepistemic public policies*, authored by Herbetta et al., analyzed the advance of Covid-19 in indigenous territories in Brazil, whether urban or rural. In this paper authors do a theoretical discussion and from it, they observe that policies need to change their old paradigms, which most of the time are centered on the fragmentation of knowledge, the rationalization of the world and on cultural and human distance. Herbetta et al. suggest that public policies and state institutions should be anchored in co-theoretical and intercultural foundations, incorporating different languages and forms of expression in the dialogical process of managing demands.

Also in Brazil but from a broader angle and beyond the scope of indigenous communities, Arrais et al., analyze in the manuscript *The Role Played by Public Universities in Mitigating the Coronavirus Catastrophe in Brazil: Solidarity, Research and Support to Local Governments Facing the Health Crisis* the role played by higher education institutions (universities) in Brazil and how they have partnered with the government and other civil society organizations to face COVID-19. Arrais and colleagues show that through specific university initiatives such as the issuing of alerts to society on the risks of the pandemic, direct assistance to local communities, with emphases on the addition of beds in university hospitals for treating patients with COVID-19 and on the manufacturing of personal protective equipment, and research to find solutions to prevent and treat the disease, Brazilian public Federal Universities area also playing a role in supporting both civil society and local governments in mitigating the impacts of the pandemic. It is

worth paying attention as how higher education institutions are partnering and seeking allies with other institutions operating at the grassroots level, as well as with local and regional governments to seek common ground to help keep the population informed.

And finally, the manuscript *Practicing social isolation during a pandemic in Brazil: a description of psychological characteristics and traits of personality during COVID-19 lockdown*, a collaboration among authors from Brazil and Canada, Zanini et al., explores the importance of considering the psychological characteristics and their influence on the social behavior of individuals and on supportive (pro-social) behavior, even in a period of significant stress and high social risk, and how this should be much taken into account at the time of design and implement public policies. The results showed that respondents practicing social isolation to comply with governmental recommendations had lower scores on the scales of neuroticism and consciousness; they reported less stress, anxiety, and depression, and less general distress.

We hope these cases can shed some light on how diverse societal actors operating at the local level and well-organized are coordinating efforts worldwide and organizing to alleviate the impact, especially on those most at risk communities. We have been for one year now in this pandemic, and what authors explain in these articles is the results of the fast response mostly at the community level, in a moment where we were all trying to making sense of what was occurring. Hopefully, these investigations will serve to set the ground for future collaborations and ideas on resilience and cooperation, as well as the urgent gaps that still are needed to be covered.

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Covid-19 and the Brazilian Reality: The Role of Favelas in Combating the Pandemic

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The consequences of coronavirus in favelas in Rio de Janeiro (Brazil) point to social inequality as a structuring factor in Brazilian society. The contagion spread and multiple death cases reveal the multiplicity of existence ways that cohabit the urban context, indicating that in many of these scenarios, access to decent housing, drinking water, and minimum income is not a reality and recommendations from international health agencies are challenging to implement. Against government technopolitics that drive different forms of death to the poorest, black communities, and slum dwellers, territorial insurgencies indicate other paths for the construction of a dignified life and access to fundamental rights, targeted solidarity practices, territorial political organization and the construction of specific public policies to deal with the effects of the virus which takes into account the particularities and distinct realities of the territory. The experiences of community organization around Crisis Offices in the favelas, led by social organizations and supporting institutions, have guaranteed (i) food and personal hygiene items distribution, (ii) sanitization of alleys, (iii) dissemination of information on the virus, and (iv) political articulation for disputes in defense of life preservation in the favelas, in opposition of genocidal processes carried out by the state power. Such local spaces represent practices of resistance to the death policies undertaken by the state policies, which most are not configured as spaces for collective construction and disregard inequalities and different needs in these territories. That way, community associations are presented as an inflection point, a deviation from the normal course of modulated subjectivities by the social principles and practices of neoliberalism, with the indication that the most efficient way to deal with social crises is through the strengthening of the collective and the popular organizations.

Keywords: coronavirus, favela, community organization, territorial insurgencies, fundamental rights, Brazilian reality

INTRODUCTION

The effects of the coronavirus pandemic in Brazil show the existence of a serious abyss, revealing that social inequality produces violations of rights and dictates who should live and who is destined to die and how their death is going to be. The pandemic process illustrates a death policy adapted by the State, called necropolitics by the Cameroonian intellectual (Mbembe, 2003), and points out

some of the challenges for building a world where dignified life is not a privilege of a few, but a right of all.

This article is completed 9 months after the confirmation of community transmission in Rio de Janeiro, the second most populous city in Brazil—currently with more than 6 million inhabitants—and the first death due to the coronavirus pandemic. For us, Brazilians, the news about the outbreak of the disease caused by the new coronavirus, the Covid-19, begin to appear by the end of January 2020 in a massive way and soon after, in early March, the spread of the virus was an international health emergency by the World Health Organization (WHO) and therefore affirmed as a pandemic. The WHO suggested that the world should stop and isolate itself so that the process of contamination would slow down and not overload health systems, given the scarcity of resources to face it all over the world, especially in developing countries, marked by a history of colonization. It is worth mentioning that at the time of submission of the article, no vaccine had yet been developed to combat the virus and one million and 170 thousand deaths worldwide according to Pan American Health Organization^{1,2}—with more than 157 thousand deaths in Brazil alone, a country that occupies the second place in the ranking of mortality by covid-19 despite underreporting, given the low testing of the population—one of the major problems in Brazil, warned by WHO even in the first months of the pandemic³.

The lack of energetic measures to combat the spread of the disease has enhanced a reality of crisis in Brazilian public health system—which has been living in recent years with overload and devaluation by the public power. Santos et al. (2020) point out that the early and cohesive closure of non-essential activities in Brazil has lasted little and the suspension of social distancing measures has been occurring asynchronously. Regarding the increase of contamination cases in Brazil, the study points out that these were the results of multiple factors, “including noncompliance, delayed implementation of social distancing measures, superspread through mass gathering events and the lack of coordinated control measures with neighboring municipalities” (p. 6). The study highlighted the lack of national coordination for the fight against Covid-19, and as the National Confederation of Municipalities (CNM)⁴ points out, the municipal non-pharmacological actions were prior to state and federal government guidelines, and the Ministry of Health published risk management strategies, risk assessment, guidelines and instruments to support decision-making in response to the Covid-19 pandemic at the local level only on May 11.

In recent years, especially after the impeachment of President Dilma Rousseff in 2016, there have been many setbacks in the field of social rights. The approval of Constitutional Amendment 95 in December 2016, which freezes investments in social areas, we have suffered from the intensification of the decay of our health systems, closure of beds and hospitals throughout the

country. For many, the social collapse had already begun by analyzing this issue. The Brazilian Unified Health System is recognized worldwide for its capillarity, diversity of services, organization, especially for its public and free character. Political decisions have direct consequences on the maintenance and quality of services offered by SUS, making it even more difficult for the poorest population to access the right to health. Even in the cities where quarantine and social isolation were being decreed, many people could not interrupt their activities and so many others were forced to stop: given the continental and unequal reality of Brazil, where many work in informality to guarantee what to eat on a daily basis, how to adopt such restrictive measures, especially in view of a negligent government? As the Bolivian psychologist, Galindo (2020) affirms: in Latin America the coronavirus had exposed the colonial order of the world, highlighting that “Here the death sentence was written before the Covid arrived in a tourist plane” (p. 124). Even in the first months, the richest already said that the worst had passed⁵ even with the growing number of deaths among the poorest, who suffered from the difficulties to have access to any treatment. Costa et al. (2020) exemplify:

In Brazil, the supposed democratic character of the virus is questioned when one observes the data that the black and peripheral population has higher lethality rates than the rest of the population. In Rio de Janeiro, at the beginning of May, the data reveal that the lethality rate in the *Complexo de Favelas da Maré* is 30.8%, while in the *Leblon* neighborhood it reaches 2.4% (...). Nevertheless, (...) data (...) indicate that the number of hospitalizations and deaths of black and brown people has a higher rate of increase than that of white people (p. 2).

In a broader analysis, we see that in Brazil, the pandemic has never been about the richest; indeed, it is not about the poorest as well, but it does highlight the cruelty that our form of social reproduction of life imprints on society—for example, the first death by Covid-19 recorded in the country was a black woman, a domestic worker in a neighborhood of Rio de Janeiro’s elite. In this sense, this article aims to problematize the relationship between the guarantee of rights and social inequalities in Rio de Janeiro’s slums, from the scenarios that emerge with the new coronavirus pandemic, emphasizing that even in the face of government technopolitics that stimulates various forms of death to the poorest, blacks and slum dwellers, territorial insurgencies indicate other ways to build a dignified life and access to basic rights, guided by solidarity practices, territorial political organization and the construction of specific public policies to deal with the effects of the virus considering the particularities and different realities of the territory.

Our new invisible enemy “makes us see and speak” (Deleuze, 1986) about these inequalities. The big media started to publicize the solidarity actions and the government was strongly pressured to approve measures of attention to the favelas. In the House of Representatives, bills such as PL 1000/2020, which would institute the Covid-19 Attention Program in the Favelas; as well

¹<https://www.paho.org/pt/covid19> (accessed October 30, 2020).

²<https://bityli.com/btg4K> (accessed October 30, 2020).

³<https://bityli.com/rqlyS> (accessed October 30, 2020).

⁴<https://www.cnm.org.br/comunicacao/noticias/pesquisa-da-cnm-com-mais-de-4-mil-municipios-mostra-resposta-do-poder-publico-local-a-covid-19> (accessed September 11, 2020).

⁵<https://bit.ly/3dVWUre> (accessed May 13, 2020).

as the struggles for Emergency Aid, are signs of the dispute for the dignity of families in different spheres. Especially in the case of the city of Rio de Janeiro, a study dated September 9 revealed that if one compared the number of deaths per 100,000 inhabitants per Covid-19, if it were a country, the city would have the worst rate in the world (Brasil, 2020; Santos et al., 2020).

Invisible and exceptional the coronavirus was initially considered a “democratic virus”—an expression that composed many writings and TV news at the beginning of the spread. A widely spread disease that would reach everyone in an equal way, initially evidencing an evaporation of the nobility’s security and, the fear of its contamination, overtook territorial and economic borders, with an idea of communion, of a possible world of greater solidarity where the virus would overcome the capital and the competitiveness entangled in it. “This virus is democratic and does not distinguish between poor and rich or between statesman and ordinary citizen” (Zizek, 2020, p. 25).

However, how can a virus be “democratic” (Zizek, 2020) in such an unequal country? The reality of Rio de Janeiro outskirts and slums shows itself to be another compared to noble areas; the orientations of epidemiologists, sanitarians and other scientific experts are incompatible with the material, financial and social structures that they possess, without basic conditions to follow food, isolation and hygiene prescriptions, not to mention that information about care often arrives biased and demoralizes the seriousness of the disease, treating it as a “little flu” (Löwy, 2020). Controlling contamination in so-called democratic countries could be a challenge, points out Sousa-Santos (2020), since each person is “free” to decide about their movement and other aspects of the operationalization of life. Just as, for Brazilians, access to information and public health services, for example, are also for everyone. A utopia, we know. “De-mo-cra-cy” four syllables and an elaborate phonetics, but that sometimes does not articulate and is inefficient to represent the right to equality and free and participatory exercise of life in the most different social classes (Bicalho, 2013).

It is important to point out that Brazil has one of the highest rates of social inequality (being in 10th position in comparison with other countries in the world, with an increase in inequality between the extremes of labor income distribution in 2019, according to the Institute of Applied Economic Research)⁶. To maintain the capitalist order, social Darwinism still permeates as an explanatory ideology to this phenomenon and massively affects the poor, blacks and working class, historically exploited by colonialism (Bolsanello, 1996). Those strongest, capable of adapting to the environment (and, here, surviving the pandemic) will survive—an addendum only to affirm that there is a government policy that dictates how some can live and others must die.

As Achille Mbembe points out, “My concern is with those forms of sovereignty whose central project is not the struggle for autonomy, but ‘the widespread instrumentalization of the human species and the destruction of bodies through terror in specific populations’ (Mbembe, 2003, p. 11). Politics that

instrumentalizes us to better explain contemporary forms of subjugation of life to the power of death” (Mbembe, 2003, p. 36).

The specificities of the slums and peripheries are not something new. In the city of Rio de Janeiro, 763 favelas (IBGE, 2010)⁷ are officially accounted for, according to the Census conducted still in 2010, these have very different realities, but there are inequalities of access to basic rights as a common point, as there are places where the water supply is irregular and garbage collection is practically non-existent.

Slums, peripheries, communities in social vulnerability, places where poor people live, do not receive investments from the State on an equal basis like other regions of cities. Investments are lacking in essential areas, such as health, education, housing, lighting, among other services (Botelho et al., 2020, p. 4).

As described in the online newspaper *Maré de Notícias*⁸ — one of the media vehicles for the events and daily reality of the *Complexo de Favelas da Maré* in Rio de Janeiro, where more than 140,000 people live—it highlights that in the slums most houses are small with few rooms and many people, without air circulation, making it difficult to respect the prevention measures proposed by national and international health agencies.

The initial orientation to social distancing already warned about the risk of social upheaval in the slums, with the perspective of marked impoverishment: seven out of 10 families would have their incomes compromised in a first analysis⁹. There are many reasons for this, including precarious, informal, autonomous, outsourced labor relations or services provision through platforms. Such precariousness, as Assunção-Matos and Bicalho (2016) point out, is a process that articulates itself with poverty.

As Forrester (1996) states:

We live in the midst of a masterly decoy, a world that has disappeared that we persist in not knowing as such and that certain artificial policies intend to perpetuate. Millions of destinies are destroyed, annihilated by this anachronism caused by reluctant stratagems, destined to present our most sacred taboo as imperishable: work (...) we participate in a new era without being able to observe it. Without admitting and not even realizing that the previous era has disappeared (p. 7)

In this sense, small businesses in these territories have been quite affected by the effects of the pandemic, influencing the reduction of work and of family income itself, considering that 46% live off the income of their own business; and 15% have opened a new business in the last 12 months, mostly out of necessity. Due to a high number of informal establishments, accessing credit lines is more difficult. In fact, there is an entire service based economy that supports many of the families in these locations: manicures, bricklayers, bakers, housekeepers. Immediately, an obstacle to the guidelines of quarantine and social isolation, since “the bread of each day” depends on daily work. All this reality, exposed by

⁶<https://static.poder360.com.br/2019/12/mercado-de-trabalho-20193T-ipea.pdf> (accessed May 4, 2020).

⁷<https://cidades.ibge.gov.br/brasil/rj/rio-de-janeiro/pesquisa/23/25359>

⁸<https://mareonline.com.br/mare-de-noticias/sem-espaco-para-isolamento/> (accessed April 30, 2020).

⁹<https://exame.com/economia/renda-cai-para-7-em-cada-10-familias-nas-favelas/> (accessed March 31, 2020).

the coronavirus, has always existed in these places. As Dornelles (2017) points out:

What happens, especially in times of barbaric capitalism, as adopted by the neoliberal order, is that the human contingents that are in a situation of vulnerability, of social exclusion, are increasing all over the world. They make up a multitude of human beings who are now identified as enemies of order and dangerous, whose existence and living conditions are not treated as a result of this model of capital accumulation, but rather as segments to be criminalized and punished (p. 123).

The majority of favelas arise from an unequal reality that imposes itself on workers in a brutal way, limiting their access to fundamental rights such as the right to housing (Valle et al., 2015). And there have been many attempts in the history of the slums where the residents have held the public power responsible for improvements, but there have also been many times when the public power has acted tirelessly in the destruction of slums, in the demolition of houses, and in the rupture of democratic dialogues with the population. The understanding of the slum as a problem to be extinguished or at least controlled in the context of its population growth has been present in public authorities since the beginning of the 20th century (Melicio et al., 2012).

Thus, the logic of “we for us” is reigning in many of these territories, not as a dead word, but as a daily practice of invention of a world where life is possible to be lived—a philosophy of existence that is guided by sharing, by the strengthening of the collective, which enforces the principles of “ubuntu,” an African philosophy that points to an ethos of solidarity and interdependence with others. When the cobwebs unite, says an Ethiopian proverb, they can tie a lion.

Ubuntu situates individuals within a web of relationships that is born of identifying with others and acting in solidarity. It is by sharing a way of life with others that individuals’ come into existence’. We exist because our social connections remain strong, extending beyond family to embrace our clan, village and entire community (Seifu Estifanos et al., 2020, p. 1).

The new coronavirus not only causes sanitary and economic changes, but it also makes visible what has been put as a priority and challenges humanity in the construction of a new reality; in this sense the pandemic can be considered as an event, in the Foucaultian vision, and the threat of contagion by SARS-CoV-2 as a powerful device. Foucault (2008) affirms the event as that which when it erupts, causes discontinuities in the field of knowledge-power, turning certain discourse possible by changing the epistemic of an time. And as for devices, they are machines, networks, always partial, momentary (never universal and eternal) that respond to certain effects as they are in a continuous process of object production (Barros et al., 2009). A device, therefore, that questions the right to life, the right to dignity (Universal Declaration of Human Rights, 1948), and questions the function of the State, our empathic capacity, and our processes of choice in the face of the death threat. The coronavirus gives visibility to the different realities marked by social inequality, as in the case of Brazil. As the Portuguese philosopher Gil (2020) points out, the pandemic

is not about the fear of death, but above all, the fear of absurd death.

#COVID19NASFAVELAS

The city of Rio de Janeiro has the largest number of people living in slums in the country, representing 22.03% of the population. Comparing the 2010 Census with the 2000 Census, there was a 27.5% growth. Since the beginning of the pandemic in the city of Rio de Janeiro, some legislative initiatives have been proposed by the federal, state and municipal governments to contain contamination by the virus in the slums, many of them created in dialogue with social movements and universities, with the aim of creating emergency attention plans for the slums, in an understanding of the importance of the State taking responsibility for ensuring a minimum for a quarantine with dignity. This includes broad issues from access to water, food and minimum income, as well as the safety of residents, with a Law Project banning police operations in the slums while the pandemic remains. It is important to point out on this point that during the month of May, one of the most serious moments of the pandemic, police operations killed dozens of young black people. In *Complexo do Alemão*—a neighborhood that houses one of the largest groups of slums in the municipality, with about 120,000 residents—in a single operation 12 people were killed by the police, for example. Although important initiatives have been filed in the legislative houses, most of them have not been approved and those that were approved—late—are still not being implemented. The slowness of implementation of the measures makes explicit the relationship that governments establish with such territories, where efforts to preserve life are less frequent than the imminence of death.

In the absence of effective actions by governments to control the pandemic and with the progressive increase of cases and deaths, another sector of the slums has also presented measures to “combat” the coronavirus. Operators of the retail drug trade in several places have made strong recommendations for social isolation, prohibiting the occupation of public roads within slums and agglomerations¹⁰. Acari, another neighborhood located in the city of Rio de Janeiro, people supposedly linked to drug retailers would be using a sound car, called *Carro da Lapada*, to warn residents that it is not vacation time, but protection, including setting parameters for curfews and indicating who is allowed to go out on the streets. This car would also be monitoring crowds and making threats—the *lapadas*—a local slang to connote the use of physical violence in case of non-compliance with the recommendations, since “if you do not embrace the talk, the talk embraces you”¹¹.

Understanding the reticular and multidimensional reality helps us to advance in a more propositional posture on the reality of the slums, which are heterogeneous territories where many realities and social markers cohabit. It is also important to understand that problematizing the reality of the slums

¹⁰<https://bit.ly/2TiEfOk> (accessed April 28, 2020).

¹¹<https://odia.ig.com.br/rio-de-janeiro/2020/04/5904264-carro-da-lapada--criminosos-anunciam-toque-de-recolher-em-acari.html#foto=1> (accessed April 29, 2020).

does not mean addressing only issues related to precariousness and poverty; it is worth noting that the residents of Brazilian slums have a consumption power of 119.8 billion reais per year (equivalent to 21 billion dollars), a mass of income that surpasses countries such as Uruguay, according to the survey “Economy of the Slums” conducted by the *Instituto Locomotiva* and *DataFavela*¹². Faced with this scenario, the strength of the favela in terms of power of resistance, community articulation, solidarity and social engagement should be highlighted.

In the context of a cultural capitalism that expropriates and resells ways of life, wouldn't there be a growing tendency, on the part of the so-called excluded, to use life itself, in its precarious subsistence, as a vector of self-worth? (...) Their only capital being their life, in their extreme state of survival and resistance, is that which they made a vector of existentialization, is that life that they capitalized and thus self-valued and produced value (Pelbart, 2003, p. 22).

Following the course of actions taken in relation to the coronavirus, the articulations made in these territories are notorious, to the point of recognition on March 31 by one of the Health ministers of the period, Luiz Henrique Mandetta, at a press conference:

Congratulations to the communities of Rio de Janeiro. Congratulations to the favelas, the communities, and I know them. I studied there. I studied there. I did voluntary action both there in *Vidigal* and in *Rocinha* when I was a medical student. The other day I went to launch the sexually transmitted diseases program there in *Rocinha* with young people from the community. Congratulations *Maré*, congratulations for the work you are doing and the example of dignity, behavior, intelligence. From the wisdom class you are giving. In the dynamic, *Heliópolis* in São Paulo, all of them. *Paraisópolis*. All of them. I'm talking about Rio de Janeiro because I stayed 10 years in that city¹³.

Mandetta's speech is controversial because it is not part of a context where the state operates policies to guarantee rights for the population, but it is aligned with neoliberalism because it bets on a rationality where the state does not take responsibility as a sponsor of social welfare and care for the population. It is important to point out that collectives and leaders strongly reprimanded the then minister and the policy operated in the period.

In March, part of the recommendations listed by the Ministry of Health, led by the aforementioned minister, and by Brazilian leaders in the face of the pandemic that was approaching our country, did not include the favelas. The first attempt to organize the demands of these territories came, not by chance, from the coalition between leaders of the *Complexo do Alemão*, *Cidade de Deus*, *Complexo de Favelas da Maré*, *Rocinha* and *Santa Marta*, with researchers from the universities Federal University of Rio de Janeiro, Pontifical Catholic University of Rio de Janeiro and State University of Rio de Janeiro, in dialogue with the public

health research institution Oswaldo Cruz Institute¹⁴. The plan gathers initiatives in the preventive dimension, indicates the need for protocols for medical care, points out parameters for the coordination of territorial actions and defends the construction of an Office of Crisis of Attention to the Favelas. Even though, when the plan was presented and delivered to the public power, specific actions were already being taken by it, the articulation of a plan that thought about the slums in their amplitude and diversity and proposed organizational and political ways to face the pandemic only happened in the meeting of researchers (mostly from public institutions) with territorial leaders. The role of universities and research institutes at this time is to reaffirm their social function and strengthen policies that are in line with the interests of Brazilian society, without losing sight of the need to treat unequally those who are unequal to the extent of their need; that is, to pay attention to the principles of isonomy for access to rights, assured by the Brazilian Federal Constitution of 1988.

One of the main measures proposed in the above plan is the articulation of a social support network. Based on the understanding that the pandemic brings impoverishment to many families, it becomes essential to defend solidarity measures, such as the distribution of basic food baskets, drinking water, masks and gloves for individual protection, hygiene and related materials, but also the fight for public policies to access income, such as the release of the emergency aid. Still in April, the House of Representatives voted and approved the release of the benefit, whose values vary between 600 and 1,200 reais (equivalent to between 112 dollars and 224 dollars). The beginning of the payment of the first installment of the emergency aid took place on April 9, among the bureaucracies established for the access to the benefit were the access to the internet, through website and application and the use of bank account—two difficult points considering the Brazilian reality. The result was the formation of immense queues and agglomerations at *Caixa Econômica Federal* and *Lotéricas* branches, which caused many families to spend weeks trying to receive their benefit, without success. Recently the Federal Government informed the endure of the benefit payment until the end of 2020, but in the amount of 300 reais (equivalent to 56 dollars), which is insufficient for the purchase of food from the basic basket, for example.

The social inequalities discussed here have intimate relations with historical and contemporary political processes, which have existed since long before the pandemic and will still exist after its end. Thus, it is possible that the experience of the pandemic in Brazil potentiates an unprecedented crisis. The Ministry of the Economy announced in an optimistic perspective, a drop of 4.7% in Gross Domestic Product (GDP)¹⁵. Financial institutions such as JP Morgan and BTG Pactual, project a drop of 7% in Brazilian GDP^{16,17}. It is evident that considering the current expectation of the Federal Government, the country will suffer the biggest fall in GDP in history, since similar percentages occurred only in 1981,

¹²<https://glo.bo/36fg9t5> (accessed January 31, 2020).

¹³<https://bit.ly/3g5ug98> (accessed March 31, 2020).

¹⁴<https://ufrj.br/noticia/2020/05/05/ufrj-participa-de-plano-de-aco-es-contra-covid-19-nas-favelas> (accessed May 27, 2020).

¹⁵<https://oglobo.globo.com/economia/com-pandemia-governo-preve-queda-de-47-no-pib-em-2020-24424322> (accessed May 14, 2020).

¹⁶<https://glo.bo/2LFNJis> (accessed May 11, 2020).

¹⁷<https://bit.ly/3bGt6xm> (accessed May 16, 2020).

with a decrease of 4.39% in the value of GDP, which indicates a deterioration in the quality of life of a specific population.

It is not by chance that in Brazil, different from countries like Italy, Portugal, England and France, the concentration of cases of lethality by coronavirus is not marked by differences in age group. Here, what determines who lives or dies due to the complications of the virus, are socioeconomic factors with a very strong racial component among the “risk determinants.” Goes et al. (2020) indicate that, while on the one hand the absence of concrete data collected by the State makes it difficult to map the real number of black people who are contaminated, the history of low access to health and greater vulnerability to chronic diseases points to concerns for the black population to prevent and combat covid-19. There are a number of factors that prevent access to the correct diagnosis and appropriate treatment and it is no coincidence that the first death in Rio de Janeiro was of a domestic employee, contaminated by the owner of the house where she worked, who was in Europe shortly before the pandemic¹⁸. The data reveal, therefore, that the neighborhoods with more blacks concentrate more deaths than the neighborhoods with fewer blacks, in absolute majority¹⁹. Even so, the Ministry of Health replies that there is no information on how many cases were confirmed by race/color, nor the number of tests from racial groups. In Rio de Janeiro, a lawsuit was filed to determine that the race/color markers of infected and dead were recorded, so that more concise data can be produced on vulnerable groups to the pandemic. Federal Judge Dimitri Wanderley's decision holds the Union responsible for issuing guidelines for the mandatory completion of data throughout the country²⁰. The decision has not yet had any effect on the results that are exposed. Without general guidance and supervision, we continue to operate in the logic of concealment of data to build alternative and false realities, where markers of race and class do not influence in cases of death and contagion, producing the false idea of a virus that is democratic. This repeats itself in several other regions of favelas or peripheries, not only in Rio de Janeiro.

It is important to point out, at this time, that underreporting is robust, and can be even greater in the case of slums and peripheries, since, besides overcrowding in the public health network, access to testing is still very expensive in the private sphere. Without strengthening the Unified Health System and the consequent expansion of tests and increase of vacancies in public Treatment Centers, it is clear that the most affected population will be the poorest.

At the same time that official data are disseminated, residents have also conducted their own research on infected and dead people²¹, such as measures to fight fake news. In May, for example, a community media outlet, the newspaper *Voz das Comunidades*, of the *Complexo de favelas do Alemão*, launched an application with information about the new coronavirus in order to provide real-time access to reliable information and news

verification. The application was made with funding from the American Consulate in Rio de Janeiro²². Regarding the reliability of the information regarding the contagions that occurred in the *Rocinha* slums (100,000 inhabitants) and in the *Complexo de Favelas da Maré* (140,000 inhabitants), there are studies that point out that the number of deaths can be up to three times greater than what was disclosed by official agencies. The deaths in these territories already exceed the numbers of many cities in the metropolitan region of Rio de Janeiro, such as Niterói (with an estimated population of 515,000 people) or São Gonçalo (with an estimated population of 1,100,000 people).

In the midst of the crisis caused by the new Coronavirus, people living in slums and peripheries have been mobilized through community articulation and strengthening of solidarity networks to fight the virus and reduce social and economic impacts in the territories. The pandemic has demanded actions to combat harm and mitigate it in different spheres, while the issue of treatment to COVID 19 is mainly managed by the SUS, actions related to the dissemination of reliable information, prevention and social assistance, for example, have been enhanced by the articulation among various civil society actors such as universities, NGOs and private companies. The initiatives developed are several and enclose the fight against fake news, as previously discussed, enhancement of preventive actions with local public health institutions, collection of donations, sanitization, registration of low-income families, production of knowledge, and shelter to residents.

In early April, residents of the *Santa Marta* slum sanitized the streets, from articulation with the local business, as one resident says: “I talked to some friends of mine, they paid for the equipment and I bought glove, simple materials, and got some donations for chemical materials, which will end. Our slum is the first in Brazil sanitized with the same equipment as China, by the residents”²³, and several slums made contact to learn how to use the equipment. Other actors like the Public Defender's Office of Rio de Janeiro and the State Public Prosecutor's Office also carried out important actions: almost 2 months after the beginning of the pandemic, the entities got an injunction in court that forces the public power to regularize the water supply in the slums. Small victories like this one walk toward a horizon where the favela can live with dignity.

Still considering the localized actions, the food collection campaigns have been mobilized by several institutions, such as the *Central Única das Favelas* (CUFA)²⁴ and the Marielle Franco Institute²⁵; the latter has launched a map to give visibility to initiatives to combat the coronavirus in the slums and peripheries of Brazil. The mobilizations also took place through musical live shows in partnership with artists and private companies. Another important action to be mentioned is the *Mães de Favela* (Mothers of the Slums) campaign held at the beginning of April by CUFA, built from research conducted by the *Instituto Locomotiva* and

¹⁸<https://glo.bo/3cKTyab> (accessed March 20, 2020).

¹⁹<https://bit.ly/2X33t4s> (accessed May 7, 2020).

²⁰<https://bit.ly/2ADFCRf> (accessed May 7, 2020).

²¹<https://bit.ly/2WHESmR> (accessed May 11, 2020).

²²<https://bit.ly/2WGNdQH> (accessed May 11, 2020).

²³<https://glo.bo/3g1wCFN> (accessed April 5, 2020).

²⁴<https://www.cufa.org.br/sobre.php> (accessed April 5, 2020).

²⁵<https://www.institutomariellefranco.org/> (accessed April 5, 2020).

Data Favela, which highlights that Brazil's slums have 5.2 million mothers, in which it was projected that more than 70% would be without income during social isolation. The research published in BBC News Brazil highlights the place of vulnerability and the social role of women living in slums in supporting and caring for their children and elderly, from an intersectional perspective:

The most fragile in society are the slum dwellers. The most fragile among slum dwellers are women. And the most fragile among women are mothers. Why? Because they take care of their children, often working in informal jobs, sewing, nailing, and still take care of the old. Because all the old people—90% of the old people in the slums—are cared for by women: whether they are daughters-in-law or daughters²⁶.

This situation is a concrete example of what expresses the concept of necropolitics, formulated by the Cameroonian philosopher Mbembe (2003). In Rio de Janeiro, the expression has already been explored by those who discuss public security policy, the war on drugs, the extermination of black youth, and so many other issues that are related to the way the state deals with the favela and periphery territories. Applied to the moment of the pandemic, we can place the concept on another analytical level, expanding the understanding of a life's government that is present in these places by exterminating lives in the most conventional ways (by police operations or mass imprisonment) but also from a historical construction marked by absences, lack of responsibility of the State, barriers to development, lack of investment and specific planning and hiding data about the reality of a people.

Therefore, the understanding of a policy of death that is actively operated gains a special contour, while dignified conditions for the exercise of care, which often contradict the orientations of health agencies and specialists, are not guaranteed. Nevertheless, it also presents itself in a more cunning dimension, in the exercise of unaccountability over the lives of the most vulnerable, in the disinvestment that has been made in recent years in social protection measures, in the deregulation of the labor world, and in the freezing of investment in social areas such as science and technology and public health, one of the hardest effects of neoliberal tentacles on state governance.

Faced with the uncertainties of the scenario, the networks of solidarity have played the role that the State is not playing when it comes to facing the spread of the new disease. From the donation, collection and distribution of food and hygiene products, to the manufacture of masks, and the dissemination of important sanitary information regarding contagion, the community force has been the great mechanism to minimize the damage of this pandemic conjuncture and increase collective resistance and the feeling of belonging. To this end, these networks in the slums have been leading actions in the fight against Covid-19, making a difference to overcome one of the largest public health crises in the world.

DISCUSSION

A crisis contained within other existing ones—historically—and once again, socioeconomic factors, closely linked to the color-race class, determine who lives and who dies, not only in Rio de Janeiro, despite this being part of the scenario. We point out that the underreporting of Covid-19 has produced distorted realities, and such markers have not been taken into account by statistics and have become operators of death policies. The same would be to say that, by not recognizing the specificities, as it is lacking—it does not plan improvements, does not invest, does not guarantee decent conditions of care, freezes investments in social and health areas, and deregulates labor rights—the State actively operates to exterminate the poorest people and increase social inequality.

The pandemic has been an important device to make the harsh reality of inequality of the slums and peripheries in our country be seen and talked about. But does it put these favelas on the map once again? The “rediscovery” of the slums that has been happening in the mainstream media and in government actions does not happen exactly because of the concern with the slums and their inhabitants themselves. At the beginning of the pandemic, some people said that the big problem in Brazil would be the slums, in purely racist, eugenic comments in a logic that imagined that the slums would contaminate the rest of the country. This “rediscovery,” therefore, has given way to a concern that is more intense with those who live outside these spaces than with those who live there, as if the slum dwellers and peripherals were the great danger for the expansion of the coronavirus.

Do these analyses consider that the traces of the first death show that the path is often the opposite? Or that the data indicate that, although “those who pay the bill” are the poorest, black, slum residents and peripherals, the blame for the contagion lies not with these people, but with the government which resists dealing with their responsibility and have kidnapped our country for private interests of a few (Löwy, 2020)? The slums, on the other hand, are the “social sector” that is most organized and active in the fight against the coronavirus. An analysis of the mapping of the Marielle Franco Dictionary of Slums²⁷ reveals dozens of territories organized into territorial actions. At the same time, the initiative to think about public policies to confront the chaos that is being placed has also been of the favelas, articulated in their collectives and leaders. In several favelas in Rio de Janeiro, like *Chapéu Mangueira* and *Babilônia*, there are initiatives for psychological assistance to residents, organized by community leaders in dialogue with volunteers, for example²⁸.

As the virus demands patience from us—since the uncertainties related to its therapy are still great—it reveals even more a sense of urgency because “those who are hungry are in a hurry.” This sentence exemplifies the inequalities stamped on Brazilian society and the need for a paradigmatic change in the sphere of public management. The coronavirus shows the particularities of the slums and peripheries and the government's negligence in the face of the demands of the poorest. Exclusions, precarious housing, rents compromised by interrupted work,

²⁶<https://www.bbc.com/portuguese/brasil-52131989> (accessed April 5, 2020).

²⁷<https://bit.ly/2z8ZWcT> (accessed September 12, 2020).

²⁸<https://glo.bo/3dWwPIv> (accessed September 12, 2020).

and, as observed, these are not only measures of isolation of these people, but also the suspension of services to provide that prevent them from working. Poverty is spreading.

One concern is shared by residents and activists alike, as well as by public authorities: impoverishment and a decline in the quality of life of slum dwellers is a major problem. The greatest divergence is about the exits to be presented: if, on the one hand, the adoption of awareness campaigns, the lockdown and maintenance of emergency aid is advocated, on the other hand there are signs of exits that may cause even more violations of rights. The most extreme example of this was the attempt to militarize the social issue undertaken by the mayor of Rio de Janeiro, who requested a federal action to close down businesses in the favelas, even pointing out that he could hardly deal with the place without the mediation of the Military Police and its weapons²⁹. The demand for the presence of the public power here does not require more truculence, but the construction of mechanisms that guarantee at the same time the full protection of families in these territories and their right to quarantine with dignity (with distribution of food items, hygiene, sanitization of public roads, release of Internet networks, release of emergency aid) and the construction of plans for access to health services for all who demand, with testing, orientation, hospitalization and care for all. A healthy life has been incompatible with the capitalist structure put in place. Under quarantine conditions, individuals living in slums and peripheries suffer and more than ever, and they point out that equality does not exist, not even by the law.

²⁹<https://glo.bo/3g2si9m> (accessed September 12, 2020).

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Despite so much neglect and violation of rights, slum dwellers recognize their needs and even more their strength; they mobilize their human capital, activate and strengthen their networks, and develop preventive and emergency actions, as well as request and, in their own way, summon important actors to hold public power accountable for guaranteeing the rights to life. The important role of community association, whether in donations or in proposing public policies, is evident. It is a turning point, a deviation in the normal course of subjectivities modulated by the principles of neoliberalism, with the indication that the best bets of ways out of the crisis are organized in the meeting with the collective. Boaventura Sousa-Santos³⁰ points out that the reinvention of democracy involves an expansion of democracy in this community dimension, in neighborhoods, in civic education oriented to solidarity and cooperation, in the fight against the extremely strong ideals of entrepreneurship and competitiveness that prevail today. The exits found by the suffering population are the actions of solidarity, of awareness, of specific claim, which are extremely important, however, only the State is the guarantor of rights through the creation of localized public policies.

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³⁰<https://www.brasil247.com/blog/virus-tudo-o-que-e-solido-se-desfaz-no-ar> (accessed April 5, 2020).

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The Covid-19 Emergency and the Risk of Social Fragmentation in the Palermo Case

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The global Covid-19 crisis has shown its impact on all the aspect of life: health, social, economic, and politic. The attention mainly reserved to the economic and politic aspect musts also take into account the risk of social fragmentation. In which way this emergency has impact on communities where social fragilities were already existing? In which way, social dynamics are changed by the fear of the pandemic and the physical isolation imposed by governments to contain it. In which way local associations and citizen are coping the new challenges imposed by this emergency? In this article, the Sicilian context will be explored with a specific view on the Palermo capital. This Italian region has a peculiar and complex social asset determined by interrelated socio-economic phenomena such as mafia, unemployment and poverty. Fortunately, the existence of problematic and historical social phenomena has to face with the constant activities organized by local associations, civil society and authorities to fight them. There is one element that must to be consider: a global event like a pandemic oblige to be careful to the new ways in which phenomena we are accustomed to can manifest. Inequalities and racial matter can be exacerbated even in a multicultural context like Palermo one if social balance is missing. New form of poverty and the higher number of people exposed to this risk can give to mafia-type organizations more instrument to establish their control on the territory. The same introduction of economic measures aiming to support people can be manipulated and have a distorted effect when concretely applied. It is a great challenge because the lack of a complete comprehension can determine a failure of the adopted measures and a lack of cohesion of the social tissue. Starting from the context definition, the analysis will explore the perspective and the experiences of associations working with people belonging to the weaker part of the community, thanks to semi-structured interviews to representatives of the main local associations as privileged witness. In this way, the analysis will try to highlight how local actors' activities and how dynamics of solidarity are influenced by the global Covid-19 phenomenon.

Keywords: Covid-19 emergency, Palermo, social fragmentation, technological gap, local communities, new challenges, inequalities, quality of life

INTRODUCTION

Italy is the first European Country in which the Covid-19 emergency has been recorded.

The first outbreaks of Covid-19 is reported in February, in the Northern region of Lombardy (Presidency of the Council of Ministers, 2020a,b). Just few days after it, the virus reaches the Sicilian city of Palermo with the contagious of a group of tourists coming from Milan (Patané and Spica, 2020). Behind this specific case, at the beginning, Southern Italy seems to be not affected by the pandemic. Indeed, virus spreads above all in Lombardy, Veneto, Emilia-Romagna, and Piedmont. Considering its diffusion, a series of special measures are immediately adopted by government, both national and regional, in order to contain it. These measures concern the organization of health services, the definition of protocols that must be adopted if a Covid-19 case is recorded or suspected, starting to introduce limitation to the free of movement in certain area of the Country depending on the different spread of the pandemic.

Week after week, the number of contagious increases in a sort of descent toward the Southern part of the Country. Thus, measures originally applied in some Northern areas starts to be extended to the whole Country on 9th March while, just 2 days after, the 11th March marks the beginning of the so called "Lockdown," that since that moment become a common word.

The global Covid-19 crisis shows its impact on all the aspect of life: health, social, economic, and politic. The attention mainly reserved to the economic and politic aspect must also take into account the risk of social fragmentation. In which way this emergency has impact on communities where social fragilities are already existing? In which way, already existing social dynamics are changed by the fear of pandemic and isolation imposed by governments to contain it. In which way local associations and citizen are coping the new challenges imposed by this emergency?

The aim of this article is to reply to these questions, trying to define what Covid-19 emergency could be for our societies. Different factors are taken into account such as social damage and the attempt to reorganize social relations (Corposanto, 2008, 2020; Moretti, 2020), the risk of social fragmentation and the ambivalent consequences of the increasing role of technologies in front of this new emergency (Auriemma and Iannaccone, 2020; Finch and Hernández Finch, 2020; Pagano, 2020; Zuddas, 2020). Anyway, research plan had to face on the concrete capability to reach and investigate reality. How explained in the following paragraph, interviewing representatives of civic associations working on the field have been considered as the best way to catch this particular perspective; despite of any prevision, reaching them proved harder than expected. Indeed, this represent the main limit of the work itself that could be improved extending the local actors involved.

MATERIALS AND METHODS

Considering the different spread of this emergency in different Countries, the first part of the research is dedicated to the reconstruction of what happens in Italy and in which way National and Local Governmental Institution faces on

this phenomenon. In sections Pandemic Context, Criminal Dimension and Control Activities, and Economic Dimension, I propose a reconstruction of the context, considering economic and criminal dimensions, based on official data and documents released by Institutions - both at national and local level - other than articles published in the Newspapers. It aims to reconstruct the conditions in which the communities we will talk about really lives, also considering that the pandemic had a different spread in Italy and Sicily was one of the regions less involved during the first wave. Thus, data concerning the Health service conditions, the number of committed crimes, the economic performance, the level of poverty and the measures adopted by National and Regional government in this period will be considered.

In section Social Dimension, the focus shifts to the local community of Palermo, trying to explore the way in which it faces on it, through the eye of the associations working on the field.

The experiences of associations working with the weaker part of the community, in the specific Palermo context, is used to explore the social dimension and the solidarity dynamics within the community. It aims to explore a non-institutional perspective; thus, the chosen instrument are semi-structured interviews to privileged witness such as representatives of the main local associations. The list of question proposed aims to reveal how their work and activities were "before," "during," and "after" the lockdown imposed in Italy from 11 March to 3 May 2020. The purpose of the posed questions is to define the context before the spread of this emergency; find out in which way their activities and their user communities have been affected by the stop imposed by the introduction of the Lockdown; finally, if and in which way the association have started again the daily activities after the end of the Lockdown and what kind of perspective they have for the future.

This part would be the core of the research aiming to the discover of unofficial points of view. However, in this case the methods used are at the same time part of the result of the research itself. Difficulties found in trying to reach representatives of local associations to conduct the interviews influenced the concrete prosecution of the work and the methods that have been chosen.

In the city of Palermo, there are many associations working on the field with a specific target. The selection of the ones included in the non-probabilistic sample has been determined by the will to represent the different kind of civic associations existing. The sample included associations sharing an historical presence in the city of Palermo: Libera Palermo, Nausicaa-Andrea Ballarò, Emmaus, PerEsempio Onlus, and AddioPizzo. All of them are active in working class quarters of the city - with a target made up of people of different ages and marginalized due to economic, social, or ethnical reasons - and often cooperate together¹. At

¹See the letter to the President of the Italian Council concerning the collective denounce lodged by local businessmen in Palermo, against extortion episodes: <https://m.facebook.com/moltivolti/photos/a.227967570733907/1518845184979466/?type=3&source=57>. See the claim to the President of the Region of Sicily denouncing the risk of mafia expansion due to the pandemic: https://palermo.repubblica.it/cronaca/2020/05/06/news/coronavirus_la_crisi_puo_favorire_la_mafia_venti_aziende_e_associazioni_scrivono_all_antimafia-255831282/?rss.

the same time, each of them has a specific aspect: some of them are openly non-partisan (e.g., AddioPizzo) while others have a more evident political orientation (e.g., Laboratorio Andrea Ballarò); some of them are linked to national or international organization (Libera Palermo or Emmaus) while others have just a local dimension (e.g., Per Esempio). Obviously, results cannot be generalized but they can be motive for further researches and reflections.

In a different context, the research would have previewed an on-site visit at the Associations headquarters but - considering the particular context defined by the Covid-19 emergency - an email contact has been considered more appropriate. In this first written contact, motives and themes of the research have been exposed to the association offering an appointment; always considering the application of anti-Covid-19 measures, I proposed to conduct a phone interviewing too, giving the possibility to receive in advance the list of questions via mail. The results of these contacts have been the following: one of the association never replied; two of them confirmed their availability - asking for the list of question and a phone interview - but never replied to fix the appointment (neither after other prompts); the representatives of the fourth association postponed twice our fixed appointments, and the second time he did not answer to the phone call and never call back. Finally, the last representative postponed the phone interview three times; differently from the others, he always proposed a new appointment and - thanks to the researcher's determination in concluding it - it has been possible conduct at least this interview. Thus, in only one of five cases it has been possible conducting the interview.

In the light of previous experiences in social research, the problem in reaching associations is not merely determined by the Covid-19 emergency. Indeed - even if the pandemic and the necessity of maintaining social distance has as impact the reduction of the effectiveness of researcher's attempts in establishing a contact - it can be considered as an endemic problem in conducting social researches. Anyway, in a No-Covid context, I would have reach personally the headquarter of the Association and a personal direct contact would have help in establishing a direct relation with their members making easier their involvement in the research. The impossibility to reach physically their places represents an obstacle in conducting the research itself and - it can be assumed - also for people seeking their help.

Due to the difficulties in interviewing representatives of associations, more space has been dedicated to a secondary level analysis. In particular, I analyzed the contents published on the official web sites or Facebook pages of these Associations - in order to find out how they describe themselves and what kind of projects they were involved into in this period.

The presented results are discussed in the last chapter in which I proposed some items that should take into account considering the impact of Covid-19 emergency in local communities.

RESULTS

Pandemic Context

After the international state of emergency declared by the World Health Organization, all flights from/to China have been canceled

by government decision on 30 January. At the beginning, virus seemed far from Europe and checking of international flight was considered as a sufficient measure. The first case of Covid-19 concerning an Italian citizen - not returning from China - has been officially recorded on 21st February in the Lombardy region. Before him, a couple of Chinese tourists have been recovered with Covid-19 symptoms in the Lazzaro Spallanzani Hospital, in Rome. The pandemic affected first of all the Northern region of Lombardy and spread rapidly in the whole Northern Italy. The Country seemed divided into two parts, the North with a great number of outbreaks - determining the institution of "red zones" - and the South where the virus seemed not yet arrived.

After an increase in the spread of the emergency and in the difficulties for the Health Services to face on it, to avoid that the pandemic could affect also those areas that seemed to be more resistant, a general Lockdown has been imposed by Italian government with a Decree of the President of Council of Ministers (Presidency of the Council of Ministers, 2020a,b). In the whole Country, from 11 March to 3 April, commercial and industrial activities - not offering essential services - were forced to remain close, the use of mask was mandatory in public places and people was not authorized to get out from their homes without a proved motive (such as work, buying medicaments or alimentary stuff). In Sicily, the maximum level of contagious has been reached at the end of March and the diffusion of the pandemic here has been lower than in most of others Italian regions: 0.7 cases per thousand of inhabitants (rather than 3.9 of the national average) (Bank of Italy, 2020) and a death rate of one tenth of the national level. Despite of it, to avoid gathering of people due to national festivity, the Lockdown has been renovated in the whole Country until 3rd May.

The increasing anxiety for economic damages determined by the Covid-19 emergency pulled different group of population to evoke financial supports. The main worry concerned the summer season in which Italy, in general, and Sicily, in particular, are among favorite tourist destinations and that represents one of the most important economy sector. Due to the need to start again and an effective reduction of cases, since the end of Lockdown period the emergency seemed to be dramatically reduced. Wearing the mask and adopting basic hygienic measures were still necessary but the reopen of commercial activities, restaurants, museums and similar activities gave people the idea that the worst period was behind. Weddings and religious events were possible again and people restarted to move from a region to another for the summer vacation.

In these days, we are aware that it was just an illusion and that, probably, the defenses were lowed too early.

The following paragraphs will explore the different dimensions on which Covid-19 emergency - and the consequently measures adopted in contrasting it - have had impact.

Criminal Dimension and Control Activities

The respect of anti-Covid-19 measures implied a dramatic restriction of the free movement of people and an increase in the presence of Police force and Army too in order to control the respect of those measures. According to the *Dossier Viminale*

1 agosto 2019 - 31 luglio 2020, in the period 11 March - 3 May, 12,360,197 people have been controlled and among them: 418,222 have been denounced for having violated the limitation of free movement, 5,280 for having given false information, and 886 for having violated the quarantine period (Dipartimento della pubblica sicurezza Minister of Interior, 2020a). Fire department has been greatly involved in the Covid-19 emergency in sanitization activities of public places, support activities to the transport of urgent instruments, to civil protection, to hospitals and local administration in giving information (Dipartimento della pubblica sicurezza Minister of Interior, 2020a).

The dramatic change in daily life had an impact on the criminal dimension too, in terms of reduction of numbers of committed crimes. Analyzing the period between 1 and 22 March, the Italian Department of Public Security (Dipartimento della pubblica sicurezza Minister of Interior, 2020b) finds out a reduction of the 64.2% of committed crimes in the whole national territory (146,762 in 2019, 52,596 in 2020). According to this report, the reduction is not completely homogeneous considering the different area of the Country and the specific type of crime. A strong reduction has been recorded as far as concerns the exploitation of prostitution (−77%), burglaries of postal offices (−73.7%), home burglaries (−72.5%), and sexual abuses (−69.9%). On the other hand, other kind of crimes register less reduction such as domestic violence (−43.6%) and burglaries of pharmacies (−24.6%). Clearly, these are operational data and cannot include the whole number of crime committed; considering the domestic violence, for instance, difficulties for the victim in concrete denouncing suffered abuses being obliged to remain home with the persecutor himself must be taken into account.

Concerning the different areas of the Country, the regions in which a higher reduction of crimes has been recorded are Lombardy and Veneto that are also those where anti-Covid measures have been applied firstly because of the higher number of cases. Despite of this general statistic reduction, Sicily is one of the areas² in which the number of crimes that arouse the greatest social condemnation (robberies, damage, wounding with intent, computer fraud and burglaries) remains higher than in other regions. The city of Palermo has to face on economic, social and criminal problems. Its history is characterized - and has been determined - by the presence of the mafia-type organizations since the XIX century. This phenomenon affects not only the economic dimension but the social too and this is the reason why it is so difficult to fight. Anyway, the fight against it has a long history too and the merit must be recognized to those Authorities, Institutions, Associations and common citizens who are daily engaged. Indeed, the pandemic did not stop the activities of Police and Magistrates. In the last few months several were the police operations, result of long investigations, leading to the arrest of teens of member of mafia groups such as the “Teneo” and the “Stele” operations, conducted by the Carabinieri of Palermo in June and in July 2020 (Giornale di Sicilia, 2020b). Moreover, the “Mani in pasta”

operation conducted in May 2020, has been really realized in the midst of Covid-19 emergency. This operation led to the arrest of 91 members of mafia groups and the sequester of their assessment (valued for 15 million of euros) involving not only Sicily but Lombardy, Piedmont, Liguria, Veneto, Emilia-Romagna, Tuscany, Marche, and Campania too (Il Fatto Quotidiano, 2020a). The investigation of Police and Magistrate confirms the potential role of Mafia during the Lockdown in offering (a dummy) help to face on the crisis determined by the closure of commercial and industrial activities. Indeed, for a lot of people the measures adopted for the containment of the emergency had as consequence the loss of job, money and the ability to feed themselves behind a liquidity crisis for the entrepreneurs. As stated by the Judge Morosini, these conditions give space for usury, money-laundering and racket (Il Fatto Quotidiano, 2020a) and just in these days, in Catania, Finance Police arrested in flagrante delicto a young usurer (linked to mafia groups) for a loan with an interest rate of 120% to the owner of a restaurant in crisis for the Covid-19 emergency (Il Fatto Quotidiano, 2020b).

Economic Dimension

The forced closure of a great number of economic activities - introduced with the Lockdown - determines a vicious circle that reduces entrepreneurs' revenues leading them to difficulties in paying the rent of offices and shops; owners of these offices, in turn, will have economic difficulties due to the nonpayment, and so on. When the pandemic started nobody was able to define the real damages that it would have been determined - probably neither then, nor now.

In the Cerved Industry Forecast released on March 2020 (Cerved Industry Forecast, 2020), one of the main Italian actor in the analysis and credit risk management proposed two scenarios. The first one assumed the hypothetical end of the emergency in May 2020 with other 2 months for a complete return to normalcy. Obviously, it is not the case, thus the second scenario is the more credible: pandemic would end at the end of the year 2020, behind 6 months for a return to normalcy. According to this second hypothesis, entrepreneurs would have a loss of revenues of the 17.8% (also considering that this year an increase of 1.7% was previewed); in 2021, there would be a great increase of 17.5% that would be not sufficient to regain the 2019 level. The economic sectors most affected by the crisis would be the hotel industry, the travel agency and the extra hotel accommodation one for which the study estimated a loss of −73.3, −68.8, and −64.2%, respectively. In Sicily, touristic sector (including accommodation and food services) is the one showing a higher vulnerability because it highly depends on the foreign demand based on travelers' confidence that takes longer to be restored (Bank of Italy, 2020). Due to the closures imposed, occupancy rate recorded a reduction too between March and April even if it has been mitigated by the great access to the Wages Guarantee Fund and the block of layoffs disposed by national government. Local Institutions themselves have to face on economic difficulties (already existing before the spread of Covid-19): due to the lockdown, tax revenues for Sicilian municipalities are expected

²The higher number of crimes committed in the period considered are: Lombardy (8.541), Campania (6.208), Lazio (6.164), Sicily (4.665), and Piedmont (4.354).

to record a reduction of the 48% of annual revenues (the national average in this case is 60%) (Bank of Italy, 2020).

In 2021, in no region in Italy the turnover of contractors will be able to regain pre-Covid level. Indeed, in 2020 Sicily would register a reduction of 18.3% than 2019 while the increase estimated in 2021 comparing to 2020 is of 17.9%; considering these variations, the revenue estimated in 2021 is lower of 3.6% than 2019.

Anyway, the context is not uniform and homogeneous. Indeed, the pandemic caused the closure of some kind of activities with loss of revenues; at the same time, other kind of activities recorded an increase of work such as supermarkets, health services, delivery services, cleaning companies specialized in sanitization. Still according to the Cerved study, some activity sectors will reach great percentage of increasing: e-commerce 55.0%, modern food retail 22.9%, wholesale of pharmaceutical and medical goods 13.8% (Bank of Italy, 2020). Moreover, behind politic critical and instrumental debates, the National Government has introduced a series of economic measures in order to support the local economy, both the user and the entrepreneurs, such as: a one-off contribution to the owner of commercial activities, the so called “Bonus Vacanza” to help tourism recover, the government intervention on the redundancy fund, behind those measures applied by regional government.

Social Dimension

During the Lockdown, new form of solidarity emerged. The extraordinary measures adopted by government and the data concerning the critical conditions of the Health Service, determined the increasing of donations from citizens, organized and promoted by non-profit organizations, hospitals, and influencers (Italia non profit, 2020). In front of the increasing number of fundraising, it must be noticed the initiative promoted by *Italia non profit* and *Associazione Italiana Fundraiser* (Italian Fundraiser Association). Aiming to guarantee transparency and data access both to donors and beneficiaries, the two associations created a dedicated web page on which all the official fundraising actually active to sustain specific hospitals - in the whole Country - can be found³. Another interesting project is the *Solidarietà Digitale*, an initiative promoted by the Italian Minister for Technologic Innovation and Digitalization⁴. In the light of the imposed Lockdown, it aims offering free services to people, professionals and companies supporting them in smart-working, providing access to newspapers and books by smartphone or tablet; providing access to e-learning platforms, medical consultants, or allowing distance activities such as sporting activity, hobbies, etc. Looking at informal initiatives, a thought must be dedicated to the flash mobs that every day, twice per day, saw people leaning out from their own house's balcony or window to play music or strike up a song; it became a way to not feel alone even if obliged to stay home. Behind these forms of solidarity, the health

emergency manifests the capability to exacerbate inequalities and discriminatory dynamics. Recalling data released by the U.S. Bureau of Labor Statistics in 2018, a study conducted on the relation between poverty and Covid-19 in the U.S. (Finch and Hernández Finch, 2020), the risk of marginalization is higher for those people with lower level of education and a lower capability to work from home; in a vicious circle, those who have more difficult in working from home due to the technological gap are forced to work outside exposing themselves to a higher risk of infection.

Comparing to other area (both in Italy and abroad), Sicily has a complex reality concerning socio-economic and criminal dimensions. Mafia phenomenon has spread its presence all over the world, since a long time and in different forms too, but Sicily is surely one of the region more affected by it and its consequences. Criminal and economic conditions of this region have an impact on social dimension already in normal situation: in the region, the level of income is lower than the national average while there is a higher inequality in its distribution. In the multi-dimensional crisis determined by the Covid-19 emergency, common difficulties in daily life are amplified and there is a concrete risk of exacerbating social inequalities and increasing the quote of families living in conditions of absolute poverty, already higher than the national average (Bank of Italy, 2020). Moreover, according to the last Istat Citizens, Businesses and ICT report (2018) the percentage of Italian families having access on internet from their own home is lower than European ones and the gap in terms of digital infrastructure divide is highly manifest in the lines of inequalities already dividing North- South or city-countryside (Auriemma and Iannaccone, 2020). In this paragraph, the scope is to bring out the concrete experience and point of view of civic associations working in the field that must daily face on the interlink among social, criminal, and economic dimensions.

As described in the section “Materials and Methods,” contacting local associations has been more difficult than previously assumed. In this period, most of offices and services can be reached just by appointment to avoid gatherings of people. As result, it has been preferred a previous contact via mail rather than joining personally the associations' headquarters. In this sense, the first result of the study is the lower capability to reach associations in a context in which social contacts are necessary reduced.

As exposed, the five contacted associations have been chosen considering the kind of activities they realize, their users target, and the structure itself in order to provide a better perspective and a wider horizon. Among the contacted associations, just the representative of AddioPizzo was finally disposable to conduct the interview, even if also in this case it has been necessary scheduling a series of appointments due to his numerous work commitments. The problems encountered determined the choice to consider as second instrument of analysis the communicational channels used by associations themselves to promote their activities; in this way, the research aimed to offer a panorama as fully as is possible. Thus, the following paragraphs present the different element of analysis considered, distinguishing among the situation perceived *before*, *during*, and

³For further info visit: <https://italianonprofit.it/donazioni-coronavirus/>.

⁴For further info visit: <https://innovazione.gov.it/coronavirus-solidarieta-digitale-in-tutta-italia/>.

after the lockdown determined by the Covid-19 emergency in the city of Palermo⁵.

Before

Here a brief description of associations and their main activities before the spread of Covid-19 emergency.

*Per Esemplio Onlus*⁶ is a non-profit association created in Palermo, in 2011. Their activities take place in some of the most popular quarter of the city such as Ballarò, Borgo Vecchio, and Zen and they are focused on: contrasting educational poverty, school dropout, and social inclusion; promoting volunteering and active citizenship; promoting integration of migrants and meeting between cultures; promoting European mobility in a life-long learning perspective.

The *Laboratorio Andrea Ballarò*⁷ is a Cultural Center - adhering to the network of Associazione Ricreativa Culturale Italiana⁸ (ARCI) inspired to democratic values emerged in Italy to fight against nazi-fascism. The Association organizes Cinema-Forum, and public debates on socio-political issues.

Emmaus Palermo is an association adhering to the Emmaus Movement and is inspired by its ideals and values. The association's scope is the promoting of volunteering activities in favor of all groups of population - both Italian and not - who experience suffering for social, economic, and cultural disadvantage, including people of all the age, gender, political orientation and nationality. The Emmaus community in which these people are welcomed aims to self-sufficiency thanks to the sale of second-hand products result of people donations, organizing activities promoting human solidarities, and organizing summer camps for volunteers in reused confiscated assessment.

Libera Palermo and AddioPizzo are probably the most famous among the contacted associations. *Libera Palermo*⁹ is one of the Local Coordination Committee of the National *Libera. Associazioni, nomi e numeri contro le mafie*, and it is officially active since 2008. The aim of this Local Committee is to apply in the specific context of the city of Palermo the values of the National association. Thus, the main issue is the promotion of a critical consciousness in front of mafia phenomenon and its evolution, in combination with the engagement in contrasting educational poverty, supporting young people, supporting mafia victims' families, promoting the social reuse of mafia confiscated assessments.

*AddioPizzo*¹⁰ was born as Movement in 2004 by a group of young who posted all over the city of Palermo the now-famous statement "Un'intero popolo che paga il pizzo è un popolo senza dignità" ("An entire people that pays protection money is a people with no dignity"). After it, the same group created the homonym association of volunteers, without political

orientation, with a specific connotation of being promoter of a virtuous economy aiming to be mafia free. The channel chosen as instrument is the promotion of critical consumption - referring to producers and traders adhering to the association itself - and the support to victim of racket. Even if it is now largely famous and proposes their outreach activities in the whole Country - and abroad too thanks to the AddioPizzo Travel agency - AddioPizzo is deeply rooted in its territory. In the last years, the association have implemented projects on social inclusion and urban regeneration projects in the popular quarter of *Kalsa* in which the association has its headquarter. Projects on educational and economical poverty are realized in cooperation with other local actors such as the *Massimo Theater*, the Botanic garden, the CONI (the Italian National Olympic Committee) and the educational institute of the quarter.

During

On 11 March, like other activities, all the associations considered have been forced to cancel or reorganize activities and projects overnight. According to AddioPizzo representative's words, the main consequence of the suspension of activities and the oblige to stay home is the suspension of the physical presence of volunteers in the quarter. After an initial disorientation, the association has been successful in maintaining contact with users and their families. Considering the technological gap of this group of population, they requested and obtained the authorization from local Authorities to give technical support to people in the request of food subsidies specifically introduced for the Covid-19 emergency. Considering the bureaucratic procedures and aiming offer a quicker service, the group decided to organize other types of services integrating the different group of users whom their activities are usually addressed to. Thus, they started to collect food and ready meals - produced by traders adhering to the AddioPizzo network of critical consumption - and distribute them to the quarter population. People were advised by phone and this allowed the association to get in touch with almost 150 families, continuing their social inclusion activity. This show one of the most important element emerging from the analysis of reality that is the necessity of a redefinition of scopes, instruments and strategies in order to cope the new challenge determined by this emergency.

Trying to explore the people reaction to this new condition, AddioPizzo representative talks about desolation, discouragement, anger, and concern as emerging feelings within community. At the same time, an increasing appreciation seemed to emerge in front of the activities conducted by volunteers. Also in the representative's words there is a clear reference about a perceived reduction of crimes corresponding to the official data released by Authorities. Anyway, the scenario described is a context with economic, social, and urban complexities exacerbated by the pandemic: "people is no hungrier than before but we see more evidently a deal of discomfort and... people who more than ever live from day to day, and who are not able to look beyond due to this context..." The activities made up by the association are appreciated but seem not being sufficient in front of people needs and worries.

⁵In the following pages, statements within quotation marks refer to AddioPizzo representative and have been personally translated.

⁶See more at: <https://peresempionlus.org/>.

⁷<https://www.facebook.com/Laboratorio-Andrea-Ballar%C3%B2-108159523963605>

⁸<https://www.arci.it/>

⁹<http://www.bottegalignerapalermo.it/>

¹⁰<https://www.addiopizzo.org/>

Maintaining contacts with people in the respect of social distancing implies the use of different kind of instruments and reveal the power of technology in connecting people. Instruments like YouTube Channels, Skype, Facebook, and Teams allowed associations to pursue their activities - both internal and with users (think of the listening activities in supporting victim of extortion) - and make them known. At the same time, these instruments are less useful for organizing activities with those groups of population among which the digital illiteracy is highly diffused. The technological gap existing within the community reduces the utility of this instrument to maintain contact between associations and users during the lockdown considering that most of them have not basic technological knowledge nor technological devices.

After and Future Perspectives

Starting from 3 May, the gradual reopening has been disposed by National Government determining the end of the Lockdown period.

AddioPizzo association has not been able to restart all its activities on the field, above all those strictly linked to the opening of schools. Volunteers are present in the field again but not all kind of activities can be restarted. Here again it is possible distinguishing among the different type of activities of the association and their target. If laboratorial activities outdoor or fun activities close at hand could have been organized in the main square of the Kalsa quarter, it was not possible organize sport activities implying a physical contact among player considering the impossibility to maintain the respect of anti-Covid measures. Moreover, fear of families in letting their children participate in social activities must be taken into account: "Families continue to be worried and, in some cases, they decided to maintain home their children." There is a great desire to restart with normal activities, above all among young people, putting all this behind even if - the representative admits - "the time is not ripe." Considering the activities in supporting victim of extortion, it has been already underlined that Covid-19 has not stopped them. The Association restarted to accompany denouncer to police authorities; a concrete proof is the last police operation conducted in *Borgo Vecchio* - one of the most popular quarter of Palermo - that have seen a collective denounce of local entrepreneurs (Giornale di Sicilia, 2020a).

In other words, there is a great will to start again but - like any other local actor - the Association and their future perspectives are conditioned by the effective prosecution of pandemic.

In a positive scenario, the association is willing to organize projects able to integrate the two types of activities already pursuit: social involvement of young people and support to local entrepreneurs in facing extortion and organized crime's influence. In this sense, they will aim to create a positive contamination thanks to the involvement of businessman adhering to the AddioPizzo association in training programs for young. Actual situation does not allow to consider the immediate future in a positive way. Actually, the pandemic is not stopped and European Countries are experiencing the second wave. In Italy, restrictive measures have been reintroduced both by national and local governments and starting from 24 October

it is clear that the situation is not solved: even if it is not still mandatory, people are highly recommended to stay home; Health Service is day after day more stressed and other more restrictive measures are expected in the following weeks.

DISCUSSION

This research aimed to explore solidarity dynamics in the new context determined by the Covid-19 emergency in the Palermo context. The context has been defined according to criminal, economic, and social dimensions giving room to the direct experience of civic associations. Analyzing the impact of Covid-19 emergency on community's life in Italy, it is nowadays possible distinguishing two phases, corresponding to the two waves of the emergency itself.

In the first one, everyone was astonished by the unexpected panorama defined by the spread of virus. Behind conspiracy theories, nobody was prepared to face on a situation of this type and - in front of a common and unknown enemy - a sentiment of union invaded everything. Different forms of solidarity emerged, from the increase in donation to the play of music from balcony at 6 p.m. to feel less alone. Some more than others, everybody accepted the application of limitation to free of movement and the closures applied to activity sector. In this phase, the pandemic seemed to reinforce unexpected social links.

Summer represented a transitional moment. The emergency seemed to be completed, the first financial aids were arrived, commercial and social activities started again, and restrictive measures were gradually relaxed. Someone talked about a possible second wave but the worst seemed to be behind, above all in Southern Italy.

The second phase started in October, with increasing numbers of cases recorded in the whole Europe. In the Italian case, two new elements can be retraced. First, Sicily - and Southern Italy in general - is now affected by pandemic like other Italian regions; second, a sentiment of disagreement is now evident in the whole Country. In many Italian cities, groups of people manifest against the new measures applied (above all the closure at 18:00 of bars, pubs, and restaurants) and most of these events are infiltrated by violent groups; it happens from North to South in important cities such as Milan, Turin, Trieste, Naples (RaiNews, 2020a), and in Palermo too (RaiNews, 2020b). In this phase, solidarity dynamics seems to have taken another route and the initial sense of unity left room to individual claim. Subjective dimension has here an important role considering that the way in which the pandemic emergency is interpreted varies according to social variables such as the age, the civil status or the specific moment of life that the person himself is experiencing. In other words, solidarities dynamics that can be retraced at the beginning of the emergency risk to be clouded by the personal claim of freedom and the specific conditions experienced by different groups of population.

In general, the Covid-19 emergency showed all the Institutional weaknesses of a Country like Italy where technological gap, poverty, gender discrimination, and different level of economic development are already present. Simply,

in an emergency like the one we are living the chickens have come home to roost. In this sense, Palermo is a community where social fragilities were already existing and in which the Covid-19's impact can be retraced in their exacerbation if local actors are not able to redefine their strategies and way of doing like AddioPizzo Association did.

In the light of the above, three main issues should be taken into account.

1. *Social Fragmentation and Inequalities.* During the pandemic technologies showed their powerful role helping people maintaining social relations, enterprises and associations continue their activities thanks to the smart working, scholars continue their lessons, public system itself had to offer services via web in order to avoid gatherings, and people can keep in touch with their hospitalized parents (Moretti, 2020). At the same time, the necessity to use different instruments makes the technological gap among different population groups more evident. Considering both the digital infrastructure divide and the cultural one (Auriemma and Iannaccone, 2020), the existing inequalities have been exacerbated by the Covid-19 emergency determining the risk of social discriminatory, inequalities and marginalization effects in local communities (Pagano, 2020). It is evident in working sector but in education too: in order to work or study from home, each member of the family should have a dedicated space, an its own device and a very good web connection; moreover, children should be accompanied by an adult that possibly should work at the same time (Pagano, 2020). Indeed, the health emergency determines a democratic matter considering that a large part of society is not able to use a device - nor applications or web services - or have access on Internet. Moreover, the interview to the representative of AddioPizzo Association shows also that technologies cannot substitute entirely direct contact with people where physical presence is the main element of the interaction itself.

The events of the last weeks confirm how fragile is the equilibrium within societies. In a long-term perspective, Covid-19 emergency divides people. Not only because of the physical isolation or the cited technological gap but for the individual reaction concerning the measures applied by government. The main element that provokes animosity is the limitation of personal freedom and the higher level of social control. This division risks to be manipulated and used by different actors - both political actors and groups of extremists - to gain more power or simply to destabilize the situation. The debate itself - on the way in which the management of emergency is considered - is able to provoke a rupture within the community.

It is necessary to recover the sense of unity experienced during the first lockdown period to avoid the concrete risk of social fragmentation and inequalities. The physical distance must be maintained promoting social proximity (Corposanto, 2020).

2. *Quality of Life.* In a place where a mere handshake is part of social relations, the application of the minimum level of anti-Covid-19 measures aiming to avoid a direct contact

among people - such as wearing a mask and maintain physical distance - can have a great impact on social life (Corposanto, 2020). During the lockdown, the impossibility to get out from their own homes implied the impossibility for members of the same family to meet each other and the lack of physical contact is something to which people were not used to. Behind a possible lockdown, the high number of asymptomatic people and the high contagious power of the virus force authorities to advise people staying home not having contact above all with vulnerable subjects of the family itself. The social damage determined by the deny of social relations due to the illness is what Cleto Corposanto defines as *Sonetness* that leads to the necessity of finding an equilibrium between social damages and economic ones (Corposanto, 2020). If economic damages caused by the pandemic are evident, the contraction of number of crimes is something that must be noticed too. This positive element must always be considered like a result of the corresponding decrease in freedom of citizens. Less people can freely walk in the street, less people can be victim of bag-snatching; obviously, not this is the way to improve quality of people's life. The reduction in committed crimes should be the result of successful policies in contrasting and preventing them and not the result of decreasing citizens' rights and freedom.

At the same time, members of communities should define what does quality of life really mean and what are the priorities to follow. Being required to wear a mask in public places is really an attack on our Constitutional rights? Tracing our contacts if we are Covid-positive is really an intrusion in our personal life when every day we give our data to multinational companies just surfing the internet? Most of the issues community must face on now are the same big issues of the last decades. Indeed, issues such as the weaknesses of the Healthcare system, the lack of digital skills among small enterprises, or the weaknesses of working sector are the results of mismanagement in which corruption and personal interests have had an important role. We should stand up yesterday more than today.

3. *Redefinition.* The last issue that emerges from the analysis proposed is the necessity to redefine scope, instruments, and strategies. If reality changes our way of doing must change too, re-formulating activities in order to answer to new needs. The first solution has been identified in reducing the digital divide. At the same time, the Covid-19 emergency forces us to face the facts being aware that solutions cannot be so immediate. For instance, the technological gap evident in determined groups of population cannot be solved overnight but it requires investments both in infrastructure and in digital alphabetization. At the same time, in the working field, a massive application of smart working could have relevant contraindications such as more costs charged on workers, limited occasions to share experiences and knowledges that could obstacle workers' capacity to organize and claim for better working conditions, or the overlapping between private and working life (Zuddas, 2020). Considering technologies as unique solution means focusing the attention on the risk of

digital marginalization forgetting the “pure” social one already existing (Zuddas, 2020). Thus, it is possible to find other kind of instruments or ways to avoid the risk to be marginalized? It is an extraordinary situation for modern societies and the challenge is great. The pandemic forces governments to apply measures limiting freedom of citizens, both in economic field and in social life. At the same time the border between social security and the Constitutional respect of citizens’ rights is unstable. Western democratic system is put to the test but the Covid-19 emergency could be the trigger to improve our life.

In other words, in front of the actual risk of new *social fragmentation and inequalities* determined by the Covid-19 emergency, communities should re-conceptualize what *quality of*

life really is and *redefine* instruments and strategies in order to reach it.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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The Italian Deaf Community at the Time of Coronavirus

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The present paper will explore the impacts of the recent pandemic crisis on the Italian Deaf community, as a linguistic minority. Recent research has shown that minorities are suffering much more the effects of the pandemia because their lack of access to services and in a much wider perspective, to education and welfare. We will show that, during the COVID crisis, despite lockdown measures, various actions at the formal political level (from the Italian Deaf Association) and at the informal level (from the members of the community) promoted sign language and the Deaf community within the hearing majority. In particular, we will analyse how social networks were exploited at the grassroot level in order to promote social cohesion and share information about the coronavirus emergency and how the Deaf community shaped the interpreting services on the public media. The role of social networks, however, has gone far beyond the emergency as it has allowed deaf people to create a new virtual space where it was possible to discuss the appropriateness of various linguistic choices related to the COVID lexicon and to argue about the various interpreting services. Furthermore, in such emergency, the interpreting services were shaped following the needs expressed by the Deaf community with the results of an increased visibility of Italian sign language (LIS) and empowerment of the community. Materials spontaneously produced by members of the Deaf Italian community (conferences, debates, fairy tales, and entertainment games) were selected, as well as materials produced by LIS interpreters committed to guaranteeing access to information. By highlighting the strategies that a minority group put in place to deal with the COVID-19 emergency, we can better understand the peculiarities of that community, creating a bridge between worlds that often travel in parallel for respecting the peculiarities of each other (deaf and hearing communities).

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INTRODUCTION

From the end of February 2020, in the span of a few weeks, Italy went from the discovery of the first official COVID-19 case to a government decree that essentially prohibited all movements of people within the whole territory, and led to the closure of all non-essential business activities. Italy was the first European country to be affected by this disease. Within a very short time period, an incessant stream of deaths was announced daily, especially in the northern regions of the country. At the same time hospitals were revealed to not be equipped to deliver the type of Community-focused care needed during a pandemic. In order to avoid the virus spreading, the Italian government dealt with the COVID-19 pandemic by issuing a series of decrees that gradually increased

restrictions within lockdown areas (“red zones”), which were then expanded until they ultimately applied to the entire country. On 9 March 2020, the government of Italy under Prime Minister Giuseppe Conte imposed a national quarantine in response to the growing pandemic, restricting the movement of the population except for necessity, work, and health circumstances. This included the closure of all schools, public offices, museums, galleries, theaters, stadiums, and the obligation to stay at home except for medical reasons or food shopping (from March 9th to May 18th 2020) (for more details see Regan, 2020: Italy announces lockdown as global coronavirus cases surpass 105,000”; <https://hbr.org/2020/03/lessons-from-italys-response-to-coronavirus>).

Recent research (Dyer, 2020; Faloppa, 2020; Pareek et al., 2020) has shown that minorities are suffering much more the effects of the pandemic because their lack of access to services and in a much wider perspective, to education and welfare. However, as we will point out in the present paper, they can also react by promoting various actions at the formal and the informal political levels in order to maintain cohesion and survive. For example, the lack of institutional sign language interpreting services, the difficulty of lipreading through the surgical masks, and the complex language register of doctors can cause misunderstandings and problems of accessibility.

In the present paper we would like to describe how a linguistic and cultural minority, the Italian Deaf signing Community, has responded to the COVID emergency. As recommended by Araabi (2020) “While we fight to mitigate the damage the crisis has wrought, we should learn lessons from the mutual solidarity and Community resilience that it has unveiled. It will ensure the world that comes after the crisis is a better one for all.”

Before exploring in detail the impacts of Coronavirus on the Signing Community, we need to briefly describe its sociological and sociolinguistic status, its linguistic repertoire and finally the relationship with the hearing majority.

CONTEXT

The situation of deaf people in Italy is extremely diversified and stratified. Deaf people can be monolingual and use only spoken Italian, or bilingual and use Italian and Italian sign language (LIS). Such bilingualism, defined as minority language bilingualism (Grosjean, 2010), is not always balanced as often there is a strong asymmetry between the two languages (Caselli and Rinaldi, 2019; Rinaldi et al., 2019). In fact, whereas all deaf people (in Italy about 1/1000), after diagnosis of hearing loss in childhood, start speech therapy, only deaf children of deaf parents (about 5% of born deaf) are exposed to sign language since birth and acquire it spontaneously as hearing children do with speech (Rinaldi et al., 2014, 2018; Volterra, 2014). Most deaf children are born in hearing families (about 95%) and, in such cases, only rarely have access to sign language in the first years, but acquire LIS at later stages of their life. Thus, all Italian Deaf people learn and use spoken and written form of Italian and most of them also acquire and use LIS in their everyday life, although with a large individual variability in the proficiency in each language. The

linguistic development of all deaf children, and in particular the learning of Italian, is always determined by some variables: the degree of hearing loss, the age of diagnosis and of use of hearing aids or cochlear implant, the kind of rehabilitation, the quantity and quality of interactions with Italian speakers or LIS signers, and finally the educational program. Italian Sign Language has not yet received full official recognition as a minority language by the Italian Government and therefore, the bilingual status of Deaf Italians also has not yet been officially recognized. Research on sign language began in Italy about 40 years ago and only since 1981 were research projects developed to describe this language, its acquisition processes as well as related historical factors. Interest in LIS also grew in the fields of rehabilitation and education, and training programs for hearing and deaf professionals started. In 1988, the European Parliament initiated the path toward recognition of all national sign languages and encouraged the publication of dictionaries and the establishment of courses and interpreting services, as well as of television programs for the Deaf. However, only in 1992 was a special Italian law adopted that, in support of students and families, offered the possibility of obtaining signing teaching assistants in schools and LIS interpreters in universities. Thanks to this law, LIS courses, bilingual educational programs, and interpreting services were often funded and supported by local governments or at the national level (Geraci, 2012; Rinaldi et al., 2014; Fontana et al., 2015). It is widely accepted that for both hearing and deaf persons the acquisition and use of minority languages are fundamental for the building of self-identity and the construction of cultural and linguistic values. However, as is often the case with minority languages, LIS is used by a restricted number of people and is often felt to be a low-status communicative code to be used only in informal settings compared to Italian, which is regarded as the majority high status language. The strong opposition toward sign language established since the Milan Congress of 1880 has had a strong and lasting influence on the hearing environment of the following generations. LIS was thus rarely considered for use within larger and public settings or by the media and this is one of the ways in which the lower status of a minority language in the Community can hamper the development of that language.

Although Italian deaf people ask for the legal recognition similarly to other minority languages (Marziale and Volterra, 2016), many of the hearing families and doctors maintain that this language is not worth learning because of the new technology advances (i.e., cochlear implants). Given this scenario, the Deaf Community has met great difficulties during the emergency for COVID-19 at various levels and contexts of everyday life. For example, mask wearing has isolated Deaf people: in fact, not only is lipreading crucial when communicating with hearing people, but also lip movements represent an important feature of sign languages as clearly explained in the following link by a Deaf member of the Community (<https://www.cnrweb.tv/se-la-mascherina-maschera-le-parole-ai-sordi/>). Despite such difficulties we will show how this minority managed to find new forms of organization and to suggest solutions (such as clear masks) to many of the problems that public institutions were not able to face and to solve.



FIGURE 1 | The sign for coronavirus in LIS.

DETAIL TO UNDERSTAND KEY ELEMENTS

In the present circumstance of the COVID-19 emergency (**Figure 1**), the Italian Deaf Community has assertively requested full access to information in order to participate and get their needs recognized. In many cases the Community showed to be able to find the best way to have complete information through professional sign language interpretation services.

In particular, different activities that took place in the period March-May 2020 have been described, by analyzing Facebook and the public television networks as sources. Materials spontaneously produced by members of the Deaf Italian Community (conferences, debates, fairy tales, and entertainment games) were selected, as well as materials produced by LIS interpreters committed to guaranteeing access to information (Grandi and Piovan, 2020; Gulli and Volterra, 2020; Tomasuolo and Volterra, 2020).

We will investigate these changes by taking into account the three areas: Education, Information and Cultural, and Language and Entertainment as indicators that show the level of self-organization and empowerment of the Community.

Education

During the COVID emergency, schools have been closed from the middle of February/beginning of March, (depending on regions) until the end of the school year (beginning of June). Schools began to organize “distance learning” after some puzzling moments. This reorganization presented many difficulties for all the students and in particular for the deaf ones. In the Italian public school, from 3 to 18 years, families of deaf students can request in addition to a “support teacher” (a teacher trained to assist all disabled students) the presence of a teacher assistant able to use the more appropriate linguistic modality to that student [Italian Sign Language (LIS), Signed Italian (SI), and spoken Italian in a clearer labial form]. Few public schools offer a bilingual curriculum that implies the use of Italian and LIS within a classroom attended by hearing and deaf pupils. In these schools, the teachers either use LIS, Signed Italian (SI), or there is a LIS interpreter who simultaneously translates the teacher’s and pupils’ messages from Italian to LIS and vice versa. In these bilingual schools, not only is there a greater possibility to receive school instruction in SL, but there is also increased opportunity for interactions in LIS or SI between deaf and hearing schoolmates as well as among hearing and

deaf instructors, both within and outside of the classroom (for a description of bilingual schools in Italy, see; Teruggi, 2003; Russo Cardona and Volterra, 2007; Di Gregorio et al., 2019). At University, the students can request the presence of a sign language interpreter for a full translation of the oral lessons, and for assistance in exams and meetings with professors. In many cases during the long period of distance learning (or remote schooling) these professional services have been interrupted. Deaf students and their families actively protested for this extreme situation: for example a deaf adolescent has publicly denounced the absence of the teacher's assistance on the online platforms where her school was delivering classroom lessons (<https://youmedia.fanpage.it/video/aa/Xn86ZOSwIMKQOHcg>). Her protest has been accepted and a distance service of communication assistance has been activated (<https://www.facebook.com/noemi.magro.1/posts/2839106389537371>). The few schools practicing Italian-LIS bilingualism (https://www.istruzione.it/coronavirus/allegati/esperienze/Istituto_Comprensivo_di_Cossato_BI_rc_2.pdf) or scientific institutions such as the Institute of Cognitive Sciences and Technologies, CNR (https://www.istc.cnr.it/it/10_min_lacam_condiviso_altri_siti), delivered on the web educational materials for deaf pupils. In the early stages of the COVID emergency, public television did not produce special educational programs. Only at the end of march an inclusive cartoon for children from 2 to 6 years of age with deaf signing actors was broadcasted on Public Italian broadcasting Corporation (RAI) (https://www.raiplay.it/video/2020/03/lampadino-e-caramella-nel-magiregno-degli-zampa-s1e1-viva-il-circo-2fe0cad-c3f2-46d6-9f85-cbbc06ed2405.html?fbclid=IwAR1xQaQs7VOrpsoDQx9iRN_uvj3j3MWGw2R72miiiLWOcNrWlGvA2S5bE). At the end of April RAI provided a LIS interpreter for some educational programs such as “La scuola non si ferma” (School never stops) in order to support deaf children in lockdown. In the absence of public institutions interventions, the Deaf signing Community activated the majority of distance educational initiatives during the first stages of COVID. It has organized and produced many interactive interesting activities including entertainment games quizzes, fairy tales, narrations, and theater plays. Signing adults have exhibited special creativity and unexpected skills in the production of materials which were entertaining, instructive, and useful in maintaining active interaction at a distance among different families and between children (<https://www.facebook.com/StoriebambiniragazziLIS/>). See in particular: <https://www.facebook.com/101231048029351/videos/221939432546383>; <https://www.youtube.com/watch?v=PXHuANJ6Kjk>. These video materials, in LIS with or without Italian subtitles have been realized in short time by private individuals (deaf parents) as well as by associations with poor technical instruments. In the future, they could become useful tools for deaf and hearing teachers of deaf pupils who often complain about the absence of educational materials specifically designed for Deaf education. Some videos were devoted to explaining the Coronavirus emergency to young children and two books have been produced through an international network by adapting the same two books to various Sign Languages and cultures (**Figure 2**) (<https://www.youtube.com/watch?v=TXYErGdfA8Q&t=41s&pbjreload=101>; <https://risebooks.wixsite.com/access/c>).

An Association devoted to bilingual LIS/Italian education “Cooperativa onlus Il Treno,” in order to promote further interaction, has produced quizzes and games for young children in LIS for all signing children, deaf and hearing, who could participate and provide their responses at a distance (<https://www.facebook.com/iltreno33>). Furthermore, deaf signing mothers have organized special learning activities for the summer period, given that in Italy school holidays last longer than in other countries, from the middle of June to the middle of September and many deaf children do not have the possibility to interact in SL with relatives or caregivers at home (<https://www.facebook.com/590173358/videos/10157319720663359>). As reported by research, Sign languages usage can improve cognitive development as well as promote a deeper understanding of many school disciplines. Indeed, in the school environment, sign language guarantees full access to contents and allows students to focus on school subjects, regardless of their difficulties in reading and writing (Rinaldi et al., 2014; Di Gregorio et al., 2019).

Information

Accessibility to information has always represented a very crucial problem for the Deaf Community. In Italy, information usually is in an oral (radio and TV) or in a written format (by newspapers, printed, and online magazines). So far LIS interpreting services have been granted only for news programs. Other programs such as movies or talk shows have been subtitled but although services have been set up involving users, the kind of involvement has been top down. In other words, users were asked what aspects of the subtitling service they would improve, and not how they would set it up.

During the lockdown, new smart ways of using visual ICT tools (Gulli and Volterra, 2020) have developed out of the strong need of the Community to be fully informed. Instead of relying on the hearing majority for interpreting and subtitling services, the Deaf Community has shaped its own accessibility, by lobbying the majority in meeting the expectations of Deaf people when setting up services. Interestingly, this has reversed the traditional roles of the relationship between majority and minority, by enlightening the new important role of minorities in building a new inclusive society. In this section, we will describe how information was made accessible and the role played by the Deaf Community in building accessibility and in guiding the local and national public institutions to improve their LIS and subtitling services.

We will analyze services from two perspectives—from the majority and from the minority—in order to show how the minority can steer services that the majority has set up. We start describing the nature of services that the majority has set up for the deaf Community and some examples of the minority reactions.

Since the 25th of February, two press conferences of the Civil Protection Direction took place daily with the presence of the LIS interpreting service. The hearing majority reacted with interest although some people misunderstood the role of the interpreter. In the online comments on the newspaper “Corriere della Sera”



FIGURE 2 | A deaf adult explains the Coronavirus emergency to young children.

on the Civil Protection's bulletin, the interpreter was labeled as a "person who looks upset." A study on similar comments and replies would be interesting. Here, we just would like to emphasize the fact that such comments show that many hearing people are not aware of LIS and of the interpreters' role.

The Deaf Community played a crucial role in lobbying the hearing majority for improving and increasing sign language interpreting services. Here is a brief summary of the events. The Prime Minister has delivered various press releases. The first ones were subtitled and not interpreted in LIS. As a result, the 12th of March, the Italian National Deaf Association (hereafter ENS) has promoted a collective mobilization and a social protest at a national level to ask for interpreting services in LIS for the Head of the government's releases as has already happened in other countries (e.g., France, Spain). Finally, on the 21st of March 2020, the ENS announced that the battle has been won and that the Prime Minister Conte press releases will be interpreted in LIS (**Figure 3**). However, at about 11.30 p.m. of the day after many Deaf people were waiting for Conte's press release without knowing really in which channel would have been broadcasted. Nearly at the end of Prime Minister Conte's press release, someone noticed that the interpreter was there but that it could be visible by going on YouTube or on Facebook. The

cameraman has chosen not to frame the interpreter for aesthetic reasons (!) and to foreground only the Prime Minister. Finally, on the 24th of March, the Prime Minister Conte's releases were broadcasted on the unified TV Channels with the LIS interpreter framed on the side that was partially covered by subtitles. As a consequence of the protest activated by the Deaf, the interpreter's window has been modified and moved up on the 28th of March. Furthermore, on the 25th of March, on the national TV channels the whole meeting of the Deputy's Chamber was translated in LIS. On this occasion, Conte delivered a speech on the emergency situation and was translated in LIS by two interpreters. The same happened on the 26th of March for the question time and Conte's speech on the Senate. It was the first time that such a long live broadcast has been translated in LIS. However, the President of the Republic Mattarella's releases on the national sanitary emergency were not translated, even though since 1995 the Presidents' end of the year speeches have always been translated in LIS.

Also, the World Federation of Deaf (WFD) has collaborated with international bodies to ensure information and to issue guidelines on accessibility to national governments. One example of the WFD's successful work are the WHO Disability Guidelines. Whereas, previously sign language



FIGURE 3 | The President of the Council Conte with the interpreting service.

interpretation should be provided “if possible,” now this has changed to become mandatory (<https://wfdeaf.org/news/covid-19accessnow/>; <http://wfdeaf.org/news/access-is-not-an-option/>). As stated by the General Secretary of the United Nations “It has been encouraging to see some countries providing public health announcements and information on COVID-19 with national sign language interpretation” (<https://www.un.org/en/observances/sign-languages-day/message>; <http://webtv.un.org/watch/player/6154369287001?fbclid=IwARISAYwuUjo5ShTWPv2vKKjcCpQf-nxllXbvH4IdPwMiqlMsOCyXVzc3EQk>).

Many leaders indeed in Europe and in the world have activated sign language interpreting services. This has been very important both for the dissemination and visibility of sign languages and for the accessibility of information by the Deaf Community. However, not all political leaders have delivered their official speeches with a sign language (hereafter SL) interpreter: for example the USA President Donald Trump (<https://www.youtube.com/watch?v=8-2wqD1LtF8>) and the Prime Minister of the United Kingdom Boris Johnson, have always delivered their official speeches without any interpreter (<https://www.youtube.com/watch?v=jK8vjgVlc8A>; <https://www.youtube.com/watch?v=J74Y-cpOdhg>).

However, after a few months the official announcements from 10 Downing Street were accessible through British sign language interpreters (<https://www.youtube.com/watch?v=3fbsciR8As8>).

In addition, the American National Association of the Deaf started a legal action against Trump and the Federal Court

ordered that the White House must begin providing American Sign Language interpreters at all White House coronavirus briefings (<https://www.nad.org/2020/09/11/judge-orders-white-house-to-provide-asl-interpreters/>). Thus, since 1st October the presence of sign language interpreters at the White House should become mandatory (<https://www.nbcnews.com/politics/donald-trump/judge-orders-white-house-provide-sign-language-interpreter-covid-briefings-n1240954>).

As far as local and regional institutions are concerned, interpreting services were not granted even though they have recognized sign language. Generally, however, once the local Deaf Community has expressed their need, the local Institutions were ready to set up service as they need. Indeed, many Presidents of Regions and mayors were interpreted in LIS.

Interestingly, also Pope Francis, on Friday the 27th of March, in the desert Saint Peter square in Vatican city, gave a homily devoted to the difficulties of the moment that was broadcasted by all TV channels with the interpreting services (**Figure 4**).

The Deaf Community played a very crucial role in selecting and shaping the kind of information they need access to. Many videos on the COVID-19 emergency were not accessible in sign language and this put the deaf population at risk for lack of information. In such cases, the non-profit organizations took the initiative to translate such videos and grant to the Deaf Community the basic information. For example the Cooperative “Segni di Integrazione Piemonte - Paolo Basso” in collaboration with ENS worked to translate the most important information on Facebook.



FIGURE 4 | Pope Francis alone gives a homily in San Pietro square with the interpreting service.

The President of the Italian National Deaf Association (ENS), has delivered a long interview to a Deaf interviewer on the deaf people accessibility on the emergency period for COVID-19 (<https://www.facebook.com/Micel70/videos/10158160381593256>; <https://ens.it/coronavirus>).

In this interview, he highlighted the strong difficulties that deaf people met during lockdown and the crucial role of the Deaf Association in lobbying the government in order to tailor services to the need of all Deaf people, especially old Deaf people and children.

Extended interpreting services for official releases have established a new role for LIS in the Hearing and Deaf Communities. LIS shifted from a private language used only in familiar informal settings to a public language with new functional dimensions (Cuxac and Antinoro Pizzuto, 2010; Fontana, 2020). It is an important revolution not only at the linguistic but also at the social level, because social networks can ensure the participation of all Deaf people through generations to events that were set up only for the mainstream, thus promoting shared experiences for the majority and the Deaf minority. Furthermore, in such emergency, the interpreting services were shaped following the needs expressed by the Deaf Community with the results of an increased visibility of Italian sign language and empowerment of the Community. To summarize: the Deaf Community played a very important role not only in increasing the interpreting services but also in tailoring them to the

needs of the various members of the Community, from the younger to the older generation. Thanks to their intervention, the visibility of interpreter was improved in all the news and release programs.

In the following sections we will describe the various initiatives at the grassroots level that promoted social cohesion and sharing information about the coronavirus emergency. We will point out how social networks allowed deaf people to create a new virtual space where it was possible to discuss many topics.

Cultural, Language, and Entertainment Activities

At the beginning of the lockdown, various actions have been promoted to maintain social cohesion and encourage Deaf Community members to face isolation and everyday difficulties. One example is the flash mob campaign “#I stay at home” promoted by a Deaf activist who has created a Facebook group called “Passa segni LIS positivi” (Spread LIS positive signs) (<https://www.facebook.com/rosella.ottolini/videos/10222441255123958/>). In few days hundreds of Deaf Community members have repeated the same little song with few modifications: some families, including seniors and children, have played the same content all together.

Some well-known Italian actors and football players have participated to the campaign by learning LIS signs and

repeating the same slogan “#I stay at home” (<https://www.youtube.com/watch?v=sH-NpMYmOJA>). Other European countries, as France and the Netherlands have imitated the same text with few modifications in their sign languages (<https://www.facebook.com/groups/134664384637913/permalink/140217037415981/>; <https://www.facebook.com/hilde.verhelst/videos/10156789465957274/>).

These examples clearly show how relationships and human solidarity have immediately established among Deaf Communities not only from Europe but also from other non-European countries. In the following link a Deaf Chinese boy who lived in Rome, explains the situation reassuring that Chinese experienced doctors were going to help Italian colleagues (<https://www.facebook.com/morelli.qgio/videos/2837779289592152/>).

Many members of the Italian Deaf Community have spread information and promoted debates in various cultural areas: art history, philosophy, psychology, linguistics.

For example, a Deaf art historian has described in detail a famous painting by the Dutch painter Pieter Bruegel the Elder, entitled “The Triumph of Death” (1562) and kept in the Prado Museum (Spain). The painting depicts a plague epidemic similar to COVID-19. The LIS description underlines many similarities between the past and the present situation: as in ancient times, the Jews were accused of having spread the plague, nowadays the Chinese population has been blamed for the epidemic (<https://www.facebook.com/violante.nonno/posts/10219470242579406>).

Some interventions concerned philosophical and psychological topics. In one video a Deaf mother and her daughter have discussed in the form of a dialogue about the survival instinct (<https://www.facebook.com/enza.giuranna/posts/10215592483714388>).

Another Deaf Community member has signed the history of Anne Frank, the Jewish girl forced to remain for more than 2 years in a very restricted space in Amsterdam to escape from the Nazis. In this description many differences between her situation, who had only the diary as resource and the current lockdown context suffered by Italian people who had the support of many technological aids were paralleled.

A Deaf psychotherapist has delivered some videos concerning the psycho-physical wellness and the best ways to manage emotions in the period of COVID-19 emergency (<https://www.youtube.com/user/mmottinelli/videos>).

Some activities have been expressively dedicated to the Coronavirus (Visual Vernacular on Coronavirus performed by an Italian deaf - <https://www.youtube.com/watch?v=wMBhzVjfaDo>), whereas others were devoted to cheer up and maintain Deaf and as well as hearing people in good mood. A hearing singer has adapted the famous Neapolitan song “Tu vuoi fa l’americano” (You want to be American) to the COVID situation with the new title “Tu vuoi fa la quarantena” (You want to be in quarantine) and a CODA interpreter and music expert has adapted the performance in LIS (<https://www.facebook.com/mauroiandololisperformer/posts/2826228984164812>). And blessed be humor, the best way to withstand all this. When we

are able to laugh at the coronavirus, we are actually saying that it has not yet driven us into total paralysis (Grossman, 2020).

The linguistic choices made by the signers are one of the most interesting aspects of these social events.

The COVID emergency has constrained all languages and cultures to introduce in everyday communication new concepts and technical labels. In the case of Italian sign language, some signs have extended their meaning and some terms have been borrowed by other sign languages and adapted to LIS. Gianfreda et al. (2021) have described in detail some LIS signs used to describe the coronavirus and the quarantine experience. In some cases the signing Deaf Community members have started to discuss some linguistic choices and variations in spontaneous expressions or translations from Italian. For example, one of the debates concerned the concept of positive, which can be used to describe very different contexts: a positive result of a test to check the presence of the virus or an ongoing pregnancy. Many people have participated in the linguistic debate at a distance explaining that to distinguish the different meanings and to avoid misunderstandings, a positive or a negative facial expression should accompany the manual sign or further signs have to be added to clarify the content (<https://www.facebook.com/rosella.ottolini/videos/10222286641378711/>; <https://www.youtube.com/watch?v=fkbQyzeb2ao>).

DISCUSSION

The last pandemic crisis, known as *Spanish flu*, happened in 1919, about a century ago, but we do not have many memories, data, nor bibliographical references on the events concerning the Deaf people. Unfortunately, then, we lost much important data about the ways the Deaf Community coped with that event. Conversely, the Coronavirus lessons should remain when the crisis comes to an end (Araabi, 2020). In the present paper we have referred to the Italian situation but it is possible that the same happened also for other Deaf Communities around the world and we hope that such a survey will start soon in other countries. In our case, we shall never forget how the Italian signing Community has self-organized and gained in empowerment and resilience. The numerous videos online should be saved and analyzed to be re-used in the future by teachers, parents, or professionals working in the field of deafness. All these videos could be useful for teaching to deaf children, for training school support teachers and other professionals or for interpreters who have to make information accessible for the Deaf Community.

We need to learn from Deaf people, taking advantage from what the Community has produced for itself and for its children when working out solutions or paths not only for them but also for the hearing majority. For example, the use of the clear masks can improve lipreading in both deaf and hearing people or enhanced visual learning could be useful for deaf as well as hearing students.

Within the Deaf Community, leading members shared the responsibility of promoting the access to information for everybody, signing families felt the importance of sharing signed videos with other hearing non-signing families with deaf children

with a strong impact on the hearing majority attitudes toward the signing Community. In the lack of institutional SL interpreting services, also the hearing Community set up informal ways to communicate with deaf: for example in an Italian hospital the staff communicated with a COVID deaf patient by writing messages on paper.

In all these events, the Community used its own language, showing its value and effectiveness.

All these actions should be made more visible and shared because, being built by the Deaf Community, they highlight the pathways toward a more inclusive society.

The Coronavirus showed the fact that Community-led responses are much more effective compared to those coming from centralized governmental actions that very often reflect and reinforce existing inequities. Also, it showed how social networks can turn into strategies to empower, to inform and keep people together. Social networks also represent the new challenge for the future: they are not only the “place” where these incredible experiences will be archived but also the starting point for building a new sense of Community.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary materials,

further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

This article was co-written by all four authors. ET wrote in particular the Introduction, Detail to understand key elements and the paragraph about Education. TG the paragraph about Cultural, Language, and Entertainment activities. VV the Discussion section. SF the section about Context and the paragraph about Information. The Manuscript contribution to the field was conceived and written by all the authors together.

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Afro-Indigenous Cosmographies of Mobility: Fishes, Viruses and Others Amazonian Lives at the Confluence With the Sars-CoV-19

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The article aims to demonstrate the susceptibility to death that certain Amazonian peoples are facing, as a consequence of their particular migratory demography, which instead of being curbed, have been exponentially intensified by the outbreak of Sars-CoV-19. The article offers an account of the “pendular migrations” and “return migrations” that the indigenous and black rural populations of that region carry out as a result of daily labor displacements, in the search for medical-hospital assistance and the consolidation of political and legal visibility within the cities. In a second effort, directly related to the previous one, we articulate the interference of the viral threat not on the contingency of population flow, but on the dangerous intensification of people circulation between the territorial nuclei of the “first habitation” and the average Amazonian cities, where, as a rule, these peoples maintain “second residences” and to where they regularly transmigrate. To illustrate this phenomenon, three accounts of different Brazilian Amazonian realities are reported: on the rural black population of the banks of the Turiaçu River, Maranhão state, the indigenous people of the savannah *Lavrado*, of the northeast of Roraima state, and the Mura people, who live in the southeast region of Amazonas state. On these realities, the cosmographies of the mobility of their populations are challenged by the changes and strategic conditions imposed by the pandemic.

Keywords: afro-indigenous migratory demography, cosmographies, Brazilian Amazon, SARS-CoV-19, pandemic

INTRODUCTION

The article aims to demonstrate the susceptibility to death that certain Amazonian populations are facing, as a consequence of their particular migratory demography, phenomenon that is vertically intensified by the viral outbreak of Covid-19. The article offers an account about the “return migration” that indigenous and black rural populations in the Amazon carry out in the pursuit of their lives, when they seek employment, medical, and hospital assistance and in the consolidation of political and legal visibility. In a second effort directly related to the previous one, we articulate the interference of the viral threat not on the contingency of the population flow, but to the dangerous intensification of transfers between the territorial nuclei of the “first home” and the medium Amazonian cities, where these people maintain “second homes” and for where they regularly migrate.

We bring three cases collected from distinct Amazonian territories. Among the indigenous peoples of the savannah region in the Northeast of Roraima state on the border with Guyana and Venezuela, known locally as the *Lavrado* and *Serras* there are constant flows of people between the villages located on indigenous lands and the city of Boa Vista, the state capital, many of whom have residences on an indigenous land and in the city where they carry out work during part of the year. They commonly spend several months of the year working at their villages, and several months working in Boa Vista, in different jobs, but predominantly as construction workers in the case of men, and domestic servants in the case of women. Those who work in regular jobs in Boa Vista as public servants, in health services, teachers, and a few lawyers and other professionals usually live permanently in the city, but these constitute a small minority.

There are also flows of transnational or cross-border indigenous people between the Republic of Guyana and Brazil, who had their territories divided by the delimitation of the international border in 1904. They have relatives scattered on both sides of the border and transit regularly between villages on both sides, movement limited by the closing of the border since the pandemic started early in 2020. Indigenous people from villages both in Brazil and in Guyana frequently travel to Boa Vista for medical attention in public hospitals.

Another case relates to the period of seasonal abundance of fish in Turiaçu River, located in the central mesoregion of Maranhão state, and illustrates the dramatic confluence between indigenous populations who return to their territories—fleeing from hunger and the virus that ravages the cities—with their “relatives.” From their meeting, versions about morality related to kinship, housing, fishing, and death are updated.

The article also provides an account about the *Mura*, indigenous people who live in villages and also along the rivers and next to the lakes that enter into a complex hydrographic network in the Lower Madeira River, Southern Amazonia. Such villages went through different historical processes in their conformation, based on trajectories of the groups that composed them and that are still doing so. Their strategies of dispersion, circulation and alliance were obviously subject to the ability of each local territorial group to relate to the others. These groups have “well-defined” borders according to the “limits” that they set themselves. They frequently carry out displacements and movements between villages and/or places in a wide circulation area, including the municipalities of Autazes, Careiro Castanho, and Careiro da Várzea. The life of the *Mura* is characterized by mobility. Migration flows, spatial displacements combined with housing mobility and occupational routes and their inflections in time are reflected in the scale of individual and collective destinations.

THE AMAZON TERRITORIES AND THE SARS-COV-19

The increase in the number of victims from Covid-19 among the indigenous and black rural populations of the Brazilian Amazon

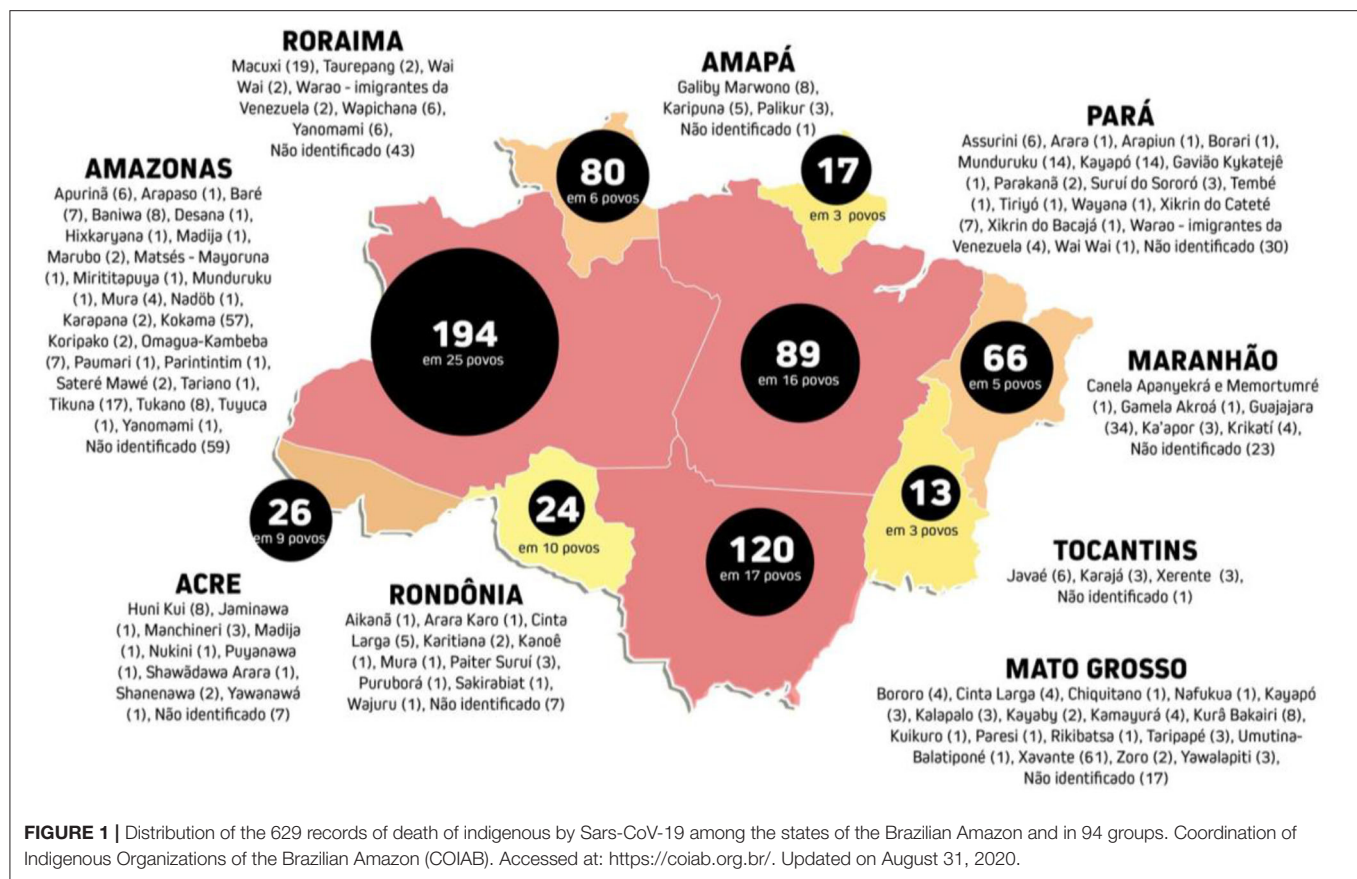
has been acting as a reactive signal to mark the numerous critical challenges involved in achieving the ways of life of native peoples (Milanez and Vida, 2020). If, before the pandemic it was already known that chronic and endemic diseases, the violence of contact relations with the populations of the cities and the pressing threat of hunger caused by the predation of forest resources were menacing the reproduction of traditional Amazonian territories, now, as a result of the pandemic, we stand before a clear threat to the physical, and cultural existence of several of the segments that inhabit the region.

Today, there are peoples who may lose up to 35% of their population due to the special susceptibility of their elderly. Along with the dead, intangible goods like language systems, memorial contents, social and political bonds based on gerontocratic values are under direct threat. Of the 274 languages spoken in Brazil—the remaining sum of the ~1,175 that existed at the beginning of Portuguese colonization in 1500 (Corbera Mori, 2019)—it is estimated that 40 may disappear altogether, because of the knowledge accumulated by the elderly, who are the main victims of the viral threat.

According to the latest epidemiological bulletin systematized by the Special Secretariat of Indigenous Health of the Ministry of Health (SESAI/SUS), which gathers data compiled between May and June 2020, about 23,453 cases of infection, 756 deaths and 188 people directly and indirectly affected by Sar-Cov-19, out of a total of 305 indigenous groups existing in Brazil (Paula and Rosalen, 2020). The bulletin also notes that the evolution of the general curve indicates a weekly average of 1,252 confirmed cases and 25 deaths; which demarcates an intensive growth of contamination among all Brazilian indigenous territories.

In the states of the Amazon region, the Coordination of Indigenous Organizations of the Brazilian Amazon (COIAB) had registered 629 deaths by August 31, 2020. In terms of distribution among groups and villages, the contamination has been presenting a uniform dispersion among groups with different degrees of contact with the cities in the Amazon region. However, due to the characteristics of migratory flows and the absence of areas approved by the Brazilian government that guarantee the territorial accommodation of ethnic groups, as well as the proximity to urban centers with high levels of contamination, groups such as the Xavante, who live in villages in the state of Mato Grosso, have been presenting a lethality rate of 7.09%, more than double that recorded among the non-indigenous population, which is 3.12%, according to the survey of Operation Native Amazon (OPAN). Among the Xavante, the Covid-19 has already victimized 102 indigenous people. The numbers of deaths among the Kokama, Guajajara, Macushi, and Terena ethnic groups are also notably critical.

In the Amazon region there are black rural communities, most of them remnants of enslaved groups that fled from the sugar cane farms. In some territories located in the states of Pará, Amapá, and Maranhão, these “*buissonnières* (forested) communities” (Bona, 2006, p. 3) occupied the areas along the river courses with their settlement nuclei, the *quilombos*; a similar territorial occupation experience to the *Maroons* communities found in Jamaica and Florida and the *Campus* in Guyana and Suriname. For the formation of some of these communities, the



rebellious black population joined with the indigenous in the confrontation of the onslaughts of the colonizers against their territories (Gomes, 2005; Klein and Luna, 2010).

As of September 4, 2020, the National Coordination of Rural Black Quilombola Communities (CONAQ) had registered 156 deaths among the population living in the quilombos, in addition to 3 suspected deaths, 4,541 confirmed cases and 1,214 being monitored. Among the states of the Amazon region, 60 deaths were recorded, with the states of Pará (33 occurrences), Maranhão (09), Amapá (16), Amazonas (01), and Mato Grosso (01) standing out. In light of these numbers, we should mention the impact of underreporting due to the deficit in tests and diagnoses that, in many cases, do not define Sars-Cov-19 as the main causes of death. When we look at the situation of the indigenous and rural black populations as a whole, the scarcity of medical-hospital resources and strategies in preventive medicine exacerbates the problem of underreporting (Figure 1).

AFRO-INDIGENOUS COSMOGRAPHIES OF AMAZONIAN MOBILITY

When we measure the territorial expansion of the virus within the villages and rural communities of the Amazon, another aspect can be highlighted: the intrusion of the disease among territories which are distant from the cities. There are high notification rates of Covid-19 infections both in villages and communities near

TABLE 1 | Cases of Sars-CoV-19 infected among the indigenous peoples of the 9 states of the Brazilian Amazon.

States	Suspected cases	Confirmed cases	Deaths
Acre	11	2.055	26
Amazonas	103	5.046	194
Amapá	04	1.473	17
Maranhão	0	1.781	66
Mato Grosso	258	2.014	120
Pará	168	4.910	89
Rondônia	153	1.135	24
Roraima	51	2.699	80
Tocantins	47	754	13
Total	795	21.867	629

Coordination of Indigenous Organizations of the Brazilian Amazon (COIAB). Available at: <https://coiab.org.br/>. Updated on August 31, 2020.

cities, and in territories that are days or weeks away from the urban perimeters by boat (Table 1).

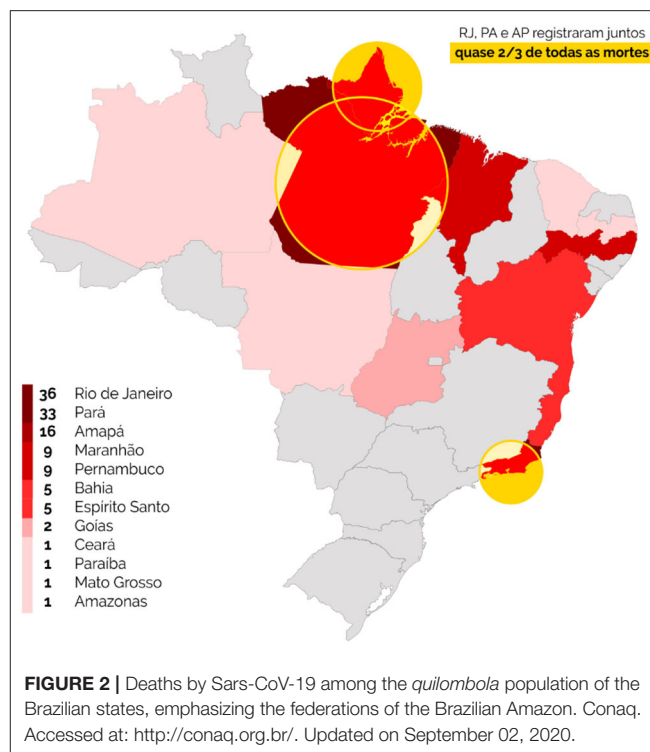
How could the virus have spread in indigenous and rural black population territories so isolated from the centers of high population concentration of infected people? Answering such a question is one of the aims of this article. First, because for one of the values of Brazilian ethnic and environmental

racism—this one based on forging the various “other insiders” of the nation (Pacheco, 2006)—, these peoples have always lived under the sign of spatial isolation and anachronism of “culture” conditions. Secondly, the article seeks to explore further a theme among indigenous and Afro-Brazilian ethnologies within the new context of a pandemic, recognizing that a wide range of work has been published on mobility and migrations, and on the forms of mobility of these groups who are in search of their survival and social reproduction (Teixeira and Brasil, 2008; Sertã et al., 2013; Estanislau, 2014; Pereira, 2016; Arruti, 2019). It is an attempt to set an example for what can be understood as the afro-indigenous Amazonian migratory geography, with a focus on the one produced by the Covid-19 effect. Or, if we want to approach the forms of displacement on which these population movements are based, we could refer to the afro-indigenous cosmographies of Amazonian mobility, as the practical notions of mobility that are implied between

[...] the environmental knowledge, ideologies and identities—collectively created and historically located—that a social group uses to establish and maintain its territory. The cosmography of a group includes its regime of ownership, the affective ties it maintains with its specific territory, the history of its occupation stored in collective memory, the social use it gives to the territory, and the ways it defends it (Little, 2002, p. 4).

Unlike the symbolism of immobility or migration based on the false uniformity of the objectives of displacement of those who seek only the production of work links (Durham, 2004), the cosmographies of the mobilities of the afro-indigenous Amazonian populations are based on a series of general and specific demands. Among the territories of the villages and communities and the cities, these populations usually develop countless activities that dispose them in the midst of flexible relationships with urban environments. Thus, among the most common actions are the maintenance of provisional labor relations, the acquisition of semi-processed food, visits to health centers, and the search for visibility and legal assistance to community demands. Unlike the labor migrant known in classical literature, many representatives of the indigenous and black rural populations of the Amazon do not move from their territories to undertake fixed projects of transmigration. Many do not intend to establish a dwelling and produce the displacement of their relatives with them. Instead of maintaining a property as an individual domestic unit in the city, these individuals prefer to share accommodations with relatives or friends who already live in urban areas, because they understand that their stays in these places may be temporary (Figure 2).

The other characteristic of this migratory journey is the relativity of what can be understood as “short and medium distances” between the place of origin and the place of migration. It must be considered, for example, that some villages and communities are at continental distances from the urban centers. Comparatively, it is as if some individuals worked 2 weeks in the south of France and traveled for a week by boat from there to Belgium, where they live. And that this was done several times during the year, until a goal was finally reached,



such as working to raise money and buying an engine for one of the village's boats. After that, the migratory journey would be interrupted. Even so, despite these continental distances in the Amazon, these can still be understood as a “pendular migration of short and medium distance” for that population (Teixeira et al., 2009), which ends up making most of their displacements a kind of programmed “short return migration” (Baptista and Campos, 2017).

In carrying out these trajectories of displacement, the Amazonian population with a traditional base economy is compelled by a double impossibility: they cannot abandon the traditional territory at all and live completely apart from the city's resources and services. Even when maintaining their first residence in urban centers, these migrants still make regular use of the agroforestry resources available in their territories: fishes, fruits, cereals, wood, and others. This dependence on the products of forest extractivism regulates the pendular routine of migration between the urban center and the territories, or between the first residence of the original family and the second residence of the temporary stay. Thus, from the point of view of the migratory cosmography of these populations, traditional territory and urban territory are as if “circumstantial places” (Marandola, 2014) fully interconnected and disposed to the conditions of reproduction of life. The jumps between one and the other depend on fortuitous conditions. The endemic and chronic diseases that plague the Amazonian populations—malaria, dengue, hypertension, diabetes and, today, the Covid-19—and that force them to carry out continuous preventive and therapeutic itineraries and to live these experiences “between places” (Ennes, 2010), instances that are accessed depending on

certain urgencies and opportunities. In this sense, the place as a circumstance presupposes a

[...] relative eventuality: a position and a situation that emphasizes the relational sense of the being-and-being-in-the-world, while giving due weight to the phenomenal reality of the being-there and its spatiality [...] The path to this reflection will be the idea of the surrounding world (*Umwelt*), as used in the fundamental ontology of Martin Heidegger, and in the ontology of modernity of Anthony Giddens. In the first case, we have the elements to think circumstantiality in its original phatic dimension: the worldliness. In the second case, the surrounding world becomes spheres of protection and senses lived by the self in contemporaneity (Marandola, 2014, p. 230–231).

By this definition, the very biophysical existence with the forest is made of a cosmography of circumstantial places. Ecologies and mobilities make it possible for the Amazonian people to develop fortuitous agreements with the biotic and abiotic entities of the landscapes. In general, life is compartmentalized among the years of strength or decline of resources and conditions: the years of greater elevation of the river waters, when there exists abundance of hunting and fishing, periods of greater or lesser incidence of environmental disasters, conflicts, or epidemics such as malaria (Homma, 1982; Katsuragawa et al., 2008). Thus, the ecological conducts of cohabitation with the forest and with those who exploit it are essentially circumstantial.

In this scenario, Covid-19 would be just another phenomenon competing with the unpredictable challenges that the Amazonian populations have learned to live with over the years. For this reason, it was expected that the Covid-19 would be just another setback to which human collectives would find answers, in order to overcome them with many losses, but with significant accumulated experiences. The surprise brought by the challenge of Covid-19 lies in the lethality of the viral outbreak and the systemic shock caused by the disease. In some cases, representatives of traditional populations that lived in the cities—keeping there their first residences—had to undertake sudden and definitive displacements to the interior of their original territories; sometimes to their families, sometimes to houses that were built in a hurry, in order to welcome them. Fleeing from hunger and disease that compromised life in the cities, these indirect victims of the pandemic ended up increasing the pressures on their territories, because they brought with them demands for forest resources and the very unsuspected existence of the virus carried in their bodies; an epidemic factor that has been causing many deaths in indigenous villages and rural black communities, as shown by the infographics exposed above.

The confluence of these phenomena has demanded the use of a methodological sensibility based on the perspective of “multiactor ethnography” (Bennett, 1993; Little, 2006) employed by some anthropologists and political ecologists to understand the relations between the “Amazonian forest peoples” (Bona, 2006) and the technical, socio-environmental and material challenges that surround their realities. Like some epistemologies that think of the social phenomenon as something composed of “relational multiplicities” of distinct natures—as reflected by

“multi-sited ethnography” (Marcus, 1995), the Actor-Network-Theory (Latour, 2007) and methodologies employed by studies on other viral outbreaks in the Amazon (Katsuragawa et al., 2008) —, the focus of multiactor ethnography

[...] is not about the way of life of a social group, but the multiple social and natural interactions that underlie them. Second, it does not deal with a single social group, but with several social groups simultaneously. Third, the geographical scope is less and less limited to the local scope of the group, since it incorporates several levels of social articulations (Little, 2006, p. 92–93).

The researchers developed different strategies and instruments to follow in a procedural and instantaneous way the impact of the pandemic on the territories where they develop their research. In the case of the *quilombola* population of Maranhão, the researcher was undertaking a long period of fieldwork when the first cases contaminated by Covid-19 were registered in the northeast of Brazil. The immediate blockade of interstate highways by the local government prevented him from leaving the territory immediately, which eventually gave him the opportunity to accompany the migratory movements of the *quilombola* population between the nearby urban centers and the Imbiral Cabeça-Branca territory.

In the case of reports from the Mura populations and the Lavrado region, the researchers resorted to interlocution with indigenous representatives through virtual communication channels and to the large number of reports arriving from those territories by indigenous spokespersons and the websites of the indigenous movements in the Amazon.

The three next reports bring some examples of cosmographies of Amazonian mobility in different regions of Brazilian territory, giving descriptive emphasis to the changes and strategic conditions that have been imposed by the dissemination of Sars-CoV-19.

FISHES, VIRUSES AND OTHERS AMAZONIAN LIVES IN RETURN TO THE TURIAÇU RIVER

Turiaçu is a river that has its course arranged in the western region of the state of Maranhão. Between the XVII and XIX centuries, the river made possible the meeting between Portuguese colonizers, Austro-Hungarian expeditionaries, native groups and the black population fleeing from the agricultural farms of Colonial Brazil (Spix and Martinus, 1828). On the banks of its middle course, the river has a series of settlement nuclei formed by rural black population, the *quilombos*. Some of them, like Imbiral Cabeça-Branca, were formed by old alliances of war between black slaves and Akroá-Gamela native people, who, through armed confrontations against the Portuguese, sought to recover the territories of their ancestors.

In April 2020, when the first cases of contamination began to appear in the city of Pinheiro, which is the closest urban center to Imbiral Cabeça-Branca, the population of that quilombo community was preparing for the beginning of the period of greater abundance of fish in the streams and lagoons formed by

the flooding of the River Turiaçu. That was the time of the visit of a series of “relatives” who lived in the city, people who every year used to go to the community in order to take advantage of the abundance of fish in the Turiaçu, an attitude that they call “making a fair in the river”; that is, harvesting from the river only the items of daily subsistence. After the fishing, which was usually done through cooperative work groups, these individuals used to go back to their residences in the cities, leaving behind their relatives.

The viral outbreak of Covid-19 and the occurrence of numerous cases of contamination in the Legal Amazon region of the state of Maranhão created an atypical confluence between events. Instead of making only a temporary return to their communities, many individuals who maintained residence in the city were forced to settle in their original communities, abandoning their houses in urban centers. Thus, they took advantage of the regular period of the abundance of fish, when the migration from the cities to the communities is usually intense, and settled permanently in their home communities. In the cities, many of the job offers had disappeared as a result of the pandemic. Hunger and disease began to rage together within those urban realities.

Provisional employment links in the construction industry, in public works of urban infrastructure and in logging companies that prepare wood for furniture factories are some of the occupational options available to these indigenous and *quilombolas*, who often return to their home territories in precise dates during the annual calendar. These displacements usually accompany the seasonality of the geo-environmental and ecological cycles of the forest: the flood and drought of the rivers, the rainy season that demands the beginning of family vegetable crops and the periods of abundant forest resources are, in general, some of the conditions that mark these programmed returns.

When expelled from the cities by the Covid-19 threat, what these “returnees” found within their original settlement nuclei was a non-receptive environment to their presence. From the point of view of the available resources, the quantity and quality of the goods of the forest were different from those they knew from other times. Over the years, the farms in the region had appropriated portions of land that were essential for the reproduction of the extractive practices of the communities and for the construction of new residences. The main bed of the River Turiaçu saw its fish population decrease year after year, due to the silting up of its course. And the felling of the forest around the communities had produced the resurgence of diseases such as malaria, which had not caused victims in the region for years. When the first cases of Covid-19 infection were reported in the city of Pinheiro, two children had already been diagnosed with malaria in the interior of Imbiral Cabeça-Branca.

From the point of view of moral relations, the return of these individuals to their first residential nuclei established an environment of suspicion as to their presence, due to the imminent risk that they represented, because they could have brought the virus in their bodies. The very territorial pressure for the increase of the population contingent in the communities has triggered an environment of disputes for space and questioning by the authorities of some leaders, especially

the older representatives. Almost always, these conflicts revolve around the definition of where a new house should be built: whether within the original family of parents and grandparents or opening a new area within the community’s forest reserves. Within most of the rural black communities, the opening of a new house demands, as a rule, the creation of a new productive family plot (Santos, 2010). The demand for a place to live by these “returnees” brought a second challenge to their territories: because the opening of this new productive domestic plot required the cutting down of an area within the native forests that serve community extractive practices. Promoting the opening of clearings like these becomes an attitude of extreme consequences, in a context already marked by the progressive scarcity of forest resources and threats to the balance of social-ecological relations promoted by illegal land trade, deforestation and, more recently, the outbreak of Covid-19.

What the pandemic has been promoting in territorial contexts like these is the moral re-reading of the cosmographies of the mobility of these Amazonian. If before, the journeys between the circumstantial places of the forest and the city were programmed by those who kept residence between territories, now the presence of these returnees is seen with concern by some communities, mainly their leaders. The pandemic has made it evident that, different from the thesis promoted by the Brazilian agro-industrial elite that “there is too much land for too few Indian” (Reydon et al., 2015; Spavorovek et al., 2019), the Amazonian peoples suffer from the scarcity of land and resources, and any demographic fluctuation in the number of inhabitants within their villages and communities can cause ruptures in relationships and real threats to the maintenance of life within these nuclei.

Two months after the information in this report was gathered through a field visit that ended at the beginning of the pandemic, a doctor specialized in indigenous and quilombola collective health who acts voluntarily in Imbiral Cabeça-Branca warned us that the communities of the River Turiaçu were already registering dozens of suspected Sars-CoV-19 infected people. The absence of clinical tests was preventing a precise diagnosis. Some elderly people who were sick, affected by chronic diseases, were trying to keep themselves in isolation, controlling the number of people they kept in contact with—despite the large number of relatives that make up the traditional domestic units –, while the flow of new “returnees” from the cities remained constant.

THE “TIME OF SICKNESS” AND THE MANY WARS THAT THE MURA WAGE

The indigenous group Mura have surely undergone important changes in their social and political organization, in contact with white populations since the XVIII century. There have been many changes in the settlement patterns of the populations living near the large lakes and along the banks of the channels of large rivers such as Madeira, Amazonas, Purus, and Solimões, by the interiorization of the spaces of their tributaries, smaller rivers, streams and hidden lakes (Menéndez, 1981/1982).

Restricting our geographic view, we will limit it to the Lower River Madeira, more precisely the Autazes Delta, located between the Madeira, Amazon, and Lower Purus rivers. The territory has areas of land and floodplains and, on the occasion of the rising waters, the floodplains are flooded and the various water systems become interconnected, constituting a water network through diffuse and asymmetric channels. The intermediate rivers of the Autazes Delta have interior “paths”: paranás, igarapés, lakes and headwaters, boreholes, entrances of boreholes, and “mouths,” which constitute the essential routes for the movement and synthesize an unlimited network of entrances and exits, whose role is fundamental in the circulation structure of the group. The places used for fishing, the main productive activity of this people, and the availability of fish are directly influenced by the climate and the flood regime in the periodically flooded areas (Junk et al., 1989; Castro and Mcgrath, 2001).

The instability produced by the agropastoral occupation fronts has reached all the lands of these people in the Autazes Delta, although some local groups managed to remain on fractions of land they had previously occupied, others were expelled and, as a result, had to take refuge on lands where the process of land regularization was almost finished. All the dozens of villages today share the situation of harassment, pressure and violence represented by contact with the agropastoralist fronts and large mining projects. They share the same problem: the loss of physical space and the impossibility of exercising displacement to old settlements.

The phenomenon of Mura mobility has been treated by historical literature as errance or nomadism. But we know that the invasions by white populations into the spaces led to an increase in the number of settlements created from internal migrations. The studies or reports point to a discussion often related to movements where the theme of mobility is not problematized, only pointed out as a remnant of an “erratic life” (Ramos, 1997). On the other hand, the territorial configurations of this people are also the result of the process of leaving places, arrivals, and returns.

The stories about the diseases that affected these people are numerous, vivid, and detailed. In the wars they have fought and still fight, they have much to say about the “time of sickness.” According to the memory of the oldest, “in the old days, the Mura ran away, tried to run away from the disease, but it came, it was measles, it was chickenpox, it was smallpox, it was the flu,” as the indigenous Luiz Braga Gomes, Aldeia Murutinga, Rio Mutuca, tells us. Respiratory diseases were once the main cause of death among the Mura, which makes the current pandemic especially dangerous for these people. On April 21, 2020, the first case of Covid-19 was identified in the Murutinga village, in the Murutinga/Tracajá Indigenous Territory, in Autazes, Amazonas. The information caused concern and fear among the indigenous people.

Murutinga is a village, or *aldeados* as they usually call it, densely populated, with a population of around 3,000 people. The territory has always attracted new families, in view of the existence of piped water, from an artesian well, and the arrival of electricity that can be enjoyed for much of the time. Like all Mura villages, Murutinga consists of a variable number of residential

units. In its most simplified version, the Mura “places” were made up of domestic groups that were not very fixed, which, as they say, “walked without whereabouts,” that is, they were small groups that made up a floating and mobile population.

Faced with this situation, the leaders suggested adopting social isolation and restricting the exit of indigenous people to fish as a way to prevent the spread of the disease. In this dramatic situation, the pandemic has a direct impact on the food security of these people, since fishing is the main productive activity and the Mura are excellent fishermen. Fish are considered the main source of animal protein and food base throughout the year for families, always seeking the places where the fish is most available according to the hydrological and migration cycles of the fish they know so well.

In any case, the village Murutinga is <2 kilometers from the village of Novo Céu, where there was already information of at least a dozen cases of people infected by Covid-19. In recent decades, the social space occupied by the Mura has undergone a rapid process of demographic, ecological, and economic transformation. Considering that the Mura population has grown expressively in recent decades, thus increasing its proportion of young people, there are serious restrictions in the sphere of physical and cultural reproduction faced by this population. The reduction in areas of use and the strong population growth experienced in recent decades have serious implications for the future of this group.

Nowadays, food production in Murutinga/Tracajá is mainly for subsistence. And, at the same time, the increase in demand for food within the territory means that the relationships between people living on indigenous land and those with others are being modified. Today, the Mura access the commerce of the city of Autazes and Vila do Novo Céu to complement their diet with items that do not produce, and, unfortunately, are places where SARS-coV-19 has been manifested in exponential rhythm. There are other ways of obtaining income, such as daily rates for services (work in third party farms, etc.) provided to non-native people; and public service jobs, hired indigenous teachers and functional positions at FUNASA/SESAI, or informal jobs in the Vila do Novo Céu. According to the website of the Indigenous Missionary Council (CIMI), based on information provided by the indigenous teacher Amélia Braga Cabral, 52, the Murutinga village school was adapted to receive people who move to Autazes, Careiro da Várzea, or Manaus and stay there under quarantine for 15 days: “Today there are pregnant women who had a baby in Autazes. There is also a 55-year-old man in isolation who is suspected of Covid-19. He is being assisted by health workers,” explains Amélia Braga¹.

We are faced with the perspective that the traditional patterns of Mura social life—dispersion, circulation, articulation and alliance—may be updated in practice, due to the disease, because such patterns will always be subject, obviously, to the capacity of each individual or local territorial group to restrict their movements. In this new “time of sickness,” the infinity of

¹ Available online at: <https://cimi.org.br/2020/05/moradores-da-aldeia-murutinga-am-estao-em-alerta-com-chegada-da-covid-19/> (accessed September 19, 2020).

effective possibilities of displacement must be restricted due to the pandemic, however, the moment is also a way to take seriously that wars, illnesses or even recent changes, are tracing other social (dis)ordinances. The trajectories and displacements in which these changes take place may offer indications about the ongoing societal logics and dynamics, such logics will be fundamental in understanding the illnesses among them.

THE COVID-19 EPIDEMIC IN THE NORTHEAST OF RORAIMA STATE: A NEW CHAPTER OF A LONG HISTORY

As mentioned above, in addition to frequent movements of indigenous people between indigenous lands in Roraima and the capital, Boa Vista, there are also cross-border movements over a vast territory which existed before it was divided by the borders imposed by national States, separating indigenous peoples by national divisions, however, seen from indigenous peoples perspectives as being external impositions of national States. Many have dual nationality, seeing themselves as transnational with the right to free transit across the international borders imposed on their traditional territories (Baines, 2012). Most indigenous people in Roraima, and many who live in the region of Guyana close to the Brazilian border too, depend on their residences in their villages and access to communal Indigenous Lands to produce horticultural products for their own family consumption, as well as selling any excess locally to obtain small amounts of money to buy basic manufactured goods. They also depend on spending periods in their residences in the capital of Roraima, Boa Vista, to earn money through wage labor to gain greater access to industrialized products on which they have now become dependent for several generations. This oscillation between periods spent in their villages and periods spent in the city has been going on over several decades. Also, many families have members who live in Boa Vista and return regularly to their villages to visit their families and spend periods participating in family activities. The closing of the borders early in 2020 has certainly restricted these movements.

Historically, these cross-border movements have followed fluctuations. In the first half of the XX century, when education and health services were seen as being better in Guyana, many indigenous people migrated from Brazil to Guyana, frequently driven off their lands in Brazil by non-indigenous ranchers who invaded their lands, as well as by Brazilian placer miners. After the independence of Guyana in 1966, and the Rupununi Uprising in 1969 when some part Scottish/Indigenous descendant farmers of the Rupununi border region with Brazil threatened to separate from Guyana, an Uprising quickly squashed by the Guyanese army, the central government of Guyana withdrew support for this border region and economic conditions worsened, resulting in a large scale movement from Guyana to Brazil. After Roraima was raised from a Federal Territory to a State in 1988, economic development grew at a very rapid rate as did the urban population of Boa Vista, leading many indigenous people on the Guyana side of the border to see Brazil as an economic giant compared to Guyana, a small country divided

by ethnic tensions between its Afrodescendant and East Indian descendant majority populations. In recent years the Guyanese government has started investing in this border region to stimulate economic development.

The border between Brazil and Venezuela presents some specific characteristics, but the indigenous populations which live along this border, have also always transited freely between both countries, having relatives living on both sides of this international border. In recent years this situation has changed very rapidly with the difficult economic conditions in Venezuela and a huge flux of Venezuelan nationals, including many indigenous peoples, to Brazil.

In addition to the cross-border or transnational indigenous people who are largely Macushi and Wapishana, and also some Patamona, Taurepang, Pemon, Yekuana, and others, with the difficulties of life and political tensions in Venezuela in recent years, there has been a massive migration of Venezuelan nationals including indigenous people to Brazil, Warao from the Orinoco delta, about 700 km from the border, in addition to E'ñepa (Panaré), Yanomami and Ye'kuana from the Venezuelan Amazon and Pemon from the savannah region, and people from other indigenous groups from the border region with Brazil, Venezuela and Guyana. Migrants from Venezuela, initially concentrated in the town of Pacaraima on the Venezuelan border, and especially in Boa Vista, capital of Roraima state. The border with Venezuela remains closed since mid-March due to the Covid-19 pandemic, with few irregular entries and exits reported. For individuals already in Brazil, the validity of documentation providing legal stay was extended until the end of the emergency. Indigenous people have faced discrimination as foreigners despite coming under international law as indigenous peoples.

For indigenous peoples, epidemics are nothing new and the Covid-19 pandemic can be seen as a new chapter in a long history of pandemics. Since the Portuguese colonizers occupied the northeast region of what is now Roraima state in the second half of the XVIII century, indigenous people were put into multiethnically composed settlements controlled by colonial soldiers and subjected to a colonial regime, where they were plagued by epidemics of introduced diseases which decimated their populations. The survivors revolted against the colonizers and fled the colonial violence. The anthropologist, Nádia Farage, uses historical sources to reveal that there were a number of uprisings in response to the "overexploitation of the labor of settled Indians" (Farage, 1991, p. 131). Farage also reports massive escapes of indigenous people that spread through these settlements "in proportion to the violence used by the Portuguese to repress them" (Ibid). When repeated attempts to keep indigenous people in settlements on the Rio Branco failed, the Portuguese colonizers began to send them as prisoners to serve as laborers in other regions of the Amazon basin where escape was impossible. Throughout the 19th century, Santilli (2001) and Santilli (1994, 2002) relates the practice of slavery in the region and that throughout the XIX century illegal expeditions continued to capture indigenous people as slaves in this region after indigenous slavery had been abolished in the Amazon basin in 1755. This author affirms that, "slavery continued in the form of private expeditions which relied on

the active support of government representatives in the area to recruit indigenous labor force for rubber extraction” (Santilli, 2002, p. 493) in the forests of the lower Rio Branco. The epidemics and revolts eventually led the colonizers to abandon the idea of settlements. Santilli (2002) describes how the slave expeditions in the XIX century were internalized into Macushi cosmology, who saw the non-indigenous colonizers as cannibals who took away indigenous people downriver to the lower River Branco, from where the majority never returned, killed by harsh exploitation and diseases which consumed their bodies.

In the south of Roraima state, the Waimiri-Atroari people also suffered from introduced diseases which swept through their villages decimating their population. Estimates vary as to their exact population in the late XIX century, after two centuries of *Guerras Justas*, the use of armed forces to enslave indigenous people who did not submit to the Portuguese colonial endeavor, and *Descimentos*, the process of invading indigenous villages, capturing indigenous people and transporting them forcibly down rivers to work as slaves in the colonial plantations in Pará and Maranhão. In the second half of the XIX century estimates vary from six thousand to four thousand indigenous people in the Waimiri-Atroari territory (Baines, 1991). By the 1960s their population had been reduced to around 3,000 individuals and with the construction of the BR-174 highway, built under the military dictatorship in the 1970s, which cut straight through the indigenous territory, their population fell to a low point of 332 (Baines, 1991, p. 77) in 1983, of which 216 were under 20 years of age, with a rapid population recuperation in the following decades after they received vaccination campaigns and basic health services.

The decade of 1970 can be characterized by a drastic depopulation, a consequence of conflicts with the Brazilian army which constructed the BR-174 highway, and acted with extreme violence to intimidate the Waimiri-Atroari, but above all by epidemics of introduced diseases which swept through their villages. Some Waimiri-Atroari related massacres perpetrated by a powder which fell from the sky after airplanes and helicopters flew over villages, resulting in many deaths. In the early 1980s, Baines was able to accompany Waimiri-Atroari between 1982 and 1985 over their territory, by then, greatly reduced after dismemberment by a presidential decree to serve the interests of mining companies and the Balbina Hydroelectric Dam which would later flood a vast extension of their traditional lands in 1987. Visiting the clearings of abandoned villages, they related deaths in mass which had occurred over the previous decades, especially during the 1970s when the BR-174 highway was cut through their territory, with indiscriminate contacts between the Waimiri-Atroari and teams of soldiers and contract company workers involved in building the BR-174 highway, bringing epidemics and death. In some village sites, aluminum pots had been perforated, and Waimiri-Atroari explained that they had interpreted the deaths as colonizers' sorcery spread by the industrialized goods received through the interethnic contact. Seeing their relatives die and their society as it used to be, destroyed by mass deaths, they perforated the aluminum pots with anger. In some villages there were no survivors, in other villages a few survived out of a population of an average of 30

to 70 persons in each village. In the early 1980s, transferred to settlements within their own lands administered by the National Indian Foundation (FUNAI), they panicked when there were cold and influenza epidemics, lying in their hammocks fearing imminent death, remembering the traumatic experiences of the previous decade. The last big wave of measles, in April 1991, resulted in the death of 21 Waimiri-Atroari individuals at the Terraplenagem (Yawará) settlement beside the BR-174 highway. When Baines started his field work in 1982, and asked about the other villages, the reply was, “There are no more villages. There are no more of us, we have ended, they all died.” A leader described the large *maryba* initiation rituals, remembering the times with visible happiness and the participation of large numbers of people a few years before, and commented, “Our society (as it was) ended!”

Indigenous peoples in Roraima are among the most vulnerable populations and all are being affected by the Covid-19 with high mortality rates. Up to the 29 September 2020, the Articulation of Indigenous Peoples of Brazil (APIB) estimated that 833 indigenous people had died from Covid and 33,935 had been infected from 158 different indigenous peoples². In Roraima, by late August 2020, the estimate of the Indigenous Council of Roraima (CIR) was of 82 indigenous deaths, especially among the older populations, people who hold the memory, the languages and the traditions of these peoples. The past few months have seen the loss of several important indigenous leaders. To name just a few, known to Baines in his research in the northeast of Roraima where he has been doing field work over the past nineteen years, Alvino Andrade da Silva, a Macushi teacher of 59 years of age died, an indigenous intellectual who had studied philosophy and sociology and participated in the long struggle for the demarcation of the Raposa Serra do Sol Indigenous Land, which was finally confirmed by the decision of the Supreme Federal Court in 2009, after many years of intense work by indigenous people like Alvino. He participated in the creation of the Insikiran Institute for Indigenous Higher Education at the Federal University of Roraima and was coordinator of the “E'ma Pia” Project to guarantee the entry of indigenous students into this university course.

Fausto Silva Mandulão, 58 years old, who lived in the Tabalascada Community, near the capital Boa Vista was a Macushi teacher who also participated in the Insikiran Institute and was working on a new plan for indigenous education in Roraima when he died and had contributed with work on differentiated indigenous education. He was coordinator of the Council of Indigenous Teachers of Amazonia, and member of the State Council of Education of Roraima. He left his wife and five children all with higher education. He completed the Intercultural Bachelor of Arts Program in Social Sciences at the Federal University of Roraima in 2009.

José Adalberto Silva, a Macushi man of 51 years of age, had worked for many years as an activist in indigenous organizations in Roraima and in Brasília, and also participated in the creation of the then Insikiran Nucleus for Indigenous Higher Education

² Available online at: <http://emergenciaindigena.apib.info/> (accessed September 29, 2020).

in 2001, which later became the Insikiran Institute in 2009, and he was currently Secretary for Indigenous Affairs in the town of Pacaraima on the Venezuelan border.

Dionito José de Souza, a Macushi man of 52, was coordinator of the Indigenous Council of Roraima (CIR) from 2006 to 2011, and participated in the struggle for the demarcation of the Raposa Serra do Sol Indigenous Land and was a key figure in the leadership of the CIR and in the struggle to bring into effect indigenous rights in the state of Roraima.

In Roraima, with a lack of adequate support of the government, many indigenous communities have set up their own health barriers to try to stop the advance of virus into their villages, although the pandemic is affecting many villages despite their efforts. Thirty eight health barriers are mentioned by the CIR on 19/07/2020, which have been installed at access points to communities. Several indigenous organizations have characterized the Bolsonaro government as genocide because of its complete disinterest in indigenous and traditional peoples, and its incentives to invade indigenous lands by the agricultural rural elite and by miners in predatory destructive policies to violently exploit natural resources. The Articulation of Indigenous Peoples of Brazil (APIB) had to approach the Supreme Federal Court (STF) to try to pressure the government to provide basic emergency services as the pandemic advances. Facing a government which is openly hostile to indigenous and other traditional peoples and is refusing to respect their rights, indigenous organizations are adopting a protagonist role in setting up their own sanitary barriers, collecting funds to provide food parcels for those in need, and to buy hospital and protective material to distribute among the indigenous communities.

A FINAL WORD

In this article, we present three ethnographic realities in which the cosmographies of the mobility of their populations are challenged by the changes and strategic conditions imposed by the pandemic. The spatial arrangements, established historically, have had their possibilities threatened with relevant impediments for various mobility projects. On the other hand, migrations, movements, and displacements, which unite a network of routes and destinations that do not have a single, fixed center, have been characterized, as said, by a dangerous intensification of transfers between the territorial nuclei of the “first home”

and medium-sized Amazonian cities, where, as a rule, these peoples maintain “second homes” and where they regularly migrate. Otherwise, the exits, coming and going, for the reasons explained in the article, facilitated the entry of Sars-CoV-19 in the territories. While migration routes have their specific qualities and configurations, depending on the indigenous people, such routes or transfers are located within very wide spatial arrangements. As it is a complex rupture, it has been exceedingly difficult for these peoples to remain totally isolated. Therefore, mobility and restriction operate together for the actors and the forces that operate within the territories.

The three cases from different parts of the Amazon Basin reveal the extremely vulnerable conditions in which indigenous, quilombola and other traditional populations find themselves with the advent of the Covid-19 pandemic. The Afrodescendants in Maranhão state, the Mura people in Autazes, Amazonas, and the indigenous peoples of the Northeast of Roraima state are all subjected to a federal government which has made violent attacks against their constitutional and international rights. Facing deforestation, mining ventures, agribusiness and land invasions encouraged by the government, accompanied by policies to deliberately dismantle both indigenous and environmental legislations, these people are being put in even more vulnerable conditions and left to their own resources and protagonism to face a pandemic which presents a great threat to their futures.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR'S NOTE

The article examines the vulnerability of Afro-descendant and Indigenous peoples to the Covid-19 pandemic especially at the time of a government which is against traditional peoples rights and is defending the invasion and occupation of their territories.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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The Role Played by Public Universities in Mitigating the Coronavirus Catastrophe in Brazil: Solidarity, Research and Support to Local Governments Facing the Health Crisis

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This study aims to assess the impacts of the Covid-19 pandemic in Brazil and how it has been dealt with by both the government and in civil society. To this end, we examine the Brazilian public health system and the measures taken by the Bolsonaro Government that led to Brazil being ranked second in overall Covid-19 infections in the world through August 2020. In the absence of national leadership facing the Covid-19 health crisis, we list a set of science-based initiatives promoted by Brazilian public universities in connection with local governments, NGOs and communities as a means of mitigating the consequences and spread of the pandemic. This study is based on the consultation of institutional material published by universities summarizing their research and outreach initiatives. Results reveal that university initiatives included: 1) Alerts to society on the risks of the pandemic, with an emphasis on establishing observatories that assisted local governments and civil society in understanding the evolution of the disease, as well as in implementing measures for its prevention; 2) Direct assistance to local communities, with emphases on the addition of beds in university hospitals for treating patients with Covid-19 and on the manufacturing of personal protective equipment and; 3) Research to find solutions to prevent and treat the disease, with emphases on the development of tests for Covid-19, as well as on carrying out phase 3 vaccine trials. Through these measures, Brazilian public Federal Universities played a key role in supporting both civil society and local governments in mitigating the impacts of the pandemic.

Keywords: health crisis, research, outreach, solidarity, federal universities, impact of COVID-19

INTRODUCTION

The social crisis caused by the Covid-19 pandemic has posed a major challenge to world leaders, whose models of response to the health crisis have resulted, in some cases, in the strengthening and cohesion of national politics and, in others, in the political weakening of heads of state and a deepening crisis of political legitimacy. The medical protocols established thus far may still need to be adjusted due to the very recent nature of the pandemic. The European model for addressing the health crisis has been the large-scale adoption of lockdowns, but when applied to Latin American

countries, this has had questionable results (Blofield et al., 2020; Gardini, 2020; Hausmann, 2020) both in terms of its application in territories significantly larger than those of most European nations, and in terms of the adherence within socially heterogeneous populations.

However, some basic strategies to contain the pandemic such as social distancing, hand sanitizing, and wearing protective masks have also become standard procedures in most regions of Latin America. Increasing research has already pointed out that the use of masks for protection, is not restricted to the prevention of spreading the virus by means of an individual mechanical barrier. The adoption of this mechanism for individual protection by the community reinforces both the sense of personal control, protection and the sense of collective responsibility as a symbol of respect within the community combating the pandemic (Cheng et al., 2020; Schünemann et al., 2020; Szczesniak et al., 2020).

In Brazil, the pandemic has had significant human costs. In August 2020, the country had the second largest number of infected people in the world, behind only the United States of America. In addition, as Covid-19 spread, a considerable part of the economically active population has either lost their jobs or have had their salaries decreased through furloughs or wage cuts. Preliminary studies indicate that families with incomes up to two times the minimum wage would be the most impacted, with income losses 20% higher than average Brazilian families (Domingues et al., 2020).

This study aims to examine the impacts of the Covid-19 pandemic in Brazil and the process of confronting this health crisis by the Federal Government and organized civil society. To this end, it examines Brazil's health system and the impact of the Covid-19 pandemic on Brazilian society. It also examines the relationship between the political environment encouraged by President Jair Messias Bolsonaro and the spread of the virus in the country, which led to Brazil having the second highest number of infections and deaths in the world through the end of August 2020. Finally, we analyze the processes of social mobilization of the national public university network in the country, operating as public agencies with autonomous management, whom have assumed a role in promoting research for the production of vaccines and drugs, as well as in solidarity actions with local populations due to the lack of national leadership and these populations' social vulnerability while facing this health crisis.

MATERIALS AND METHODS

This study was prepared using a socioeconomic dataset produced by the Brazilian Government and both national and international research institutions that allowed reconstruction of the impacts of the epidemiological crisis in Brazil. Brazilian public universities are deemed as a set of autonomous entities interconnected by an interuniversity network that has been established in the last decades as an important political actor, distinct from the State and other traditional political actors. Official data released by the Brazilian public universities from their websites, a compilation of data produced by the National Association of Leaders of Federal Institutions of Higher Learning (ANDIFES) about the activities

developed by 68 Brazilian Public Universities, and data provided by the Ministry of Education (MEC) was used in these analyses. Additionally, information from other universities in Latin America was used in order to establish a parameter about the role played by universities in Latin America in mitigating the effects of the pandemic and their relationship with their respective central governments. It was done based on consultation of institutional material published by universities and interviews with professors from the Universidad de Chile, the Universidad Nacional Autónoma de México and the Pontificia Universidad de Perú. The study quantifies the actions developed according to three central indicators: solidarity actions, support to the management of the epidemiological crisis, and research. In addition to the total number of actions carried out by the Federal Education Institutions (IFEs), the two largest universities in each of the five regions of the country were analyzed based on the Web Ranking of Universities 2020. The selection criteria for sampling the studied universities was based on the principle of the Brazilian Constitution stating that “universities enjoy didactic-scientific, administrative and financial and patrimonial management autonomy, and will obey the principle of inseparability between teaching, research and extension” (Brasil, 1988). Due to the suspension of teaching activities in the first phase of the pandemic, research and outreach activities gained prominence. Outreach actions were subdivided in order to distinguish between support activities local managers such as state governors or mayors and activities with a direct impact on society. In the latter case, the different target audiences were characterized regardless the number of people served. This sample aimed at comparing quantitative data with qualitative information about the actions developed by the selected universities in order to examine the impacts of such actions on socially vulnerable populations.

RESULTS

The Brazilian Universal Healthcare System and the Evolution of the COVID-19 Pandemic

The first recorded Covid-19 death in Latin America occurred on February 26 in Brazil. Since then, countries have adopted distinct strategies aimed at containing the spread of the virus and mitigating its consequences (Litewka and Heitman, 2020). In Brazil, challenges from the Covid-19 pandemic have been combatted by the Universal Healthcare System (SUS), the national public healthcare network, inspired by the National Health Service (United Kingdom) and instituted by Law 8.080 of September 19, 1990. SUS encompasses primary care, of medium and high complexity, emergency services, hospital care, epidemiological, health and environmental surveillance actions and services, and pharmaceutical assistance. In addition to vaccination programs and home care services, SUS is present throughout the country, and in 2019 seven out of ten Brazilians depended exclusively on SUS for access to healthcare (FIOCRUZ, 2020; IBGE, 2020).

In 2018, Brazil had 452,801 doctors when including public and private networks, which corresponds to the ratio of 2.18 doctors per 1,000 inhabitants. However, this indicator does not consider regional and municipal inequalities, which indicate the vast concentration of these doctors to be in the most favored regions and municipalities. The medical ratio per thousand inhabitants is 2.81 in the Southeast, 2.36 in the Central West, 2.31 in the South, but only 1.41 in the Northeast and 1.16 in the North. Municipal inequalities are even greater when one observes that while some cities, like Vitória, ES (in the Southeast) maintain a ratio of 12 doctors per 1,000 inhabitants, there are other municipalities in the North and Northeast regions that do not even reach 1 doctor per 1,000 inhabitants, maintaining a ratio far below the national average. This is the case in the states of Pará in the North with only 0.97 doctors and Maranhão in the Northeast with only 0.87 doctors per 1,000 inhabitants (Medical Demography, 2018).

A universal healthcare system is important in Brazil because it decreases social inequalities, among other aspects, and SUS becomes the only medical-hospital assistance institution in the most isolated regions or those regions with great socioeconomic inequalities. In 2017, SUS had about 335,000 doctors, 202,000 nurses, and 12,500 dentists in 129,544 public and private healthcare facilities, considering that “even with a public and universal healthcare system, SUS’s performance and expansion were imbricated to the private sector, especially when we consider the contracted services/contracted workers” (Viacava et al., 2018 p. 1753).

The pattern of development of the Covid-19 contagion and mortality curve in Brazil, as well as the curve’s acceleration, have a direct relationship with the universal healthcare system for the treatment and planning to combat this health crisis. When examining the model of action practiced by high-performance healthcare systems such as Japan, Hong Kong and Singapore, Legido-Quigley et al. (2020) highlight three major challenges to be faced in the event of a prolonged health crisis:

The first is that integration of services in the health system and across other sectors amplifies the ability to absorb and adapt to shock. The second is that the spread of fake news and misinformation constitutes a major unresolved challenge. Finally, the trust of patients, health-care professionals, and society as a whole in government is of paramount importance for meeting health crises (Legido-Quigley et al., 2020 p. 849).

Comparatively, SUS performance in Brazil fell short of what was expected in relation to the three key aspects: a) integration with a view to avoiding overloads in the healthcare system, b) managing fake news about the crisis, and c) increasing trust in the governance system.

a. Although the first case of coronavirus was reported on December 31, 2019 and the WHO decreed a pandemic on March 11, 2020, integration was found to be disorganized as the healthcare system was unprepared to confront Covid-19 due to the lack of infrastructure, equipment and skilled professionals prepared to face the pandemic. The symptom of this unpreparedness was the rapid collapse of the ICU network (Intensive Care Units) in public and private

hospitals, leading to the construction of Covid campaign hospitals throughout the country. However, through the month May, when the contagion and mortality curves had reached their highest point, only 47% of the Covid campaign hospitals were in operation. President Jair Bolsonaro’s strategy of political confrontation and his insistence on rejecting internationally established sanitary protocols reinforced his alienation from many governors and mayors. A judicial battle took place over the definition of legal authority to establish rules of isolation, quarantine, and restriction of transportation and traffic on highways when local and state governments were faced with a federal attempt to impose rules contrary to those of horizontal isolation and social distancing. The decision was finally taken to the highest court in the country, the Federal Supreme Court (STF). Unanimously, the supreme court justices reaffirmed the competence of states and municipalities to decide, without exempting the Federal Government’s responsibility, in addition to their legitimacy to define which activities should be suspended during the Coronavirus pandemic. The result was the lack of a unified protocol of actions between municipalities, states and the Federal Government regarding the contingency of the epidemiological crisis, along with the adoption of local measures that were sometimes divergent and/or overlapping. This dispute between the various government spheres also affected the process of sharing and distributing public resources for combating the pandemic. According to the National Health Council-SUS deliberative collegiate instance-the Ministry of Health (MS) has R\$ 39.0 billion in resources to combat the new Coronavirus, but 66% of the budget is frozen. Of the R\$ 11.4 billion earmarked for the purchase of respirators, masks and other PPE items needed for the population, health workers and to equip health units, only 25% of resources were released by the MS. The transfers of federal resources to states and municipalities reached only 41% and 44% of the total available, respectively (CNS, 2020).

b. Transparency in the dissemination of information to the population has been considered paramount in controlling the pandemic, but unfortunately this did not occur in Brazil. Since the first Covid-19 cases in Brazil, the President of the Republic has regularly published misleading, controversial or unsubstantiated news about the spread of the pandemic, to the point where independent fact-checkers on Instagram and Twitter have labeled posts he has made as *fake news*. The Ministry of Health has also avoided transparency. There have been three different ministers during the pandemic, one of them an interim minister with no formal training in healthcare. At the beginning of June 2020, after suppressing data regarding the number of contagions and deaths from the Ministry of Health’s website, the official accounting of the number of contagions and deaths from Covid-19 was altered, in order to make it more difficult to obtain and advertise the data. Furthermore, the President of the Republic is a fervent supporter of the use of hydroxychloroquine in the treatment of Covid-19. He has promoted its use on his personal social media accounts, in

- interviews, and live videos, as the preferred drug of choice for the treatment of Covid-19. After removing the two Health Ministers during the pandemic, Bolsonaro finally succeeded in establishing a governmental protocol for the use of the drug to treat the epidemic according to his criteria: “Pazuello [interim Health Minister] decided to change the orientation and wrote that in any situation, to prescribe chloroquine, so that the doctor could have his freedom” (Bolsonaro, 2020).
- c. As the government has been unstable since the beginning of President Jair Bolsonaro’s administration, trust in governance has been difficult to come by. In an opinion poll conducted by the Datafolha Institute on August 11th and 12th, 88% of survey respondents did not even know the name of the current Minister of Health, 49% believed that the Federal Government had not done what was necessary to avoid the growing number of Covid-19 deaths, and 33% of respondents considered President Jair Bolsonaro very responsible for the advancement of coronavirus in Brazil (16% considered him a little responsible and 49% did not consider him responsible) (DATAFOLHA, 2020). The Brazilian situation is different from that of nations whose leaders played a key role in the responsible handling of the pandemic, such as New Zealand. In countries where the federal government has adopted a serious stance in relation to the pandemic, citizen trust in their leader of state, as well as in the information provided by the health authorities, has been much greater and this has helped in citizens adhering to government measures of social isolation and individual protection.

The Brazilian Federal Government’s Approach to the Covid-19 Pandemic

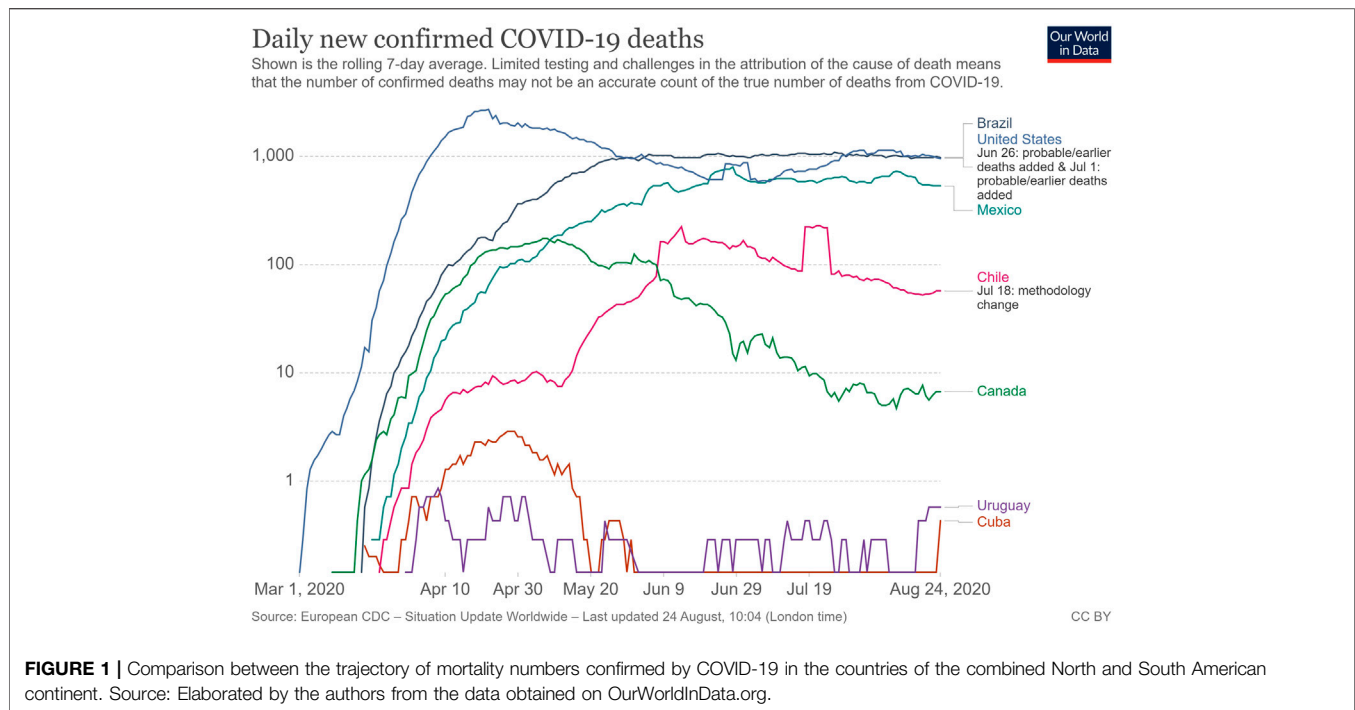
Contrary to the suggested global strategy of pandemic control, the President of the Republic rarely appears in public with an individual protection mask, despite the guidelines of the Ministry of Health itself and individual state laws that establish the mandatory use of this PPE. These and other public attitudes, on the part of the Executive Branch, are part of a strategy of political confrontation based on a social agenda of an ultraconservative nature, adopted since the presidential campaign of 2018 and sustained throughout his election in the same year. For over two decades Brazil has been a federative republican democracy and after the election of four previous presidents post-military dictatorship, Bolsonaro’s government’s priorities include re-establishing the facility for citizens’ right to bear arms and ammunition, establishing military schools for elementary and secondary education, the relaxation of environmental protections, the relaxation of protections for the territories of traditional populations (indigenous, quilombolas, and river peoples), and a favoritism toward governmental privilege of dialogue with high-ranking military and conservative religious leaders to the detriment of organized civil rights movements (specifically targeting the LGBT community, the black and minority movements, labor unions, the landless rural workers movement, and indigenous tribes, among others).

Social networks have been fundamental instruments for the dissemination of false and misleading information and hate messages against individuals and institutions that do not fit this particular vision of the President of the Republic. Public Federal Universities—a network of higher learning with 69 institutions distributed throughout Brazil—were one of the main targets of these institutional attacks. Former Minister of Education Abraham Weintraub, removed from office after a public threat to STF justices, became known for comparing university professors to “fat zebras” and for calling higher learning institutions “centers of communist indoctrination.” This campaign, aimed at destroying the public image of the Federal Institutes of Higher Learning (IFEs), was accompanied by a sharp reduction in the budget allocated to education, especially higher education, whose contingency rate was already 30% in 2019. By 2021, the budget reduction is expected to reach 18.2% (G1, 2020a).

This has led to the negative perception of the Presidency of the Republic which has had consequences on the actions taken by the Federal Government to combat the effects of the pandemic. Since the first Provisional Measures aimed at combating the pandemic were established on March 13, through the end of June, a heterogeneous and sometimes conflicting set of federal regulations has been released, edited and re-edited. Some of them are in direct conflict with the guidelines of both the World Health Organization (WHO) and the first Brazilian Ministry of Health itself, such as the inclusion of re-opening businesses such as fitness centers, beauty salons and barbershops in the category of “essential services” (Decree 10.344 of May 11, 2020), the mass production of hydroxychloroquine by army laboratories, and alterations in the dissemination of national Covid-19 case and mortality data. This type of erratic management of the Covid-19 crisis has resulted in a higher mortality rate in comparison to the majority of other countries in North and South America, second only to the United States of America.

As it is possible to see in **Figure 1**, when comparing eight countries with different HDI levels (Canada: 0.922; United States: 0.920; Chile: 0.847, Uruguay: 0.808; Cuba: 0.778; Mexico: 0.767 and Brazil: 0.761) (UNDP, 2019), the continuous weekly mortality rate in Brazil remained at a level close to 1,000 daily deaths for a longer period, from the third week of May until the end of August 2020. With the exception of the United States, which shows a fluctuating trajectory in the number of recorded deaths, all of the other countries reached their mortality peaks and then indicated declines in mortality. In contrast to observations in most European and Asian countries, where the mortality curve peaked, and was followed by a gradual drop and then smaller waves, the Brazilian case is different. In Brazil, these indicators maintained a consistency for months which transformed the “first wave” of deaths into a prolonged plateau that only showed discrete signs of decline at the end of August.

Thus, while the average levels of daily deaths caused by Covid-19 seem to have reached a maximum, their maintenance over months indicates that basic control measures have had their efficiency compromised given a low adherence of local



populations. Several studies associated population's adherence to measures of social distancing with the political orientation of local leaders (Allcott et al., 2020; Barrios and Hochberg, 2020; Painter and Qiu, 2020).

Economically, the government delayed the adoption of measures to protect domestic business markets, causing inertia in production activities. This delay is partially explained by the difficulty of the economic team in overcoming the liberal orthodoxy of the portfolio holder, Economic Minister Paulo Guedes. It took over two months to implement the first measures from the declaration of a pandemic situation by the WHO on March 11 until the first application of government financial resources (Table 1).

The result of the failure to adopt immediate and effective economic measures was the loss of 1,092,578 jobs in the first half of 2020 (a difference of -18.5% in relation to the same period of 2019), a fall of 11.4% in GDP in the second quarter of 2020 when compared to the same period of 2019, and the projection of a further decline in GDP of 5.52% (CAGED, 2020). Currently, Brazil has almost 50% of the economically active population, unemployed (IPEA, 2020).

Federal Universities Face the Covid-19 Pandemic

In different Latin American countries, universities have joined efforts with governments in order to mitigate the effects of the pandemic. The consultation of institutional material published by universities and interviews with professors revealed a close collaboration between universities and central governments. In Peru, the Pontifical University (PUCP) dedicated itself to the manufacture of mechanical respirators to assist the country's

hospital structure, with the President of the Republic visiting the facilities and declaring the relevance of the services provided by the institution. In Mexico, twenty-eight hospitals and university laboratories comprised the network of entities authorized by the Institute of Diagnosis and Epidemiological Reference (InDRE), directly linked to the Presidency of the Republic, to carry out the diagnosis of Covid 19 throughout the country. In Argentina, the partnership established between universities and the central government is symptomatic of the spirit of cooperation between State and society. President Fernandez provided financial support to the actions taken to combat the pandemic, especially in the metropolitan region of Buenos Aires, the largest urban center in Argentina. In addition, the central government is funding research projects in the area of social and human sciences through the "PISAC-COVID-19: La sociedad argentina en la postpandemia" program (DW, 2020; Hernandez, 2020; Kulemeyer, 2020; Lossio, 2020; UNAM, 2020).

These experiences are an indicator of the importance of new political actors in the process of strengthening civil society in Latin America, a region historically dominated by populism and military dictatorships (Moore, 1983). Cooperation between civil society and the government is a relatively recent phenomenon in Latin America, which is typical of the redemocratization process that took place after military dictatorships and aim the autonomy of politically organized groups in relation to the State. At the same time, scholars in Latin America agree that although the mechanisms of participation and empowerment of organized civil society have shown strong evolution in recent decades, they are still fragile. (Smulovitz and Peruzzotti, 2000; Eckstein and Wickham-Crowley, 2003).

Since the reestablishment of democracy in the late 1980s, following the phenomenon that occurred throughout Latin

TABLE 1 | Economic measures of the Brazilian government to combat the socioeconomic effects collateral effects of the Covid-19 pandemic through July 2020.

Provisional measure	Objective	Total value (x billions [BRL])	Value applied to the target public until through Julye 2020 (x billions of reais [BRL]) and consequences in the internal market
MP 937	Emergency aid for vulnerable people	R\$ 254.0	R\$ 167.62. The aid pledged by the government of R\$ 200.00 was raised to R\$ 600.00 by the national congress. Until the beginning of June, more than 11 million requests for aid remained "under analysis".
MP 929	Expansion of family aid ¹	R\$ 3.04	R\$ 0.37. Through ordinance 13.474, the federal government tried to transfer part of this package to the secretary of communication of the president of the republic, responsible for official advertising campaigns.
MP 936	Emergency benefits of employment and salary maintenance	R\$ 51.64	R\$ 18.24. The objective was to provide the means for the maintenance of company and job activities, making proportional reductions in the work day and wages or the temporary suspension of work contracts for up to 90 days. Workers, in this case, would have continued access to unemployment insurance or job benefits proportional to their wage reduction and the company would be mandated to not fire employees for the same period as the benefit. With uncertainty of the pandemic's end, there was little adherence to this measure.
MP 939	State and municipal compensation for the loss of resources from the participation fund	R\$ 76.19	R\$ 39.94. Such limited resources committed to this plan are associated with pressure from the federal government to end social distancing measures and restrictions on economic activities. Loss of revenue in states and municipalities has fostered criticism of the actions local public managers have taken during the pandemic especially from local businessmen.
MP 943	Grant for payroll financing	R\$ 34.0	R\$ 3.91. In theory, a measure that would benefit medium and large businesses with public financing for the payroll of employees. This measure was delayed in passing on resources from the BNDES to credit agencies, in addition to finding bureaucratic barriers in private financial institutions and high interest rates that made the measure practically unviable.
MP 977	Quotas for operation and credit guarantee funds	R\$ 35.90	R\$ 20.90. Credit line directed at medium and large businesses for investment. Despite a greater necessity during the pandemic, small and medium enterprises did not have access to the credit line due to the rigid demand for fiduciary guarantees from banking institutions. A support program for micro and small entrepreneurs outlined later in May.

¹ Social program created in 2003 and instituted by Law n° 10.836 of January 9, 2004, focused on improving the income inequality, with conditions, in the area of education and health. By 2016, it assisted over 13.8 million poor families in Brazil, especially those categorized as black and brown.

America, the Brazilian model of higher education has undergone profound changes and is currently characterized by a trend toward accessibility and inclusivity (Torres and Schugurensky, 2002; Arocena and Sutz, 2005). In addition to this, Article 207 of the 1988 Federal Constitution established "didactic-scientific, administrative and financial management autonomy, and [institutions] will obey the principle of inseparability between teaching, research and extension," while its deans are appointed by the President of the Republic from a triplicated list established by the university community. This infraconstitutional regulation ensured that the network of federal universities, although belonging to the state's bureaucratic structure, have certain autonomy regardless of the political orientation of ruling governments.

Public policies aimed at the inclusion of social groups historically discriminated against, such as indigenous peoples, African Americans and students from public schools have increased the scope and size of the university education system. In 2001, the federal public education system had 67 institutions, which had jumped to 110 institutions by 2018. In spite of the significant growth in the number of Federal Institutions (IFs), this number only represents 4.34% of the entire Brazilian higher learning system and 15.68% of

educational enrollments. This is because private higher learning has also been encouraged along with a strong increase in public funding for them through scholarships and student funding. As a result, the private sector represents 88.21% of all higher learning institutions and 75.41% of educational enrollments in Brazil (INEP, 2019).

As far as Brazilian scientific production is concerned, the proportion of participation of public/private universities is inverted. The country ranks 13th in terms of global scientific production and more than 95% of the Brazilian scientific production made available on an international basis comes from public universities, with emphases on areas such as agriculture, medicine and health (Clarivate Analytics, 2019). Studies focused only on the analysis of scientific articles indexed in international databases (Web of Science, Scopus and others) reached a similar conclusion, also noting the increase in scientific production in recent decades for the non-traditional educational regions of Brazil (Diniz-Filho et al., 2016; Souza et al., 2016). Surprisingly, the socioeconomic crisis caused by the Covid-19 pandemic has led to a trial by fire for Brazilian public universities. University hospitals, laboratories and research groups have made substantial efforts and instituted large-scale programs in short timeframes along with the assistance of local

TABLE 2 | Quantity of actions developed by Brazilian Federal Universities organized by type.

Action ¹	National total ²	Federal public universities ³									
		UFRJ	UFRGS	UFMG	UFSC	UNB	UFBA	UFC	UFG	UFPA	UFAM
Beds in university hospitals ⁴	3,158	164	93	894	75	35	80	17	38	58	0
Research studies	1,260	15	50	111	129	56	4	17	12	9	13
Production of hand sanitizer	113	3	2	2	3	2	2	4	1	1	0
Production of PPEs	121	3	2	3	4	1	3	5	1	1	7
Covid 19 testing	71	2	1	9	1	10	1	0	1	1	0
Educational campaigns	1,226	1	11	17	20	41	10	75	43	5	7
Solidarity actions	482	6	19	80	12	19	13	8	35	1	17
Municipal government partnerships	255	2	7	2	4	1	1	2	5	1	0
State government partnerships	112	3	4	5	1	1	3	1	1	1	1
Other relevant actions	1,343	16	19	37	16	32	3	71	27	4	24
Human development index ⁵	0.761	0.761	0.746	0.731	0.774	0.824	0.660	0.682	0.735	0.646	0.674

¹Principal actions disseminated on the sites of the universities sampled.

²IFEs Emergency Actions in the fight against the new coronavirus. Report prepared by ANDIFES and sent to the authors by Cogecom/ANDIFES (2020).

³Principal Brazilian Federal Universities distributed among the five regions of the country, according to the Web Ranking of Universities available at: http://www.webometrics.info/en/Latin_America/Brazil. Accessed on July 22, 2020.

⁴The total number of beds includes beds owned by the University Hospitals and beds made available through partnerships for the construction and operation of hospitals for the Covid campaign.

⁵Human Development Index of Brazil (PNUD, 2019) and the states that comprise the Federative Republic (Censo, 2010).

mayors and state governors to fight the pandemic with a great deal of success.

The ANDIFES report (National Association of Leaders of Federal Institutions of Higher Learning) highlights the actions of 68 IFEs, the participants of the research in the fight against the Covid-19 pandemic. **Table 2** shows the intense effort made by Brazilian Federal Universities to provide direct care to local populations, with an emphasis on increasing ICUs for the treatment of people contaminated with Covid-19. More than 3,000 hospital beds were allocated throughout the entire university network, with some institutions contributing over 800 beds alone. Even universities that did not allocate beds for Covid-19, such as UFAM, received regular patients in their facilities in order to make more beds in public hospitals available for Covid-19 patients. It is also worth mentioning that over 1,000 research initiatives were developed in the universities related to Covid-19 during this time, and the almost 500 voluntary solidarity actions were carried out by professors, employees and students from the universities to give assistance to local populations. In addition to actions aimed at the external community, there are also actions of solidarity within the university community, from the suspension of in school face-to-face activities, student socioeconomic surveys to plan for the return of classes, guaranteeing the constitutional principle of inclusiveness, and adding learning support measures (curricular restructuring for asynchronous classes when possible) for remote classes as the new semester in August 2020 began for most institutions.

In **Table 2**, one can see that the number of actions are significantly higher for universities located in the most economically developed regions of the country, as opposed to regions where smaller social indicators are found in the consolidated data. The Southeast and South of Brazil contain

the best internationally ranked universities. However, in spite of these differences, the significance of the actions carried out by each of these institutions can only be measured if we consider the type of social impact caused within the context of their region. Thus, in a region with low socioeconomic indicators containing traditional communities such as river peoples, indigenous tribes and quilombolas such as the North and Northeast regions, charity and solidarity actions can have a more important direct impact than research actions.

As observed in **Table 2**, there was a concentrated effort on three different contingency fronts in the fight against the harmful effects of the Covid-19 pandemic:

- (1) Alert society to the risks of the pandemic, with an emphasis on creating observatories that would help local governments and civil society to understand the evolution of the disease, as well as implementing measures for its prevention. In addition, the participation of university specialists in the process of planning and building contingency plans implemented by state and municipal public managers is observed, which has subsidized decision-making both in relation to strategies for social distancing, suspension of non-essential production activities, and in the process of gradually reopening economic activities;
- (2) Provide direct service to the local community, with an emphasis on increasing beds in university hospital ICUs for the treatment of patients with Covid-19 and the manufacturing of personal protection equipment (PPEs). Since Brazil has a population around 206 million, with an average HDI of 0.761 (UNDP, 2019) - ranging from 0.418 to 0.862 depending on the municipality (Censo, 2010)-and a poor or extremely poor population estimated to be around 31.8% of the total population, actions directly associated with

TABLE 3 | Sampling of the actions carried out by the Federal Universities in the fight against Covid-19.

University ¹	Actions ²		
	Programs	Management support	Studies
UFRJ	<ol style="list-style-type: none"> Partnerships with over 30 civil organizations to organize campaigns collecting essential products and organizing primary health care teams in the communities. Training of primary health care teams in communities. 	<ol style="list-style-type: none"> Plans of action to combat Covid-19 in the communities (slums) of Morro do Alemão, Cidade de Deus, Maré, Rocinha and Santa Marta. Website development for real-time monitoring of Covid-19 cases at the university hospital. 	<ol style="list-style-type: none"> Analysis on the impact of the Covid-19 pandemic on the quality of life of women living in areas of social vulnerability in Rio de Janeiro. Development of a test to detect antibodies to Covid-19. The test called S-UFRJ costs less than 1.0 US\$.
UFRGS	<ol style="list-style-type: none"> Development of business design alternatives for small businesses to ensure the continuity of their activities during the pandemic. Training of a therapeutic group that provides emotional support to public school teachers. 	<ol style="list-style-type: none"> Production and donation of 100 thousand facial protectors for health professionals and other essential services. Development of the Coronavis website, which is a tool to support the visual analysis of Coronavirus data. 	<ol style="list-style-type: none"> Evaluation of the efficacy and safety in using plants in the ethnopharmacological management of viral respiratory infections, such as Covid-19. Development of a prototype of a N95 mask decontamination chamber that uses ultraviolet radiation and allows the equipment to be reused.
UFMG	<ol style="list-style-type: none"> Assistance with gestation, delivery and birth of the indigenous Pataxó, Maxakali and Xakriabá groups, with the distribution of Covid-19 educational material. A group of alumni have launched a campaign to collect computer equipment to enable remote teaching of public school students. 	<ol style="list-style-type: none"> Elaboration of a mathematical model to evaluate the percentage of Covid-19 underreporting of cases in Brazil. Development of the CovidLP app that provides short and long term forecasts for Covid-19. 	<ol style="list-style-type: none"> Project mapping the mass Covid-19 testing in Betim. Dog and cat testing to assess the risk of Covid-19 transmission between humans and animals.
UFSC	<ol style="list-style-type: none"> Distribution of food purchased from family farmers to populations living in a state of social vulnerability. Creation of a support group for people in mourning due to Covid-19. 	<ol style="list-style-type: none"> Detection of Covid-19 particles in sewage samples collected in 2019. Development of an app for mobile phones that allows detecting and notifying people who have had close contact with suspected or confirmed cases of Covid-19. 	<ol style="list-style-type: none"> Study on the possibility of using the BCG Vaccine to combat Covid-19. Development of a low-cost mechanical respirator prototype.
UNB	<ol style="list-style-type: none"> Telehealth Program for virtual care to the indigenous population of the Federal District. Creation of the ATHOS Project (Technical Assistance for Housing of Social Origin) to reduce the vulnerability of the population living in precarious conditions to contamination by zoonoses. 	<ol style="list-style-type: none"> Epidemiological monitoring and reporting to the population and the local DF government. Development of COVID19 Tracker - Application for tracking social interaction in an epidemic scenario. 	<ol style="list-style-type: none"> Participation in the phase 3 tests for a Covid-19 vaccine with the objective of testing safely at a large scale and with efficacy of the CoronaVac product. Implementation of a multi-user level 3 biosafety laboratory.
UFBA	<ol style="list-style-type: none"> Distribution of 4,697 masks and 4,586 hygiene kits for the homeless in the city of Salvador. Drive Sapeca, which collected food and cleaning supplies for institutions accredited by the Municipal Council for the Rights of Children and Adolescents. 	<ol style="list-style-type: none"> Test standardization for Covid-19 detection with the use of saliva. GeoCombate group developed a multidisciplinary study that identifies neighborhoods in Salvador that are most vulnerable to Covid-19. 	<ol style="list-style-type: none"> Participation in the phase 3 tests for a Covid-19 vaccine with the objective of testing safely at a large scale and with efficacy of the CoronaVac product. Development of sink prototypes to function as community hygiene points in neighborhoods with irregular water supply.
UFC	<ol style="list-style-type: none"> Monitoring the health of the elderly in shelters by the medical residents of the School of Medicine. A multidisciplinary team carries out actions to prevent covid-19 for people living on the streets of Fortaleza-CE. 	<ol style="list-style-type: none"> Development of a low-cost respirator for medical use. Development of the Predictive Monitoring System (SIMOP) that follows the evolution of COVID-19 in Fortaleza-CE. 	<ol style="list-style-type: none"> In silico studies to evaluate the efficacy of eight molecules (synthetic peptides) that interact with the virus to prevent it from communicating with human protein. Development and implementation of a portable sink for people on the street.
UFG	<ol style="list-style-type: none"> UFG Solidarity Extension Action to raise funds for food baskets to be donated. Donation of kits with individual protection equipment, thermometers, oximeters and Covid-19 tests to indigenous communities in Mato Grosso and Tocantins. 	<ol style="list-style-type: none"> Consultancy with the Public Health Emergency Operations Committee of the State of Goiás through mathematical models to forecast advances of the pandemic and plan control actions. Implementation of the Tendinha subproject, which aims to test children and adolescents as a means to assess the spread of the disease. 	<ol style="list-style-type: none"> Use of Artificial Intelligence (AI) to discover effective drugs to combat Covid-19. Making of cushions for injury prevention during Covid-19 treatment.

(Continued on following page)

TABLE 3 | (Continued) Sampling of the actions carried out by the Federal Universities in the fight against Covid-19.

University ¹	Actions ²		
	Programs	Management support	Studies
UFPA	1. Development and distribution of information booklets about Covid-19 in several indigenous languages. 2. Elaboration of an information booklet about the basic care needed during the Covid-19 pandemic.	1. Production of PCR tests to perform Covid-19 identification tests in partnership with the state government. 2. Development of the Data Observatory Project: COVID-19, which provides a webpage with a series of graphics that makes it easier to monitor the development of the disease in the country.	1. Physiotherapeutic assistance for people recovering/recovered from Covid-19. 2. Conducting research on the behavior of the elderly in the pandemic.
UFAM	1. Acquisition and distribution of PPEs for rural and river inhabitants and support to the commercialization of agricultural products. 2. Amazon Campaign against Covid-19 to collect food and cleaning products for donation to indigenous families.	1. A Covid-19 observatory for case monitoring in the state of Amazonas with an alert system for civil and public managers. 2. Definition of the Covid-19 epidemiological curve in Manaus, which revealed to the effectiveness of social distancing for flattening the curve.	1. Computational research on the efficiency of pharmaceutical drugs to combat Covid-19. 2. Identification of patent-free drugs as an alternative treatment for Covid-19.

¹Principal Brazilian Federal Universities distributed among the five regions of the country, according to the Web Ranking of Universities available at: http://www.webometrics.info/en/Latin_America/Brazil. Accessed on July 22, 2020.

²Actions disseminated on the websites of the universities sampled: www.ufrj.br; www.ufmg.br; www.ufsc.br; www.unb.br; www.ufba.br; www.ufc.br; www.ufg.br; www.ufpa.br; www.ufam.br.

mitigating the effects of the pandemic are just as important as the discovery of a vaccine or more permanent solution. As a result, the most vulnerable populations, such as the indigenous and river peoples' communities, necessitated solidarity actions implemented by the IFEs;

- (3) Focus research on finding solutions to prevent and treat Covid-19, with an emphasis on the development of improved tests, as well as cooperation for the development of phase 3 vaccine testing. In the latter case, since the epidemic has disseminated at such a large-scale throughout the country, Brazil has become one of the most opportune environments for mass testing. In addition to this, Brazil is noted for efficient scientific production and a top-class laboratory structure that has allowed for the development of partnerships with some of the most important worldwide research centers on Covid-19.

Table 3 allows us to examine the social impact of the actions developed by Federal Universities within their regional contexts in detail. Solidarity initiatives for direct assistance to the local population were oriented for more vulnerable populations that, although they did not reach a broad public, contribute to the protection and preservation of populations representative of Brazilian cultural diversity.

In regions with a greater representation of indigenous communities, special attention was given since these communities are fragile, often formed by only a few dozen individuals, and face possible extinction. In Brazil, the urban indigenous population live mostly in municipalities with high risk for COVID-19 and 22% of the rural indigenous population live in municipalities with high epidemiological risk (FIOCRUZ, 2020a). The total indigenous population is less than 900,000 people in 304 distinct groups, some have relative integration with non-Indigenous peoples, such as the Yanomani, while others are isolated individuals who refuse external contact, such as the

Kawahiva. However, 31,469 cases of Covid-19 and 797 deaths were still registered through September 12, 2020 (APIB, 2020), representing a lethality rate of 2.53% in these groups.

In cities with inadequate housing, such as slums (favelas), specific actions were adopted taking social vulnerability and the difficulty of enforcing social distance measures into account. Data from 2015 show that "about 11.4 million people live in precarious territories, several of which are made up of slums. About 12.2% of the population under these precarious conditions (1.4 million) are in Rio de Janeiro. These slums are characterized by difficulties in access, high density of buildings, precarious housing and insufficient supply of essential public services, such as water supply and garbage collection." Additionally, in these areas there is high incidence of diseases such as tuberculosis, hypertension, heart disease, diabetes and high homicide rates (FIOCRUZ, 2020b).

As an example of these actions, UFPA and UFPI (UFPA, 2020; UFPI, 2020) prepared pamphlets on the prevention of spreading Covid-19 in indigenous languages. While UFRJ has developed tailored action plans for five specific communities (favelas) in Rio de Janeiro to combat Covid-19.

According to data from the Ministry of Education, these actions by Federal Institutions of Education aimed at mitigating the impacts of Covid-19 had impacted approximately 30 million people, which represents 14% of the country's population by the end of July 2020 (MEC, 2020). These numbers are even more remarkable when compared to **Tables 2, 3**, since in 2018, statistics show that 13.5 million Brazilians live below the poverty line (G1, 2020b).

DISCUSSION

The evolution of the Covid-19 pandemic in Brazil has highlighted at least two opposing social and political trends:

Firstly, the failure of the Executive Branch to lead and manage the Covid-19 pandemic, leading to an ever rising mortality rate from the pandemic's inception through August 2020. President Jair Bolsonaro's null approach has contributed to the Brazilian healthcare system's (SUS) difficulties to cope with the pandemic, fractured the relationship between science, the people and policies, and discredited internationally recognized scientific evidence, all factors that could have potentially mitigated the effects of the pandemic. As a consequence, in August 2020, Brazil remained second in the number of Covid-19 deaths, behind only the United States, and all while facing an unprecedented economic crisis.

Secondly, in the midst of the President's null approach to the pandemic, the scientific effort made by Federal Universities did play an important role in mitigating the effects of the pandemic. Although Federal Universities are public entities, the autonomous character of their management system assured by the Federal Constitution of 1988, enabled the necessary independence from the ruling central government. As public entities with management autonomy, together with other scientific institutions, these universities helped alert society about the risk of the pandemic, provided direct assistance to local communities, and developed research for solutions to both prevent and treat the disease. Thus, while organically linked to the Ministry of Education, but enjoying fundamental administrative and didactic-scientific autonomy, Brazilian Federal Universities have self-organized and established close collaborations with municipal and state decision-makers aimed at developing possible solutions to be implemented by public institutions during the health crisis.

The effort made by these institutions can be measured by the volume of actions and strategies developed within the public Federal University system, by the influence these actions had on modeling pandemic contingency strategies in municipalities and states, and through the strengthening of the relationship between science and the people as a mechanism capable of fighting fake news and misinformation about the spread and prevention of Covid-19.

Since 2019, there has been strong campaign to discredit the network of Federal Universities by the Bolsonaro's government and defund the areas of education and health through budgetary constraints. The Covid-19 pandemic has magnified the intense battle between these public institutions designed to produce scientific and social applied knowledge for the betterment of Brazil and the Brazilian ruling President. Through financial squabbling, the improper nomination of non-elected deans, and public smear campaigns, the ruling government intends to weaken the universities and everything they represent (science, the autonomy of thought, and respect for diversity and inclusivity), all while in ideological reverence to the extreme conservative social base that elected him in 2018 (comprised of representatives of agribusiness, weapons manufacturers, the military, and Christian evangelicals). Thus, the President intends to remain politically viable for the next presidential election.

On the other hand, the actions developed by universities had a significant impact in mitigating the effects of the pandemic in Brazil and the various projects focused on combating the spread of COVID-19 in socially vulnerable communities have been just as vital as the research projects for the development of vaccines and therapies. Despite current political threats to the existence of Brazilian public Federal Universities, the volume of their actions, the diversity of populations they assisted and the products they delivered to Brazilian society indicate they are resilient and socially engaged.

DATA AVAILABILITY STATEMENT

Publicly available datasets were analyzed in this study. This data can be found here: APIB, (2020). ARTICULAÇÃO DOS POVOS INDÍGENAS. http://emergenciaindigena.apib.info/dados_covid19/. Accessed September 12, 2020. CAGED (2020). Ministério do Trabalho e Emprego. Programa de Disseminação de estatísticas do trabalho. http://pdet.mte.gov.br/images/Novo_CAGED/Jul2020/2-apresentacao.pdf. Accessed August 24, 2020. CNS (2020). Conselho Nacional de Saúde. Boletim Cofin. Ministério da Saúde. http://www.susconecta.org.br/wp-content/uploads/2020/06/Boletim-2020_0617_T1_ate_15_RB-FF-CO_resumida-1.pdf. Accessed August 26, 2020. Demographic Censo, 2010 (2010). Índice de Desenvolvimento Humano dos Estados. IBGE, 2010. <https://www.ibge.gov.br/cidades-e-estados>. Accessed September 11, 2020. IBGE (2020). Pesquisa Nacional de Saúde (PNS). <https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=resultados>. Accessed September 12, 2020. INEP (2019). Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. Sinopse Estatística da Educação Superior 2018. Brasília: INEP, 2019. <http://inep.gov.br/web/guest/sinopses-estatisticas-da-educacao-superior>. Accessed June 16, 2020. IPEA (2020). Instituto de Pesquisas Econômicas Aplicadas. Carta de conjuntura – Mercado de trabalho. Nº 37, segundo trimestre de 2020. https://www.ipea.gov.br/portal/images/stories/PDFs/cc47_nt_pnad.pdf. Accessed September 11, 2020. MEC (2020). Ministério da Educação. Coronavírus: monitoramento nas instituições de ensino. <http://portal.mec.gov.br/coronavirus/>. Accessed August 14, 2020.

AUTHOR CONTRIBUTIONS

CA: Formulation of overarching research goals and aims and management and coordination responsibility for the research activity planning and execution; qualitative data assessment for the cases of the universities in the South and Southeast regions of Brazil; and preparation of the manuscript first draft. GC: Methodology design; quantitative data assessment for all universities as well as qualitative assessment of the universities in the Northeast region of Brazil; and revision of the first draft of the manuscript. GM: Qualitative data assessment of the universities in the North and Centre-West regions of Brazil and revision of the first draft of the manuscript.

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The Articulation of the Indigenous Peoples of Brazil in Facing the Covid-19 Pandemic

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This article aims to analyze how the indigenous communities of Brazil have organized autonomous actions and strategies to confront the Covid-19 pandemic based on the articulation among their own historical experiences, their health conceptions, partnerships with scientific communities and other segments of society that support the indigenous struggle. The research articulates the political and theoretical modernity/coloniality/decoloniality movement with indigenous experiences and conceptions of health, body/spirituality and territory. For this task, we adopted an undisciplined methodology based on conversation, solidarity and analysis of discussions, sites, lives, bibliographic productions and official documents prepared by indigenous organizations and partner entities. The research has pointed out that the situation of greater vulnerability of indigenous populations is not only due to biological factors. Also, indigenous people have denounced the invasion of their territories, racism, the lack of sanitation policies, food insecurity, the circulation of people not belonging to the community (missionaries, miners, loggers, army), the difficult access to hospitals and the precariousness of the necessary resources for individual and collective asepsis have worsened the spread and lethality of the virus. Likewise the current indigenous struggle in this pandemic scenario, this article is not limited to a health discussion, yet it aims to contribute to think about the relationship between the pandemic and the dissemination of anti-democratic policies that simultaneously affect the right to health and the territory of these populations.

Keywords: COVID-19, indigenous, Brazil, body, territory

INTRODUCTION

April 1, 2020 marks the official date of the first Covid-19 registration case among Brazilian indigenous peoples. On June 20, COIAB (Coordination of Indigenous Organizations of the Brazilian Amazon) and IPAM (Institute of Environmental Research of the Amazon) released a study indicating that the mortality rate by coronavirus among indigenous people is 150% higher than the Brazilian average, that is to say, among indigenous people the rate is 6.8%, while the average for Brazil is 5% (Fellows et al., 2020). On September 7, the APIB (Articulation of Indigenous Peoples of Brazil) updates the data, indicating the number of 30,218 indigenous people infected, 786 deaths; 156 people affected by the pandemic (APIB 2020a).

These facts have exposed a range of problems that will be here addressed. Is the greatest vulnerability of indigenous populations due only to biological factors? What are the great challenges and how have these populations been organized to face them in the current context?

Our hypothesis is that the worsening of indigenous vulnerabilities results not only from the greater susceptibility to exogenous diseases, but also from social and economic conditions and the difficulty of access to the health system (COVID-19 pandemic and collaborators, 2005). All these conditions have historically arisen from the process of coloniality established since the 16th century, going through centuries of violation of indigenous rights by the State and its agents (colonizers, sertanists, missionaries, indigenists). The roots planted in this process are currently reflected in the continuity of the invasion of their territories, the precarious access to health services (hampered by logistic distance or by the reduced number of staff), and the institutional racism perpetrated in political actions of neglect of indigenous rights or encouragement to their disrespect.

As David Kopenawa states "all this destruction is not our mark, it is the footprint of the whites, your footprint on the earth" and "[We] Yanomami, the inhabitants of the forest, do not fill the earth with xawara smoke-epidemics" (Yanomani 2011, 21).

This trail full of ontological and epistemic racism is a producer of vulnerabilities and it has always been accompanied by various diseases such as measles, smallpox, rubella and flu. Notwithstanding, resistance has always been a response to the colonizing project of violation and destruction of indigenous peoples in Brazil. In the midst of a pandemic of high and rapid contagion such as that of Covid-19, the indigenous people find themselves facing a new historical crossroads. On one hand, the Covid-19 reveals even more the racism of the Brazilian State and its necropolitics with a Federal Government that proposes assumedly anti-indigenous agendas. On the other hand, the pandemic threatens the ancestral memory with the elderly as a group at risk. It is based on orality, with the elderly being the guardians of culture.

Based on this scenario, it is considered the relevance of monitoring the role that the State has been playing in the executive and legislative powers of government, as well as in public bodies such as the National Indigenous Foundation (FUNAI), the Special Indigenous Health Secretariat (SESAI) and the Special Indigenous Health Districts (DSEIs). Also, we will call the attention to how the indigenous social movements have lobbied the Federal Public Ministry and the Supreme Court of Justice to guarantee emergency access to indigenous health, both for those who live in their villages (homologated and non-homologated territories) and those who live in urban centers.

Once it is a present time history, the analysis of the impacts of the Covid-19 pandemic among the indigenous peoples in Brazil demands the use of certain sources as: virtual meetings of the Mixed Parliamentary Front in Defense of the Rights of Indigenous Peoples; articles published by research institutes linked to the defense of native peoples; research coordinated by the Articulation of Indigenous Peoples of Brazil (APIB); protocolled documents in legislative bodies of the Federation; bibliography of indigenous authorship.

It is noteworthy that the methodology adopted by APIB will be an important guiding principle for this article. In a clear confrontation with the current indigenous policy adopted by the Brazilian State, APIB refuses to use the data collected under

the guidance of the Ministry of Health, SESAI and the DSEIs that disregard in their statistical surveys the indigenous people who do not live in villages and in homologated lands. In this sense, the documentary corpus presented here is made up of diversified sources, whether bibliographic from research that investigates indigenous issues and, therefore, already consolidated in the academic environment along with virtual sources.

We propose to make use of the concept of interculturality in the analysis of these sources, treating them as "a space of negotiation and translation where social, economic and political inequalities, relations and power conflicts in society are not kept hidden, but recognized and confronted" (Walsh, 2001, 11).

MATERIALS AND METHODS

It is important to point out that the methodology adopted by APIB will be an important guideline for this article by reason of it is undisciplined, according to Haber and Nometodology (2011). It means to base the analyses on solidarity and conversation with indigenous peoples, generally disregarded by the Western methodology. In a clear confrontation with the current indigenist policy adopted by the Brazilian State, the APIB refuses to use the data collected under the guidance of the indigenous people who do not reside in villages and on approved lands. In this sense, the data presented here are composed of the "Indigenous grassroots organizations of the APIB, Covid-19 Confrontation Fronts that collaborate with the APIB, SESAI, Municipal and State Health Secretariats and the Federal Public Ministry" (APIB 2020a).

In this case, the sources produced as lives are highlighted, such as the meetings of the Committee of the Mixed Parliamentary Front in the Law of Indigenous Peoples, the radio sources (Radio Program COIAB), the documents written by the indigenous people (Indigenous Women March Final Document Letter by Indigenous Peoples from Around the World) or official documents (reports from the Public Ministry and the Ministry of Health) and journalistic sources (El País and Nexó). Thus, the data presented here are composed by the "APIB-based indigenous organizations, Fronts facing the Covid-19 that collaborate with APIB, SESAI, Municipal and State Health Secretariats and the Federal Public Ministry" (APIB 2020a) and also by official, historical, anthropological and journalistic data that emphasize the situation of indigenous peoples in facing pandemic contexts such as that of 2020. Therefore, data regarding the incidence of Covid-19 are collected in materials produced by indigenous organizations and published in digital format on the internet.

The data collected from sources produced by indigenous organizations are compared with those that have been disseminated by the Federal Government. Especially with regard to the number of indigenous deaths caused by the pandemic, it appears that there is an underreporting by the Ministry of Health, which does not account for the indigenous people living in the city. In addition to a quantitative analysis,

these data reveal important questions about how the current government has addressed the issue of identity and the specific public health policies that should be aimed at these populations. The sources referring to the lives, letters, lawsuits filed with the Supreme Federal Court, websites and informational materials that have been circulating on the internet are analyzed from the indigenous reading and the decolonial criticism carried out to the current situation of absence of intercultural dialogue.

The methodological position adopted by APIB brings within the action and decolonial perspective by reaffirming the principle of self-identification of indigenous peoples, in a clear clash with essentialist and ethnocentric perspectives constantly formulated and reaffirmed in the context of current public policies. The denial of the identity of indigenous peoples translates as a reproduction of a monotopic vision of politics, society and law inherited from our colonial past, as the speech of the then Minister of Education, Abraham Weintraub, expresses so clearly:

I hate the term 'indigenous peoples', I hate that term. I hate it. The 'gypsy people'. There is only one people in this country. They want it, they take it. They don't want it, they may go backwards. They are Brazilian people, there is just one. It can be black, it can be white, it can be Japanese, it can be descendant of an Indigenous, but it has to be Brazilian, man! Put an end to this business of peoples and privileges (Leitão 2020).

In this sense, the theoretical and methodological references of the Modernity/Coloniality/Decoloniality movement are taken into consideration to be the most consistent with the picture described. The key concept of 'decoloniality', elaborated by Aníbal Quijano at the end of the 1980s, establishes an intrinsic relationship between the processes of global capitalist expansion, once started with European control over the Atlantic, and the racial classification of the various peoples that inhabit the world. This world-system, based on the subalternization of colonized territories and colonized inhabitants, structures a pattern of power that does not reduce the economic order, but violently affects all the epistemic universes affected. Thus, the independence processes of the former colonies did not annihilate the western referential patterns in world organization and understanding (Quijano 2005).

This concept of decoloniality has been unfolded by several thinkers: Edgardo Lander (Lander, 2000) who systematizes the coloniality of knowledge and the coloniality of nature; Maldonado Torres (Maldonado-Torres, 2007) who talks about the coloniality of being; and Maria Lugones (Lugones, 2008) who deals with the coloniality of gender. These discussions are also dealt with in the areas of pedagogy and interculturality by thinkers like Catherine Walsh (Walsh, 2005; Walsh, 2009) and Vera Maria Candau (Candau, 2000).

We also assert that several indigenous thinkers and activists have dialogued with this reference of research production and social action, precisely because they understand that it can be a possible way of communication of knowledge between universities and the references of other cultures, besides Western ones. As Ailton Krenak said, it is necessary "to understand what sharing this

knowledge represents, having as protagonists the voices that come from these silent places" (Serena 2020).

Even though in this article we are concerned with describing the Brazilian indigenous realities in the current context, where the pandemic is on the rise and ethnocidal political discourses are emerging, we will also describe the indigenous reality in other periods and epidemiological contexts, indicating that this problem accompanies these peoples throughout their historical colonial and post-colonial contact. From the point of view that coloniality has its reverse face in decoloniality, we will present the actions and networks of solidarity organized by the indigenous peoples of Brazil who come, as Ailton Krenak wisely described, "stubbornly resisting the unsustainable embrace of progress" (Krenak 2017, 30).

Accordingly, this article aims to expose and discuss: the epidemiological history in the indigenous communities through the fronts of expansion and colonization; the indigenous conception of health that does not separate biological aspects from social ones, so that body, food, spirituality and nature are interconnected; the federal actions to confront the pandemic and its incidence in indigenous communities; the various indigenous strategies, which are articulated to other institutions, destined to confront and notify deaths and cases through the omission of the federal government: APIB and its grassroots organizations; ISA; Desai's; national and international NGOs, 16th ATL, Xingu Project, Fiocruz among others and, finally, the social impacts of the pandemic from the indigenous perspective and articulation with decolonial criticism.

RESULTS

Epidemiological Background in Indigenous Communities Through Expansion and Colonization Fronts

Recent researches have shown that indigenous peoples have a high vulnerability to acute respiratory infections. In addition to past evidence that measles, smallpox and influenza viruses have culminated in major epidemics and consequent extermination of native peoples in Brazil, today "the introduction of respiratory viruses into susceptible indigenous communities has a high potential for spread, resulting in high rates of attack and hospitalization, with the potential to cause death" (Fiocruz, 2020; Valverde, 2020) and, similarly, cause exterminations such as those that and, in the same way, provoke exterminations like those that occurred during centuries of colonization in Brazil. There have been countless occasions of intentional contamination of these peoples by agents of expansionist fronts at various times in history. Invasions and epidemics are events with which indigenous peoples must deal since the maritime expansion and subsequent invasion and territorial conquest of vast regions of the Americas in the 16th Century onwards, occupied densely by a myriad of peoples constituting a multiethnic and linguistic diversity since at least 12,000 years A.P. (Carneiro, 1992, 42).

Pathogenic agents such as smallpox, measles, pertussis, chickenpox, typhus, diphtheria, flu, bubonic plague, malaria and, currently, Covid-19, are vectors for biological cataclysms in which indigenous peoples have been and are most affected, not only by lack of immunity, but also by other ecological, social and political factors. This fact exposes the illegality and criminality of the pandemics, bearing in mind that "the microorganisms did not affect a social and political vacuum, but a socially ordered world" (Carneiro, 1992, 13). This situation leads to impacts, not only biological, but also cultural and social, imposed by the issue of the rupture concerning the cultural reproduction of native peoples, given the greater vulnerability - in the case of the Covid-19 pandemic - of the elderly groups, who in these cultures represent the guardians of memory. Knowledge, wisdom, cultural heritage and ancestry are at risk (APIB 2020c) "Emergência Indígena" 2020, 17).

The social and cosmological disrupting imposed on indigenous people since the beginning of coloniality, in policies of population concentration in Jesuit mission villages, and perpetuated in the action of the colonizers on expansion fronts, was responsible for the casualties of indigenous contingents in various parts of Portuguese America. The colonizing action begun in the coastal areas of Brazilian territory, extended to the interior regions, a place of ancestral experience of numerous indigenous peoples, most of them of Jê origin as opposed to the Tupi peoples of the coast.

At the threshold of the 16th Century, in spite of the controversies concerning the demographics of the native peoples before the invasion of Europeans in Brazilian territory, there were about 1–6.8 million indigenous people in the Amazon, Central Brazil and the Northeast coast (Carneiro, 1992, 14). In addition to this population density, which, according to the chroniclers of the time, was in a process of rapid expansion, it was visibly healthy and long-lived (Hemming, 2007, 216–217). Over the centuries, this dense population suffered processes of genocide caused by Europeans (carriers of microorganisms), making epidemics one of the main extermination agents of native peoples since then, portraying the stories of native peoples as stories of depopulation, deception and misunderstanding (Vainfas, 2007, 39). From a demographic index varying from 1 to 6.8 million in the year 1,500, this index gradually declined in the following centuries with figures of approximately 4 million in 1,600; 2.5 million in 1,500; 1.5 million in 1,800 and less than 1 million in the 2010 census (Santos, 2013, 185), due to the rapid spread of epidemics among the original peoples, whether today or in previous centuries.

Among the causes of death of the indigenous people contacted and resettled by the Jesuits at the beginning of colonization is the impact of epidemics caused by diseases from Eurasia and Africa, especially in Bahia (1,552–1,561) on the island of Itaparica (1,562) and Ilhéus (1,563), besides the neighborhoods of São Paulo (1,554), Espírito Santo (1,559) and Pernambuco, in a process that triggered overwhelming levels of mortality "up and down the coast, penetrating deep into the interior" (Hemming, 2007, 223), in the 16th century. The same century that, according to hypotheses, the Goyá (an indigenous people whose ethnonym was an inspiration for naming the state of Goiás, in the Midwest

region of Brazil) would have been extinguished by "successive outbreaks of cholera" (Quintela, 2003, 168).

Invasions resulting from organized military expeditions to capture indigenous people and search for gold, often following the indigenous trails towards the interior of the territory, have provoked conflicting inter-ethnic contacts with irreparable damage to the original peoples.

There were population decreases that would be fed back by the decreases promoted by the colonizers in search of more waves of indigenous people to fill the vacancies left by the previous groups exterminated due to the diseases that raged in the villages, in a repetitive process of gathering, contamination and deaths. In addition to the evangelization and integrationist intention of the Jesuit activity, simultaneously resumed in the politics of the current Brazilian Government, the villages fulfilled the function of liberating the spaces inhabited by the original peoples to the fronts of agricultural and extractive expansion. Besides, this situation imposed them a constant process of social and cosmological adaptability through the results of intrusions into their territories, inter-ethnic conflicts, illness and exterminations due to the viruses carried by the colonizers.

For a specific example, historiography shows that between 1751–1753, the Akroá, villages in São José do Duro, in the north of the Capitancy of Goiás, in Central-western Brazil, had their population drastically reduced due to the measles epidemic, with 500 people dying from 600 villages (Silva, 2006, 130). Similarly, data organized by Doctor Douglas A. Rodrigues (2013, 14) inform that only at the end of the 19th and 20th centuries, many indigenous peoples had high demographic losses caused by various epidemics when in contact with non-indigenous people, circumstances that allude to the genocidal process experienced by indigenous peoples in these 520 years of coloniality.

The Munduruku, in 81 years (1875–1956), had a 93% decrease in its population; the Kaingang of São Paulo, in 44 years (1912–1956) lost 92.7%; the Nambikwara in 8 years (1948–1956) lost 90%; the Asurini in 9 years (1953–1962) lost 81.5%; the Xokleng of Santa Catarina in 2 years (1941–1943) lost between 73.5 and 82.3% and the Karajá in 16 years (1940–1956) lost 75%, just to depict some of the cases. All these high mortality rates were driven by diseases such as smallpox, malaria, flu, measles, blenorrhagia, tuberculosis, chickenpox, whooping cough, and gonorrhea, whose degree of spread among the indigenous people is similar to the high rate of contamination by Covid-19.

Still in the 20th century, more precisely during the period of the civil-military dictatorship (1964–1985) in which the *modus operandi* of the Brazilian State was the liberation of indigenous lands - considered an obstacle to national development - to the execution of large undertakings including the construction of infrastructure works (highways, among them the Transamazonica and Hydroelectric Power Plants), there were deliberate contamination practices, which means, criminal, of indigenous people by infectious diseases occurred (Ministério Público Federal "Figueiredo Report" 2020, 223). In this period, the Panará lost 82.4% of their population in 8 years (1967–1975); the Waimiri-Atroari 76.8% in 15 years (1971–1968); the Awá-Guajá from the Alto Turiaçu 72.5% in 5 years (1976–1981); the

Parakanã 52.3% in 2 years (1970–1972), for diseases such as influenza, malaria and others¹.

The spread of these diseases occurred not infrequently due to negligence on the part of the state indigenist agency at the time, as in the case of the Tapayuna people in western Mato Grosso "who, in 1969, allowed the participation of a journalist with the flu in the expedition led by the indigenous expert João Américo Peret, without the necessary prior vaccination for contact situations" Report of the National Truth Commission (2020, 25). The result of this neglect was a reduction from 1,220 people in 1960, according to FUNAI, to 40 people twenty years later.

In the 1980s, state negligence became frighteningly evident from the issue of mining on indigenous lands like the Yanomami, which had their territory invaded since 1975 and worsened in 1986. According to the Report of the National Truth Commission (2020, 30), the presence of approximately 40,000 miners on Yanomami indigenous land triggered a devastating impact of thousands of indigenous deaths (about 1,800 people between 1986 and 1990, representing 20% of the population (Oliveira, 2020)) and the resulting disappearance of entire communities. The situation portrayed by Davi Kopenawa and Bruce Albert in *The Fall of Heaven: Words of a Yanomami Shaman*.

Once a pandemic on March 11, 2020 was declared by WHO (World Health Organization), contamination by Covid-19 among indigenous peoples began precisely among the peoples of the Amazon, with the first confirmed record of contamination among the Kokama, on March 25, 2020, in the municipality of Santo Antônio do Içá. And the first record of death occurred among the Borari, on March 20, 2020 (APIB 2020c, 7–8), although the official record states that the first infection by the new coronavirus among Brazilian indigenous peoples occurred on April 2, 2020. Regardless, these data reinforce that the state of the Amazon is the region with the highest incidence of deaths among indigenous people. As of June 22nd, for example, the data indicated more than 5,000 confirmed cases of contamination and 293 deaths (APIB 2020c, 7).

The current government excludes indigenous people from urban areas or isolated territories from this accounting, which, according to APIB, represents institutional racism. It was necessary to monitor cases and deaths by the indigenous themselves through their associations in partnership with indigenous and health agencies partners with the creation of the Indigenous Emergency portal (APIB 2020c). In the North region, the contagion was caused by members of the SESAI (Special Secretariat of Indigenous Health) and the Brazilian Army, contaminating the regions of Alto Solimões (AM), Tumucumaqui Park (PA/AP), Vale do Javari (AM) and Alto Purus (AC).

On June 17, 2020, El País brought in a report by Joana Oliveira, records of contagion among the indigenous peoples of the Amazon interspersed with speeches by their leaders Kanamari and Marubo, whose pronouncements refer to the vulnerabilities

potentiated by health agents and the military when inserting the new coronavirus into the villages (Oliveira, 2020).

Furthermore, specifically in the Javari Valley, extreme west of the Amazon, where the greatest concentration of isolated peoples and recent contact occurs, the registration of contagion occurred on June 4, by four employees of the DSEI (Special Indigenous Sanitary District) Javari Valley, with the rapid and gradual spread of Covid-19 among the Kanamari. On June 5, there were 3 records and between June 9 and 10, the numbers indicated 16 confirmed cases in two neighboring villages, in a trigger of fear between them, according to the words of Higson Kanamari, local leadership, recorded by Joana Oliveira of El País newspaper on June 17, 2020 (Oliveira, 2020).

It's scary. Many families took their children and fled the village, went to the head of the stream and we don't know anything else about them, we don't know if they are well, if they have been cared for. There is a village further up that made a barrier to not enter anyone from outside and to not leave. The thing is spreading very fast, and we have no hospital support near the village [more than a thousand miles away from Manaus. I fear for the isolated peoples of the region, who are even more vulnerable.

In the Indigenous Land of Tumucumaque Park, the border region of Amapá and Pará with Suriname, the indigenous leaders denounce that the military took the new coronavirus to the region, where there are at least 23 infected, including a five-month pregnant woman transferred in a serious state to Macapá. The first two were indigenous people from the Tiriyo Mission village who work in a outsourced company serving the first Special Border Platoon (first PEF), where about 50 military personnel from the Army and the Brazilian Air Force (FAB) work.

This is a region with six indigenous peoples and at least two isolated, totaling 1,700 people. The denunciation was contested by the Ministry of Defense. In addition to health professionals and military agents, the virus has reached these regions through invasions of indigenous lands undertaken by miners, grill workers, missionaries, fishermen and illegal hunters during the pandemic and also through contaminated indigenous people seeking emergency assistance in the cities (Socio-environmental Institute 2020; Socio-environmental Institute, 2020a).

After months of living in the forests to flee from coronavirus contagion, many indigenous people faced the need to obtain supplies for which financial support was essential, as Dario Vitório Kopenawa, vice president of the Hutukara Yanomami Association and Adelson Nascimento Bolivar, indigenous leader of the Mafi community on the Cauaburis River, respectively, reports:

This benefit matter does not let people stay in the villages. They need some objects like tobacco, shorts and nets. Sometimes it gets in the way of this crisis scenario. It is a very difficult problem. It hinders social isolation. They want to buy something, needing something in the village: soap, soap, cutter. We need to get food, salt and tobacco. It is more necessary for us to use. After 3 or 4 months in the area, we come to the city. I had only come here in January. I isolated there, but we ran out of salt. Then I can't stand it (Hamdan, 2020).

¹Also check the video *Indigenous Health in Times of Pandemic and the initiatives of indigenous peoples of self protection*. <https://www.youtube.com/watch?v=3JDF2mSGWaE>

The exposure to the virus by indigenous people is a further neglect on the part of the Federal Government to establish a differentiated policy for indigenous peoples in the context of health (SESAI) and the economy (emergency financial aid to be drawn from bank branches in cities with high levels of contamination) (Hamdan, 2020). All these circumstances make the Amazon the area with the highest rate of registered cases, a worrying situation because it contains indigenous lands of difficult logistic access and with a higher incidence of peoples in voluntary isolation and recent contact (APIB 2020c, 14).

The contamination on indigenous lands in Mato Grosso do Sul (Center-West region), western Paraná, Santa Catarina and Rio Grande do Sul (Southern region), on the other hand, was caused by indigenous employees of the region's agribusiness represented by companies in the frigorific sector (APIB 2020c, 18).

Since then, hundreds of people have been suffering from the spread of Covid-19, in a process of interiorization of the new coronavirus, in the five Brazilian regions, imposing challenges to indigenous and non-indigenous researchers from various areas and institutions and to the indigenous movement itself, especially the APIB. Of the 305 indigenous people in Brazil, according to APIB data as of September 1, 2020, 156 have already been affected by the Covid-19 pandemic (APIB 2020d). In addition to the vectors for the spread of the new coronavirus (invaders of indigenous lands), the way of life in the villages, with extensive family models, object sharing and continuous contacts contribute to the rapid spread of Covid-19 (Rodrigues, 2013). Several actions and strategies were and continue to be discussed, as a matter of urgency, and put into circulation in the national and international context through social networks given the context of social isolation required by the pandemic.

Indigenous Health: Body, Territory and Spirituality Interconnected

In addition to the questions above mentioned, within the realities of many indigenous peoples, their medicinal knowledge conflicts with the knowledge of biomedicine. Many health professionals do not understand the traditional indigenous actions and treatments, which in large part come from cosmological visions.

The indigenous conception of health does not separate biological aspects from social aspects, so that body, spirituality and nature are interconnected. In order to go a little further into this issue, we will cite two indigenous realities that occurred in the 1990s and 2000s: the Siona and the Upper Xingu indigenous peoples. Later, we will mention the conceptions of the Huni Kuin about the Covid-19 today.

Siona Indigenous People

The Siona are one of the Tucano indigenous people, inhabitants of the Amazon Forest in Colombia. Within the search for health and cure, the interpretations and meanings attributed to diseases are constantly negotiated. The flu, pertussis and measles decimated approximately 75% of the Siona population between 1900 and 1925, soon after the construction of roads

aimed at the installation of an oil industry and the emergence of the small town of Puerto Asís, 45 km from the Siona reserve.

The presence of non-indigenous people made several healing alternatives introduced by the official biomedical service emerge. Despite the Siona's openness to other forms of treatment than their own, there have been no changes in the way they think about diseases or the processes of seeking a cure. Biomedicine alone has not proven effective (Langdon, 1994). The representation of diseases among the Siona comes from powers operating in the invisible world.

The Siona Universe is composed of five hierarchical levels, each of them populated by various classes of entities, such as the celestial figures (Sun, Moon, and thunder), human beings, animals, and evil figures (*watí*). For them, the world has two sides: "this side" of the visible world and "the other side" of the invisible world. Entities on both sides constantly influence day-to-day activities. It is the shamans who are responsible for maintaining the balance between the forces, since they are the mediators between "this side" and the "other side". To maintain this control and to "see" what is wrong with the "other side" that affects "this side", they drink a hallucinogen named *iko*, or *yagé*, or *ayahuasca* (Langdon, 1994).

Diseases can be caused by *watí* or by attacks from enemy shamans. Even if the disease was not caused by the invisible world it becomes necessary to find out what caused the disease in this world. If the cause is discovered, it occurs the removal of the disease or the object (materialization of the disease) of the victim in order to cure it completely. Siona's world and health vision can be apprehended by deepening four key concepts: *wahí*, *hun'i*, *iko* and *dau*. *Wahí* is opposed to *Huns*, the first meaning to be alive, healthy, strong, young, young and the second meaning the opposite (Langdon, 1994, 120). The *iko* refers to medicines, which can be hallucinogenic or not.

Most of the non-hallucinogenic remedies are used for the treatment of disease symptoms and can be ingested, applied to the skin or used in baths. Through the existence of the name Siona *iko*, there was no resistance to the incorporation of the treatments offered by biomedicine.

Many drugs are classified by them as *iko* and are widely used when needed and available. The term *dau* has three different uses: 1) as a substance that grows inside the shaman and endows him with powers and knowledge; 2) as a concrete substance that causes misfortunes; 3) as a disease (Langdon, 1994).

As previously mentioned, the Siona suffered a process of decimation due to diseases, mainly at the beginning of the 20th century. Nevertheless, instead of attributing the causes to "white disease," they attribute the causes to conflicts between shamans of rival groups who sent their *dau* to spread diseases from one community to another. The author describes the therapeutic itinerary of Julia, a Siona in search of cure. Julia has symptoms of swelling through her body and stomach. There are at least two causes for the disease: the *watí* (she went to the river in order to wash her clothes, also she was menstruated and was pushed by a *watí*) and the *dau* (sent by a shaman from another village in case of disagreement with her village). Her husband refused to take her to the doctors and so he continued taking care of Julia through shamanistic treatments, associated

with the use of drugs (bought in the city's pharmacy) and mestizo treatments. Julia is taken to medicinal baths in hydrothermal springs in Mexico, but on her way back home she feels sick and ends up dying. As for the family, it was the shaman of the other village who killed her. They begin to accuse him of murder.

When the delegate inquires Julia's husband about the causes of her death, he answers that it was dropsy. In order not to be arrested, he attributed Julia's death to "white disease", making himself understandable within the Western system, even though he believed she died for a *dau*. Langdon, (1994) shows us that the Siona fluidly negotiate the causes of a visible and invisible world within their beliefs. No matter how much chemicals are used, hospital treatments combined with shaman treatments, the cure of the disease and the disease itself will always be attributed to the activity of the shaman.

Indigenous People of the Alto Xingu

According to Novo, (2011), indigenous health in Brazil gained strength in public policy in the mid-1980s. At this time it also gained space for the health reform movement that had as a model the primary health care policy. The indigenous organizations emerged and developed, which further stimulated the debates, culminating in advances in the discussions regarding indigenous health. The author notes that at the First National Conference on the Protection of Indian Health, held in 1986, the foundations were established for the creation of a subsystem for indigenous health care, within the national health system, which proposed a model of differentiated care for the people.

In this context, the importance of indigenist movements that start using the space opened by public policies to claim autonomy and self-management of activities and resources is growing, and they propose that indigenous health is more than just a matter of sanitarianism and epidemics. Since the 1990s, a new form of public health policy was put into effect through the creation of the Unified Health System, of which indigenous health became part of (Novo, 2011).

Despite the advances, it was only in 1999 that an Indigenous Health Care Subsystem was established with the creation of 34 Special Indigenous Health Districts (DSEI) that should act as mediators between indigenous peoples and government bodies. In Alto Xingu region, with the establishment of these DSEIs, some conflicts related to the health management model and the knowledge of indigenous peoples have intensified. The author states that the Leonardo Indigenous Center, located in the Alto Xingu, created in 1946, depicts a privileged place of knowledge contact. It is the place where the information brought from the city is concentrated, meetings take place and where the multidisciplinary health team remains. It is also there that two distinct models of thinking about health are placed: the first is the sanitary model with the performance of non-indigenous professionals, and the second corresponds to the model of traditional therapies, linked to cosmologies and Xinguan political organizations. It is, therefore, in this space that the resignifications and oppositions of biomedicine and traditional indigenous medicine take place, in an attempt to build a hybrid system of treatments (Novo, 2011).

This possible hybridization and at the same time counterposition has occurred in the most diverse indigenous peoples, often provoking conflicts in relation to different expectations about public health policies, mainly because they are guided by technical notions based on biomedicine.

Novo (2011) states that when the Leonardo Center was built, it was considered by the indigenous people an inappropriate place for health. The problems reported by the indigenous people were several: it corresponded to a very cold place to spend the nights, because it was not possible to light fires due to the number of people staying and because there were patients with respiratory problems. Another issue concerns the hospitalization of patients, which implies forced coexistence between people of different ethnic groups and villages. According to Xinguan cosmologies, illness is an external aggression introduced into a person's body that can materialize into substance or objects, usually by the action of a spirit, witchcraft, or the evil action of other people (envy, jealousy, anger).

If there is concentration of people in a single place of hospitalization, there is the sharing of substances and the actions of each of the patients interfere in the process of illness or healing of others. Thus, the Leonardo Center imposes a coexistence between people that is dangerous because it prevents the fulfillment of restrictions (food, for example) and forces the approach of potential sources of illness (people from other ethnic groups and villages). In addition, the Leonardo Center is a place of concentration for health professionals, who for the most part are not predisposed to go to the villages to get to know the local realities, and this issue is the target of criticism by indigenous leaders. Often, the establishment of moral judgments regarding the behaviors and procedures of traditional indigenous medicine interferes with the relationships between indigenous and non-indigenous people, and the choices made for healing procedures.

Novo (2011) realizes that indigenous people seek Western health treatments as an alternative to traditional medicine, without leaving it aside. They remain with their own ways of thinking about the process of illness, healing and health treatment.

From these two realities, it is possible to perceive that national public policies conflict with the actions, ways of thinking and being of indigenous peoples. In the case of the Siona, the way of interpreting the illness contradicts the way the civil authorities (police and delegate) understand illness and death. In the case of the Xinguan peoples, the conflicts are related to the physical structure of the Leonardo Health Center and the political structure of health care. We understand that, even in the midst of conflicts, the forms of negotiation could be more fluid.

Nowadays in the case of health treatments for the indigenous people against the new coronavirus (Covid-19), there are constant clashes and negotiations between traditional indigenous and biomedical knowledge. According to Lagrou (2020), the perception Huni Kuin

about the diseases and contagion by the new coronavirus are related to the forms of coexistence between humans and non-human. The Huni Kuin of the eastern Peruvian Amazon forest share the thought with other indigenous peoples of the region that diseases are caused by food, especially when we eat animals. People can get sick because the other beings we assault or interact with take revenge and send their *nisun*, pain and other symptoms that can result in illness and death. Only shamans, with the use of psychotropic plants, can discover the action of these invisible agents and act, through singing, the blowing of smoke from medicinal plants, to recapture the spirit of the victim. Hence, the rules of food and negotiation around hunting point to a knowledge about the pathogenic potential of animals. Respect is needed so that the hunt does not turn against the hunter. In addition, the Huni Kuin know that epidemics are also the result of the extractive relationship between cities and forests. It is not the fact that humans eat game meat that causes the epidemics, but the deforestation and extinction of animals that used to be their symbiotic hosts (Lagrou, 2020).

Below we will describe the various indigenous strategies for confronting Covid-19 in the current context, in view of the historically constructed problem of constant socio-cultural negotiations for the search of treatments and cure.

Indigenous Strategies to Face the Pandemic

The first Indigenous Women's March, held in August 2019 in the federal capital city (Brasília), had as its theme "Territory, our body, our spirit". More than 2,500 indigenous women, many of whom traveled more than 2000 km, claimed the right to health, education, and the protection and demarcation of their territories. One of the movement's guidelines was to protest against the Ministry of Health's proposal to decentralize the management of the Special Indigenous Health Secretariat (SESAI), that is, to remove the Federal Government's obligation to offer these services, which would lead to immense losses of acquired rights (Roman, 2019). The final document of this march makes explicit the fact that the indigenous struggle for body health is linked to the health of the spirit and all forms of life that inhabit their territories:

We are totally against the narratives, the purposes, and the acts of the current government, which has been making explicit its intention to exterminate the indigenous peoples, aiming at the invasion and genocidal exploitation of our territories by the capital. This way of governing is like uproot a tree from the earth, leaving its roots exposed until everything is dry. We are stuck in the earth, for it is there that we seek our ancestors and for it that we feed our lives. Therefore, the territory for us is not an asset that can be sold, exchanged, exploited (APIB, 2019). The territory is our own life, our body, our spirit. (APIB, 2019)

The scrapping of indigenous health, which led the women at the march to occupy the SESAI building in Brasília, indicated a situation that would worsen violently after the spread of Coronavirus in indigenous communities. Through the already reported neglect of the Brazilian Federal Government, the

indigenous peoples of Brazil have created different autonomous strategies to combat the pandemic: creation of SOS in social networks; publication of information booklets in their mother tongues; production of lives; articulation with Universities, Museums and Research Institutes of the most diverse fields of knowledge; search for the support of international organizations such as the International Labor Organization (ILO) and the Inter-American Commission of Human Rights; production of videos; elaboration of journalistic denouncement; elaboration and sending of projects of fight against the pandemic to the Legislative Assembly; escape to the forest; isolation of the villages; raising of food and personal protection equipment, etc.

These actions, which have occurred according to the local and social reality of each indigenous people, converge their struggles for the Articulation of Indigenous Peoples of Brazil (APIB). The APIB created the National Committee for the Life and Memory of Indigenous Peoples in a meeting that took place between May 8 and 9, 2020. The committee integrates several regional indigenous organizations of the country as: Articulation of Indigenous Peoples of the Northeast, Minas Gerais and Espírito Santo (APOINME); Council of the Terena People; Articulation of Indigenous Peoples of the Southeast (ARPINSUDESTE); Articulation of Indigenous Peoples of the South (ARPINSUL); Great Assembly of the Guarani People (ATY GUASU); Coordination of Indigenous Organizations of the Brazilian Amazon (COIAB) and Yvyrupa Guarani Commission (Methodology of the APIB, 2020 network). In addition, the National Committee for the Life and Memory of Indigenous Peoples has the participation of indigenous health specialists from different civil entities.

The aim of the Committee is the formation of a national network of solidarity, collection of donations and formalization of denunciations of omission by the Federal Government. The actions are based on three main axes: to guarantee differential care to the indigenous peoples; to elaborate legal actions of political incidence and actions of communication and information in health.

One of the most important actions of the Committee has been the mapping of the dissemination of the coronavirus among the communities and the identification of the main vectors. As mentioned above, the researches carried out pointed out the Federal Government as one of the transmission agents of Covid-19, since the first case of indigenous death occurred due to their contact with health professionals. Another aggravating factor is the displacement of indigenous people to cities in search of emergency assistance (APIB, 2020d).

This national network that articulates the different contexts of Brazil's indigenous societies extends to include the indigenous populations of Latin America and other regions of the world. The letter addressed to the President of the World Health Organization, prepared by the Joint Parliamentary Front in Defense of Indigenous Peoples, calls for special attention "...to indigenous peoples around the world, guiding all governments specifically on ways to guarantee the rights to life and health of indigenous peoples and articulating with other competent entities the policies to guarantee". (Socio-environmental Institute, 2020a):

1. The physical, territorial, food and cultural security of indigenous peoples;
2. Recognize the greater vulnerability of indigenous populations to the pandemic;
3. Ensure access to inputs for personal hygiene, basic sanitation, social rights and social security, diagnostic testing, respirators and personal protection equipment;
4. Territorial protection and guarantee the right to social isolation through the prohibition of loggers, miners and other fronts of expansion on their lands;
5. Guarantee the participation of indigenous organizations in the planning of actions to combat Covid-19.

These same demands are found in Bill no. 1,142 of 2020 (Federal Senate, 2020) aimed at creating an Emergency Plan to Confront Covid-19 in Indigenous Territories, Quilombolas and other traditional communities. The project was approved by the Federal Chamber on May 21 and by the Brazilian Senate on June 16. Only on July 7, President Jair Bolsonaro sanctions the new law, however, vetoes 22 items of it (APIB 2020b). Among the vetoes we highlight: Specific emergency budget allocation; creation of a specific credit program for indigenous peoples; two devices that gave a period of ten days for the development of a contingency plan for each situation of contact with isolated peoples; universal access to drinking water; free distribution of hygiene, cleaning and surface disinfection materials; emergency supply of hospital beds and Intensive Care Unit (ICU); acquisition of ventilators and blood oxygenation machines; distribution of information materials about Covid-19; and internet points in the villages (Senate Agency, 2020).

On July 8, the Brazilian National Congress overthrew 16 presidential vetoes. However, some were maintained that, if overturned, would be essential for the health and safety of indigenous peoples, such as: release of emergency funds for indigenous health; distribution of basic food baskets, seeds and agricultural tools; creation of a specific credit program for indigenous and traditional populations. Representative of the project in the Legislative Assembly, Joenia Wapichana² said that "the overthrow of these vetoes means protection of the lives of indigenous peoples. From this moment on, we have a collection tool, including a judicial one, in case there is no respect for the implementation" (Cofen, 2020).

Taking up the demands of the Indigenous Women's March, indigenous health requires coordinated actions. For example, the indigenous people demand the right to drinking water, which will occur when there is an immediate withdrawal of the miners who exponentially invade their territories and promote an aggressive intoxication of the rivers, groundwater, and all life in the region. It is necessary to admit and take energetic measures against the fires that have weakened the respiratory system of the forest people. Even if some ministers support disintrusion, the main argument is that it is not appropriate to carry it out at this time, as Minister Luis Roberto Barroso says "no one should imagine that 20,000 people with a snap of their fingers or a pen are withdrawing from just one of the seven

indigenous communities. Planning is necessary, not least because no one wants an armed war within the indigenous community; a plan is needed" (Souza and Vasconcelos, 2020). So far, the approval of Bill no. 1,142 of 2020 and the precautionary measure combine the diverse efforts of indigenous entities and all supporters of the movement to combat the pandemic among the most vulnerable peoples.

Analysis of the Social Impacts of the Pandemic from Indigenous Perspectives and Articulation with Decolonial Critique

The impacts of Covid-19 on indigenous populations are numerous. There are impacts in relation to the lack of clarity regarding the protocols of the Ministry of Health, which is being denounced by indigenous leaders. The protocols regarding prevention, care, and burial actions clash with indigenous traditions. The absence of intercultural dialogue and the epistemic and ontological violence being reproduced by the Brazilian State is clearly perceived. The cases of the Yanomami and the Wai Wai can be highlighted. On June 24, 2020, El Pais published a report on Yanomami mothers who claimed the bodies of their babies contaminated by Covid-19:

Three women face such terror for which it will be necessary to create a name. They are Sanõma, a Yanomami group, and their village, Auaris, is in what the whites call Roraima, on the border between Brazil and Venezuela. They do not understand the idea of a border, for them the land is one - and has no fences. They don't speak Portuguese, they speak their own language. In May, these women and their babies were taken to Boa Vista, the capital of Roraima, suspected of pneumonia. In hospitals, the children would have been contaminated by Covid-19. And they died there. And then their little bodies disappeared, possibly buried in the city cemetery. Two of the mothers are with Covid-19, crowded in the Casa de Saúde Indígena (CASAI), full of sick people. There, devastated by the virus, they beg for their babies (Brum, 2020).

The report highlights that in addition to being torn from their villages on suspicion of pneumonia, these mothers and their babies suffered contagion in the hospital. Eliane Brum (2020) points out that for the Yanomami a body should not be buried but cremated after a long ritual. At the virtual meeting of the Joint Parliamentary Front in Defense of the Rights of Indigenous Peoples on July 13 this year the Wai Wai leaders claimed the bodies of their relatives who died as a result of Covid-19 and who were not returned to the village for burial for the Wai Wai rituals (Virtual Meeting, 2020).

They were buried in Boa Vista, the municipality where they were hospitalized. This situation was questioned to the coordinator of DSEI-leste and a complaint was forwarded to the Public Prosecutor. Some indigenous leaders mentioned that many Wai Wai do not want to be taken to the municipalities fearing they will die and not have their bodies removed to their villages for proper cultural treatment, another complaint is about mistreatment. Therefore, there is a lack of respect on the part of the DSEIs for the constitutional provision of differentiated health for indigenous people in view of the cultural singularities and

²Joenia Wapichana was the first indigenous woman to take a seat in the Brazilian National Congress.

historical vulnerability that impacts the issue of ethnic survival itself.

The total absence of inter-culturalism in public agencies directed at indigenous issues already begins with the appointment of managers that goes back to an idea of indigenous mentoring. At the aforementioned meeting of the Mixed Parliamentary Front, the Attorney General in Boa Vista, Alisson Murungal, pointed to the militarization of the management in SESAI and the DSEIs. There is no presence of indigenous people in these organs. Mário Nicácio of COIAB, commented that he is indigenous, lives in the Amazon and is not part of the Amazon Council which also has as president an ex-military, the vice-president Hamilton Mourão. The mentality of the times of the Military Dictatorship in Brazil present in these organs is very far from being compatible with intercultural debate. Referring to these managers, Dario Kopenawa Yanomami informed that they have never stepped on indigenous territory to know the conditions of the indigenous. He also mentioned the precarious health structure, that the professionals there are working under tarps and emphasized that because it is a very mountainous territory access is extremely difficult. Among the indigenous people there are health impacts due to the lack of medical assistance³ and basic hygiene materials, access to drinking water, hospital beds, medicines and food security.

Along with this serious situation, President Jair Bolsonaro defends the preventive use of unproven drugs for Covid-19 among indigenous populations. This situation was denounced by the indigenous peoples, asking for preventive measures against a possible genocide promoted by the Federal Government, since they would be used as guinea pigs for drug testing, and also used for political purposes to favor agribusiness and mining, since there would be illegal takeover and invasion of their lands during this moment of extreme fragility.

We have observed that there is a clear disposition of the Federal Government in the economic use of indigenous lands, which reflects in the paralysis of the demarcation processes and in incentives to invaders of indigenous lands, including with the use of legal measures such as the Provisional Measure 759.

It is important to mention that one of the deep impacts of the Covid-19 pandemic on indigenous peoples concerns their ancestral memories. Since this is a disease that affects mainly the most vulnerable such as the elderly, it is especially impacting among indigenous people, since in the dimension of orality the elderly are the guardians of memory and culture.

Another issue that should be addressed to when thinking about the impact of a pandemic on indigenous populations is history. Historically, the indigenous have gone through several situations of epidemics that since the contact with the colonizer were responsible for genocides of a large part of this population. Now, from APIB data it can be observed that indigenous

populations in Brazil are more vulnerable to the pandemic than the average non-indigenous population.

Data from the Ministry of Health point out that, among the Xavante, the lethality rate of Covid-19 is 160% higher than the average rate of the Brazilian population. Bruno Ribeiro's article in the PDT page reveals that if the average of the general population is 4.5%, the indigenous population is higher reaching 6.8% and that in the Xavante Namurunja village in Barra do Garças in Mato Grosso this number has a worrying record, since it is 11.7%.

If compared to the number of dead Indians in the whole country, the index with Xavantes shows an even more worrying scenario. According to the Amazonian Environmental Research Institute (Ipam) and the Coordination of Indigenous Organizations of the Brazilian Amazon (Coiab), the lethality rate with Indians in Brazil is 6.8%. The figures therefore show a variation of 72% (Ribeiro, 2020)

Rafael Were, who is Xavante and national president of the Indigenous Movement of the PDT, points out that the vulnerability of indigenous populations is intensified by the genocidal policy of the Federal Government. He mentioned the lack of medical assistance, ICU beds, difficulty in locomotion, invasions and deforestation as situations responsible for the aggravation of contagion and deaths among the Xavante. In June 2020, the Namurunja village of approximately 22,000 indigenous people witnessed the deaths of their relatives, among adult children and the elderly, including leaders.

In the midst of the pandemic, most villages reinforce traditional medicinal treatments, associating with them conventional biomedical treatments. In an interview to the *Nexo* newspaper, the coordinator and treasurer of COIAB, Angela Kaxuyana, of the Kahyana people, revealed that:

In the face of diseases and before performing laboratory tests, [the Mundurucu] always prefer to consult with them, because the diagnosis of shamans is usually more relevant. Besides the knowledge of traditional remedies, their recommendations go beyond the physical-material level, making reference also to diseases projected by the 'strength of the supernatural', connecting the present with their myths (Rocha, 2020).

At the virtual meeting of the Joint Parliamentary Front on July 13, Aldenir Wapichana together with other indigenous leaders mentioned that much of Covid-19's chartering has taken advantage of the traditional medicinal knowledge of their cultures (Virtual Meeting, 2020). Therefore, it can be observed that the pluriepistemic dialogue is fundamental for the confrontation of Covid-19 not only for the indigenous populations, but for the society in general.

DISCUSSION

This article described and analyzed the current situation of the Brazilian indigenous peoples' confrontation with Covid-19. We aimed to present a critical overview of the main problems that emerge in the daily scenario and the political and social struggles faced by the country's indigenous peoples. From the data presented, we clearly perceive the absence of intercultural

³The health issue among the indigenous has been getting worse since the inauguration of the current president, Jair Bolsonaro, responsible for the end of the Brazilian National Mais Médicos Program.

dialogue, epistemic and ontological violence being produced by the Brazilian State in the midst of the crisis against the Covid-19 pandemic. Among the absences of dialogue and violence we can feature, may include: lack of health care; facilitation or neglect of intrusion by invaders of indigenous territories; lack of respect for indigenous customs, their ways of being and acting; among others.

Once we review the question raised at the beginning of this discussion, we realize that in order to seek a possible symmetrical dialogue between the indigenous people and the Brazilian public power, it is necessary to spend more than changes in attitudes; it is necessary to change the way one perceives the other. We reinforce the need to listen and understand the other, considering in fact their way of thinking and acting, according to their beliefs and relationships that they establish with the community (be it their family or their broader social group). And we emphasize the need for hybridization of practices so that they have real chances of working, with less subordination of knowledge and more dialogue.

Furthermore, we observe that, for the indigenous populations, the confrontations with the Covid-19 pandemic are amplified, either by the historical relationships of violence, or by the violations and crimes committed by the Brazilian State in its current configuration. Indigenous organizations and leaders are mobilized to demand protective measures from the State. There are countless confrontations with historical and institutional racism within a state policy that clearly aims at eliminating indigenous ways of life for the economic exploitation of their traditional territories.

One point of great importance in this confrontation concerns the production of information and communication, and in this context we have seen the initiatives of indigenous organizations such as the radio program Coiab informs. In the 14th edition, the international day of the Amazon was highlighted. This edition drew attention to the resurgence of violence by the current government and denounced its genocidal and ecocidal policies. According to the edition, after six months of pandemic, there were no effective measures to reduce the contagion of the disease among indigenous people and, on the contrary, what is seen by the government is the legalization of crimes within indigenous lands with the increase of invasions of territories.

Issue 7 dealt with the first meeting on the situation for the protection of indigenous peoples in voluntary isolation and those in recent contact. It brought the lines of indigenous leaders such as Sonia Guajajara and Angela Kaxuyana. These lines expose how the government has treated the Covid-19 agenda among indigenous peoples. Angela Kaxuyana revealed that she had her microphone blocked and that she and other indigenous leaders were intentionally prevented from speaking. The indigenous leadership regretted the fact that the State is against indigenous constitutional rights and is not open to discuss, let alone listen to, indigenous peoples in their own demands.

According to data from SIPAD (Inclusion Superintendence, Affirmative Policies and Diversity), indigenous leaders,

associations and entities warn of the delay in sending assistance to villages and mobilize themselves to access resources to combat and prevent COVID-19. Many peoples have gathered to form a support and solidarity network and disseminate information in indigenous languages through booklets, videos (bilingual audiovisual) financial and food collection campaigns. In addition to these, lives on Facebook, Instagram, Youtube, radio programs, such as those broadcasted by Rádio Yandê, have been important tools in the dissemination of information to combat the pandemic. The campaigns have recommended social isolation with the sympathetic statement “Stay at home, kin”, explaining the ways of transmission and preventive procedures for non-contamination, such as avoiding as much as possible the circulation of people, if necessary to make community purchases, sanitize food before entering the villages, to consume food from the village itself, encouraging their own food production. They also recommend that they should not leave their villages, as in the city they are more vulnerable to contamination, and if they die there is an attempt to hide and make indigenous identity invisible.

As a result, such diseases have historically been weapons for the extinction of indigenous ways of life and the Covid-19 clearly reveals the asymmetry of intercultural dialogues. On the part of the State and of Brazilian society we have cultural deafness, on the part of indigenous populations we have interculturality as a way of resistance and to make society aware of the importance of intercultural and pluriepistemic dialogues as a form of human survival, as stated in the final letter of the Assembly of Indigenous Resistance: “In times of pandemic the struggle and collective solidarity that has rekindled in the world will only be complete with indigenous peoples, because the healing will not only be in the active principle, but in the activation of our human principles” (APIB, 2020e).

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/Supplementary Material, further inquiries can be directed to the corresponding authors.

AUTHOR CONTRIBUTIONS

The authors listed below participated effectively on the research, writing and organization of the article entitled The articulation of the indigenous peoples of Brazil in facing the Covid-19. Below is a description of the specifics in each stage: - Methodology and theory: LS, PN, OA, TP - Data collection and analysis: LS, PN, OA, TP - Writing of the text and standardization of the article according to the journal's rules: LS, PN, OA, TP - Discussion of results: LS, PN, OA, TP.

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Urgent Considerations on the Relationship Between the Advance of Covid-19 in Indigenous Territories in Brazil and the Impacts of Monoepistemic Public Policies

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This paper seeks to deal with the advance of Covid-19 in indigenous territories in Brazil, whether urban or rural. To do so, we have gone through a general analysis of the Brazilian government's indigenous policies, comparing bulletins and data from the Special Secretariat of Indigenous Health—Secretaria Especial de Saúde Indígena, an agency linked to the Ministry of Health, as well as data from the Articulation of Indigenous Peoples of Brazil, the main Brazilian indigenous political movement. Furthermore, we systematize strategies that have been developed and executed by some indigenous peoples in Brazil, undertaken by an exploratory analysis of manifestations of indigenous leaders on the internet, along with actions in the legal sphere, as well as, actions in the indigenous territory. Finally, the monoepistemic character of public policies on the issue is problematized.

Keywords: pandemic, territory, public policies, epistemologies, COVID-19, state

Nature moves on. The virus does not kill birds, bears, any other beings, only humans. Those in panic are the human people and their artificial world, their way of working it is what is in crisis (2020, p. 44). Ailton Krenak. intellectual Brazilian leader from Krenak people.

Kaa ijasò mahādu rèsèrèri ix̃ ube—ki, bèra ldu r̃yirèri, utura, nawii kia tytytby r̃yirèrimy ihāre. Kiatahè tii mahādu wna iny raxiwè mah̃yre irèhèmy iny tarūmy r̃yikèmy, bdè bdè r̃yira tule irūmy r̃yira kèmy. Ijasò hèka dèysa iny dèè riwmyh̃yre, awimy iny ratxikèmy, iny rexibutunymy irūmy iny tabdèd̃ỹnanadi r̃yikèmy. Tii boho hèka aōni awi rare iny dèè. Bdèbdè roimyh̃yre rexihukèki tahè ikymy òhutibèna r̃yira rùsakè tahè iny boho ihèki rekexihurènykè.

Umya Karajá

Abbreviations: APIB, Articulation of the Indigenous Peoples of Brazil (Articulação dos Povos Indígenas do Brasil); CIMI, Indigenous Missionary Council (Conselho Indigenista Missionário); CONAQ, National Coordination of Rural Black Quilombola Communities (Coordenação Nacional de Articulação de Quilombos); DSEI, Indigenous Health Districts (Distrito Sanitário Especial Indígena); MS, Ministry of Health (Ministério da Saúde); SESA, Special Secretariat of Indigenous Health (Secretaria Especial de Saúde Indígena); STF, Federal Supreme Court (Superior Tribunal Federal).

INTRODUCTION

This paper relies on the advance of Covid-19 in indigenous territories in Brazil,¹ whether urban or rural from the beginning of the pandemic period to the end of 2020. This text aims at providing a better understanding of this situation, in order to lead to appropriate public policies and actions.

The writing is produced collaboratively by indigenous and non-indigenous intellectuals and thus, it stands for an indigenous struggle against Covid-19, based on political articulation and the search for alliances through collective action. It is important to emphasize that this text itself is also an indigenous report, since it is based on the authorship of indigenous and non-indigenous intellectuals.

Furthermore, the text also points out to collaborative methodologies developed in Latin America. In this way, the use of the pronoun “we” demonstrates the existence of a collectiveness composed by different subjectivities, which on this textual structure (and in behaviors) are placed in the same vibration and perspective, in despite of their differences. The main challenge of collaborative methodologies is precisely the creation of other subjectivities and spaces of interactions that turn individuals into collectiveness promoting life-changing for all those involved.

Our text is based especially on the experience of some particular indigenous peoples involved in the project of the Takinahaky Center of Higher Education for Indigenous Peoples, at the Federal University of Goiás, such as the Krahô, Apinajé, Tapirapé, Xerente, Guajajara, and Karaja People, just a sample among of the more than 300 different indigenous Peoples living in Brazil. Accounting for all of his diversity should be quite impossible for the purposes of this paper.

Furthermore, we take as our text basis, actions and perspectives of the indigenous movement in general, especially through APIB—Articulação dos Povos Indígenas do Brasil.

Regarding to the indigenous health, the National Policy of Health Care for Indigenous Peoples is part of the National Health Policy, and of the Organic Health Laws, along with the guidance established by the National Constitution, which recognize (or it should) the ethnical and cultural specificities, and the territorial rights of indigenous peoples (National Policy of Health Care for Indigenous Peoples, 2019, p. 1). The biggest issue has to do with the impacts of the monoepistemic features taken by public policies, since the national policies seems not to consider the differences emerged from and demanded by different Peoples.

According to Ouriques Ferreira (2013),

Since the 1970s, the World Health Organization (WHO) has recommended that national states integrate traditional medicines (TM) into their official health systems [...] Only in 2002, however, when the WHO (2002) published the WHO Strategy

Paper on Traditional Medicine, 2002–2005, it defined guidelines for establishing cooperative relationships between official health systems and practitioners of TM as a way to expand coverage and access to primary health care services for the population of developing countries (p. 205).

The indigenous health system is composed of Distrito Sanitário Especial Indígena (DSEI) coordinated by the Secretaria Especial de Saúde Indígena (SESAI) under the Ministério da Saúde (MS). The DSEIs coordinate the health local professionals, supporting the local health teams responsible for low-complexity care at indigenous territories. For more complex occurrences, there are the regional or district hospitals. Highlight that a good part of the Brazilian indigenous communities is located at a great distance from those hospitals, hence another difficulty for the treatment of Covid-19.

In addition, traditional medicine is often not taken into account in institutional therapy and elders, for instance, do not trust the treatment of non-indigenous medicine. They complain, for instance, about the loneliness they experience while laid up in hospitals, meaning an intercultural silencing.

Focusing on indigenous societies, Langdon (2004) also states that,

In the case of Brazil, the indigenous health care model is characterized by a process under construction, which specificity is the result of the intersection of historical and political factors carried out since the 1980s with the implementation of the Unified Health System (SUS), the Brazilian Constitution of 1988, which recognizes the pluri-ethnic aspect of the country, and the growth of indigenous organizations. Since the 1st National Conference on Indigenous Health, the Ministry of Health has been striving to structure a unique indigenous health subsystem, nevertheless, integrated to SUS, considering the principles of social control and community participation in it, while respecting and articulating to the ethnic specificities of the groups covered. This model has undergone several changes, including two government decrees, dated from January 2004, which modify its structure. The indigenous health policy is in constant negotiation (...) (p. 30).

It is also important to consider that the impacts resulting from the advance of the disease at the moment are both broad and complex going beyond health and sanitary issues, also laying on territorial, educational and warranty of rights. Indigenous schools that seek to address the issues of the contemporary world, for example, are on hold, and many territories are being invaded by loggers, miners and evangelizers. As well as in Vera Cruz/Mexico, accordingly to Dietz and Cortés (2020, p. 1) intercultural schools have been closed affecting the lives of indigenous children and teenagers.

Furthermore, we must acknowledge that the fight against the invisible enemy is taking place, nowadays, in indigenous

¹According to the 2010 Demographic Census, Brazil has 896,917 indigenous people, with 517,383 people in rural areas and 379,534 in urban areas. There are more than 300 distinct indigenous peoples who speak 174 different indigenous languages.

populations across Latin America. Mexico exemplifies a similar situation.

Cherán, in the same way that the rest of the indigenous communities of the country is experiencing the pandemic. Public health issues, the recession of the local economy and psychological effects are some of the problems facing the community. In the community imaginary the questions arise: how long will it last? And how are we going to face it if we do not have the medical infrastructure to deal with problems of this nature? (Jiménez et al., 2020, p. 1).

The challenge facing the indigenous Brazilian Peoples is enormous, not all people respect the local indigenous laws nor the national ones. Covid-19's impact on indigenous territories and spaces is threatening and will certainly remain within the collective memory of these peoples. Nowadays, we are neither able to sleep well, nor visit the relatives and beloved ones. Our ways of living are severely impacted. Besides that, the indigenous languages are being suffocated by the majority languages, deforestation, the death of rivers and lakes, the extinction of animals, the decreasing in fish, fruits, insects, etc. The words of those languages, as well as their meanings and senses stand on nature, understood here outside the western dichotomy nature and culture. All of this also contributes to the weakening of mythologies. Besides Covid-19, indigenous peoples are facing many other pandemics.

All of this let us question, for instance, what is the real situation of the native peoples of Brazil regarding this pandemic? What about the defense of our territories, our rights, and upon the intercultural education? What about the health of our population? Why are we sidelined, once again, in relation to the effectiveness (and appliance) of official policies? Why do we remain vulnerable? How will we be after this pandemic? How can we have intercultural educational systems and policies based only on Western knowledge? Not without articulating knowledge needed for indigenous struggle; policies to value indigenous languages; epistemic bilingualism; indigenous epistemologies; considering the ways in which indigenous peoples organize their knowledge; understanding that the grammar of indigenous languages is culture, art and nature.

DISCUSSION

Underreported Data, Ineffective Policies

First of all, attention should be drawn to the disparity between the official data collected on the topic presented by SESAI/MS and the data presented by other non-governmental bodies and institutions. **Figure 1**, below, indicates some of the many indigenous peoples impacted by Covid-19. The indigenous movements, for instance, into dialogue with the Articulação dos Povos Indígenas do Brasil (APIB) claim that the cases of contamination and deaths are much higher than the official data, which is critical, once it makes up the real situation. According to the National Committee for the Life and Memory of Indigenous

Apurinã	Kaingang	Tabajara
Atikum	Karipuna	Tariano
Baniwa	Kokama	Tapeba
Baré	Macuxi	Tembé
Borari	Mura	Tikuna
Fulni-ô	Munduruku	Tukano
Galibó Kalinã	Pandareo Zoro	Tupinambá
Guarani	Pankararu	Tupiniquim
Hixkaryana	Palikur	Warao
Huni Kuin	Pipipã	Yanomami
Jenipapo Kanidé	Pitaguary	
Kariri Xocó	Sateré Maué	

FIGURE 1 | Instituto Socioambiental, 2020.

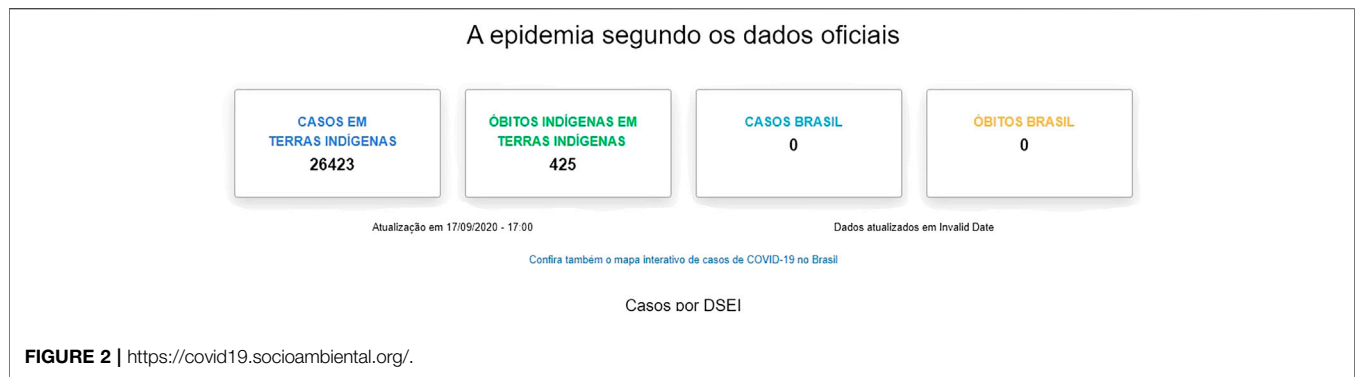
Peoples, an entity related to APIB, there is a crucial issue of underreporting. The disparity is promptly depicted below (**Figures 2, 3**) is daily updated by the sources mentioned.

The difference in methodology explains such distinction. While this committee includes both indigenous people who live in traditional territories and those who live in an urban context, as provided by Convention no. 169 of the ILO (based on self-declaration and community ties), SESAI/MS does not register indigenous people living in an urban context, which is strongly rejected by APIB. This “requires the urgent revocation of ordinance 070/2004 to ensure that SESAI be of use of all indigenous people” (Indigenous Emergency, 2020).

The fact that indigenous people in an urban context are not considered by SESAI became clear on April 3, 2020. According to the news at the ISA Socio-Environmental Institute, “SESAI denies health care to indigenous people living in cities—Indigenous Health Secretary Robson Silva says that only indigenous villagers will be assisted at SESAI. This excludes 324,800 who live in cities. For indigenous organizations and the MPF all indigenous people should be assisted” (Instituto Socioambiental, 2020).

In order to reach such numbers, the committee's data collection is decentralized through access to various grassroots indigenous organizations, including SESAI, Municipal and State Health Secretariats and the Federal Public Ministry (MPF). Updates happen on daily basis and data release only take place based on the consolidation from the previous day information. For the same institution, “due to the lack of transparency and the lack of details on SESAI's information, it is not possible to check duplicate cases between the two databases. The number presented represents the sum of the data reported by SESAI and verified by the Committee” (Indigenous Emergency, 2020).

This underreporting covers up the situation, making invisible the dramatic nature of the issue, the urgency of action and the depth of the moment. It prevents an adequate analysis, making the elaboration of public policies insufficient and out of time. Many indigenous people also remain on the margins of more adequate treatment. It should be noted that the underreporting situation is observed in relation to quilombola peoples (afro-descendant people that lives collectively) as well. For Arruti,



Underreporting has become a central matter in addressing the Covid-19 pandemic in Brazil. However, if the situation of underreporting is serious in the big metropolises and aggravated in their outskirts, what to think of the rural communities? And if we add to this underreporting plan the effect of vulnerability and invisibility of the black population, as already demonstrated in the government resistance in introducing race and color information in the Ministério da Saúde (MS) updates? In fact, even after being introduced in the collection tools, they remain inaccessible in the government portal that publishes data about the advance of the disease. (Arruti, 2020, p. 1)

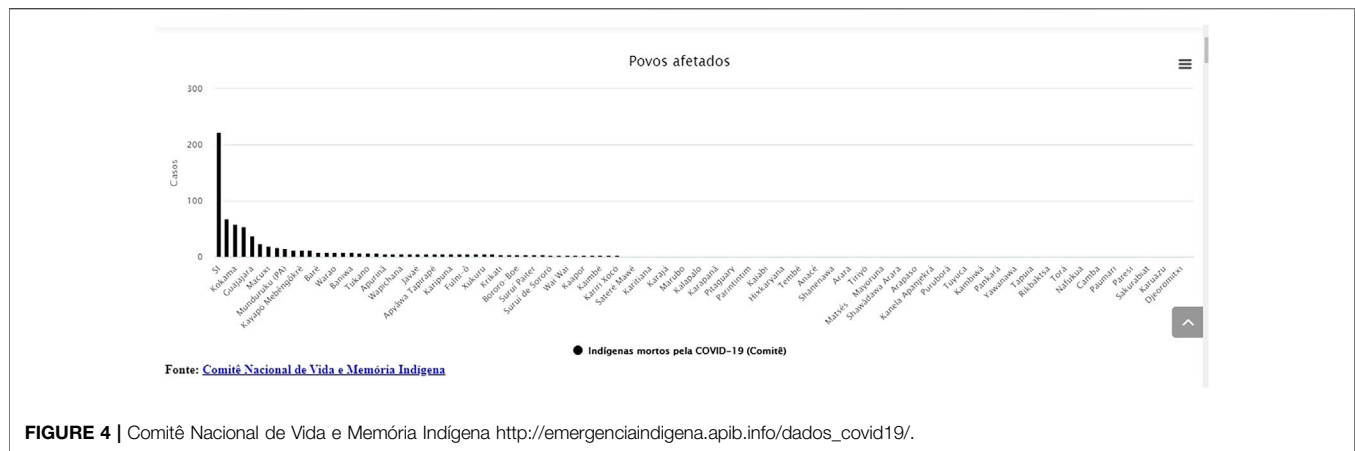
Insufficiency of State Action

Hence, facing the unawareness of the real situation, as explained above, there is a consensus in the indigenous movements and in sectors close to them that the federal government has failed to take adequate action in relation to the advance of Covid-19 in indigenous territories. If we think about an indigenous policy carried out by the Brazilian government on the subject, it is noticeable that basic support measures were not taken in time to control the advance of the disease, such as mass testing and the cession of equipment and professionals, as well as planning the whole action. It should be noted that the temporality of the policies is fundamental to save lives and avoid the circulation of the disease.

The first case confirmed at an indigenous context took place in april. On april 1st, according to the website Agência Brasil, the first confirmed case of contamination of an indigenous Kokama woman was reported who, accordingly to the source, may have happened precisely when in contact with a doctor in the health system, who should have been away.

The Health Surveillance Foundation of Amazonas confirmed today (April 1st) the first case of the new coronavirus among Brazilian Natives Indigenous. According to the foundation, linked to the state health secretariat (Susam), this is a 20-year-old girl of the Kokama ethnic group who works as an indigenous health agent in the region of the city of Santo Antônio do Içá (AM). The municipality, which is located in the micro-region called Alto Solimões, is part of the Alto Solimões Special Indigenous Health District. According to the foundation, the patient may have had contact with the doctor who works in the same district and who also tested positive for Covid-19 (Rodrigues, 2020).

In the same way, according to a report of the Instituto Socioambiental on June 22, 2020, the National Indian Foundation (FUNAI) did not execute the budget for Covid-19 with the necessary urgency. According to the text "FUNAI have received more than 11 million emergency resources for the protection of indigenous peoples, but spent less than half of this amount (39%)" (Instituto Socioambiental ISA, 2020). Hereupon, for Verdun,



A significant part of Covid-19's impacts on indigenous territories stem from this neglect of indigenous health. But let's face it, just increasing the budget is not enough. It is necessary to create mechanisms that control possible deviations of purpose, overcharged expenses, and the privilege of compatriots in the use of resources (Verdum, 2020, p. 37)

Over time more than a hundred indigenous peoples have been affected by the pandemic at different levels, as **Figure 4** below points out. The graph below shows the evolution of the situation.

October was the month that this text was produced and policies needed to restrain the disease and to support it are only timidly outlined, without at least a concrete plan established, which evidently worsens the situation.

Many indigenous leaders call attention to this lack of planning and organization to get aid in the city, for example, which ended up leading to contagion. For a Tapirapé teacher, there are cases of contagion because of contact within the city, because there was no precaution from government agencies about the access to benefits and other demands that must be carried out in the city, leaving aside the necessary particularity of the indigenous health policies, as it was mentioned.

In this dramatic scenario, crimes against the indigenous territories such as deforestation, burning and invasions have increased.

Nevertheless, Cerrado has been the biome that recorded the highest number of fires on indigenous lands in 2019, as occurs historically. The 9,543 outbreaks of fire in 2019 were about nearly twice more than the ones recorded in 2018 and, as in the Amazon, were 17% above the average recorded in 2009. The biome that had the largest increase in fire outbreaks on indigenous lands in 2019 was the Pantanal. Along 499 records, indigenous lands in this biome burned almost seven times more than the previous year. The number is also 3.7 times higher than the average recorded between 2009 and 2018. Mato Grosso do Sul, the state that covers most of the Pantanal, registered, in 2019, an increase of

452% in the outbreaks of fire on indigenous lands. The Indigenous Land (TI) most affected in the state - and the second most affected by fires in the country - was Kadiwéu, which is located in the borderline of the Pantanal and Cerrado and registered 1,268 outbreaks of fire. For some years now, the Kadiwéu have been denouncing the private appropriation of the territory by landowners and demanding from the State for the keeping off the area, which is regularized (Rangel, 2020, p. 24).

The Yanomamis report the presence of about 20,000 miners within their territory, increasing deforestation, pollution of their rivers and the danger of contagion. According to the Violence Against Indigenous Peoples Report organized by the Conselho Indigenista Missionário (CIMI).

The monitoring of satellite images by Instituto Nacional de Pesquisas Espaciais (INPE) revealed an increase in deforestation in the Amazon in 2019 caused by illegal gold mining. Together with the Kayapó and Mundurucu peoples, the Yanomami are deeply impacted by this criminal activity. Indigenous peoples estimate there are about 20,000 miners within the Yanomami IT [...]. Information by BBC Brazil, July/2019 (Rangel, 2020, p. 84).

It should also be mentioned that crimes against the lives of indigenous peoples have also intensified. As can be seen, the increase in attacks on indigenous leaders has grown substantially over the past year.

Data, from the state itself, show the murder, in 2019, of 113 indigenous people in Brazil. Many of them were leaders who put their ideas, proposals, and even their bodies in defense of their rights and protection of sacred lands, demanding demarcation and territorial regularization, opposing a government of predators and devastators of lives, human lives, lives of forests, lives of animals, lives of all beings (Rangel, 2020, p. 1).

In this context, according to Baxy Apinajé, the support for the actions of her people to control the disease came from the municipality of Tocantinópolis/TO by offering an isolation house in the city (Baxy, 2020a; Baxy, 2020b). The municipality also collaborated with inputs for the sanitary barriers effective enough to ensure the isolation of the villages. Furthermore, the Karajá people has received aid from the municipalities, solidarity from non-indigenous, and through the SOS/KARAJÁ organization, and they obtained inputs for the sanitary barriers and rapid tests, donated by the Universidade Federal de Goiás (UFG), and resources to buy medicines donated by ABRALIN.

Action, Indigenous Protagonism and Collectivity

In this context of underreporting and lack of governmental action, leadership and indigenous community meetings, often carried out in the central courtyards, are fundamental spaces for the fight against the pandemics. The performance of chiefs, shamans and leaders is central to indigenous resistance. This struggle is added to the efforts of indigenous and non-indigenous health professionals who give themselves intensely to contain the advance of the pandemic.

These meetings and articulations are fundamental for the execution of actions. The Krahô people, for example, hold several meetings with leaders, chiefs and relatives in the Ká (central courtyard) so that all villagers act with cohesion to strengthen the fight against this invisible virus. Regarding the situation of quilombola communities.

The complete lack of knowledge about the impact of covid-19 on quilombola territories only starts to disappear at the initiative of the quilombola political organizations themselves in partnership with universities and civil society organizations. As in the metropolitan suburbs, it is a question of resorting to the logic of “we for ourselves”. The main initiative in this sense came from the partnership between CONAQ (Coordenação Nacional de Articulação de Quilombos) and ISA (Instituto Socioambiental) in the creation of the Observatory platform of Covid-19 in Quilombos. Such initiative is a denunciation of the invisibility of the pandemic in these communities, while taking the lead in its monitoring. The platform performs an updated count of the number of cases monitored, confirmed cases and quilombola deaths, as well as the projection of this information on an interactive map, in which it is possible to locate the communities with cases and the nearby public hospitals with ICU. It also offers an updated list of news on the subject (Arruti, 2020, p. 1).

In the indigenous territories, one of the most successful actions was the health barriers. Among the Krahô, for example, a sanitary barrier was created at the main entrance to the city of Itacajá in order to prevent the exit of the *mehis* (indigenous people) to the city and, at the same time, to prevent the entrance of strangers at the reservation area. The indigenous warriors were chosen to be at the gate to watch over the day and night. However, they have suffered death threats because they have been preventing the

entry of indigenous people into the city, which shows the complexity of the situation.

Among the Apinajé people,

The Indigenous Sanitary Barriers are at the limits of the territory. One is at the border with Tocantinópolis, within our territory, on the Transamazon highway. This barrier holds 23 villages. There is another sanitary barrier that is located on the TO-126 highway, which connects the cities of Tocantinópolis and Maurilândia. And another barrier at the entrance of the Prata village which has entry through the road and the Cocal Grande village, guarding another 26 villages. The guardians thus closed the two ends of access to the territory, on the side of the Mariazinha village and the side of the São José village. We made the protection circle of the villages (Baxy, 2020, p. 5).

The relationship with the city is therefore an important element in the context and, in this case, is quite intense, the city being often an abusive space, which discriminates, even though benefits from the indigenous presence. This is true because in some communities many things are needed from the city. Baxy Apinajé, for example, states that “surrounded by cities, soy, plantation, eucalyptus, the Tocantins River with a lot of dams, there is no more fish. We go to the city for supplies, for sustenance” (Baxy, 2020).

In order to protect themselves, several indigenous people chose to be in isolation in their fields to keep distance from others and they not need the relationship with the city, however many don't stay for long and end up returning to the village.

APIB and other indigenous movements also act strongly at the institutional level, accessing spaces in the Brazilian state. In this direction the articulation of the indigenous movement, through indigenous lawyers and in dialogue with political parties, strongly demands effective actions from the federal government. ADPF 709/2020 should be highlighted,

This is an allegation of non-compliance with a fundamental precept proposed by the Articulation of Indigenous Peoples of Brazil—APIB, by the Brazilian Socialist Party—PSB, by the Socialism and Freedom Party—PSOL, by the Communist Party of Brazil—PC do B, by the Sustainability Network—Rede, by the Labor Party—PT and by the Democratic Labor Party—PDT. The action has as object a set of commissive and omissive acts of the Public Power, related to the fight against the pandemic by COVID-19, which would imply high risk of contagion and extermination of several indigenous peoples, in violation of the dignity of the human person (CF, art. 1, inc. III), the rights to life (CF, art. 5, caput) and health (CF, arts. 6 and 196), as well as the right of such peoples to live in their territory, in accordance with their cultures and traditions (CF, art. 231) (Fundamental Requirement Argument 709 Federal District).

In this regard, APIB questions the country's deficiency compliance with constitutional and fundamental precepts in combating the pandemic of the new coronavirus among Brazilian indigenous peoples. This statement disrespects the 1988 Constitution and international agreements, such as Convention 169 of the International Labor Organization, to which the country is a signatory. Accordingly, on July 8, the current Minister Luis Roberto Barroso of STF (Superior Tribunal Federal) agreed with the indigenous demonstration and stipulated that the State must take concrete and effective action against the advance of the Covid-19 pandemic among the indigenous population. The judge based on part of the indigenous rights, especially articles 231 and 232 of the National Constitution. The first emphasizes the need to pay attention to the indigenous cultural particularities and the other guarantees the originating peoples the possibility of legal representation in relation to the Brazilian state.

Moreover, a Joint Parliamentary Front in Defense of Indigenous Peoples was organized at the institutional level, led by Federal Congresswoman Joênia Wapichana, who is attentive to government actions and seeks to propose appropriate legal measures to address the issue. Noticeably this Front, in partnership with APIB and other indigenous movements, in the absence of a state plan, assembled the document "Indigenous Emergency" (<http://emergenciaindigena.apib.info/>), an action plan to deal with the dramatic situation, based on guidelines, actions and communication strategies.

It is time to reflect on the way of life that we have cultivated until the present day, because the various environmental crises and catastrophes are the result of actions with strong impacts on the environment that lead us to the advance of global warming, loss of vegetation, biodiversity and other profound changes in nature. They are the harbinger that we are living today, alerts from mother earth about our way of existing, which needs to be rethought. It is clear to us that we need to exercise even more solidarity. For Brazil and the world, this viral war may be new, but for us indigenous peoples it is not. We already know this reality because we were victims of the diseases used as a strategy in the process of invasion and colonization of Brazil, as well as other aggressions, such as those practiced during the military dictatorship and in the present times to exterminate our peoples, our identity and our way of life and usurp our territories, besides the natural goods that we have preserved for millennia. In Brazil we are going through difficult days, of much sadness and political uncertainties, there are already more than 43 thousand lives lost and 800 thousand infected by Covid-19, with a lethality rate of 6.6% in the general population. And we are all finding that Covid-19 affects the indigenous peoples even more lethally. By June 16, 287 indigenous people had died and 5,484 were infected, with 103 people impacted in more than 17 states of the federation. The power of the virus's lethality among indigenous peoples is above that of

non-indigenous peoples, which demonstrates its strong capacity for destruction (National Plan - Indigenous Emergency, 2020, p. 7).

The communication and information strategy seems essential in this period. APIB continues to communicate the situation equally and intensely publicly, whether in its pages http://emergenciaindigena.apib.info/dados_covid19/, virtual events such as "webinars" or lives, campaigns such as "Indigenous Lives matter", or producing information and media in an efficiently as in multilingual bulletins (Portuguese, English, Spanish, French and Italian) or at <http://emergenciaindigena.apib.info/files/2020/06/01-Card-Quarentena-Indigena-PT.pdf>.

Likewise, there is a range of fundraising campaigns for the maintenance of sanitary barriers and the purchase of equipment as well as the donation of inputs needed for survival. Clearly the pandemic and social isolation there is an impact on income generation of indigenous peoples and the relationship with the city, where many families today complement their farms.

The Save Krahô campaign, for example, aims to support the indigenous Krahô people in facing the Covid 19 pandemic. Its actions consist of: ensuring the maintenance of guardhouses at the entrances to the Indigenous Territory, preventing non-indigenous people from accessing the villages and ensuring that everything that comes from the city is properly sanitized; providing protection and hygiene equipment for the indigenous people who need to go to the city and bring information to all the villages. There are also projects that seek to strengthen private and community farms.

Therefore, despite the isolation of the communities, a key strategy in the fight against the advance of the disease, it is perceived that a collective articulation is being sought in a virtual way, strengthening an approach of collective through the participation of indigenous, non-indigenous people, leaders, artists, intellectuals, Brazilians and people from outside the country. There is also an interesting articulation between indigenous peoples.

Amerindian Ancestral Memories and Cosmopolitics in Action

Another substantial aspect to consider is that the devastating impacts of a pandemic are part of and also access the collective memory of many indigenous peoples, who have experienced similar situations in past decades, producing psychic struggle.

For Jiménez et al. (2020),

In the collective memory of the community are the stories of the Spanish fever that spread in the second decade of the 20th century. Grandparents say that dozens of Cheranenses died from the disease. For fear of contagion, some fled to the hills to take refuge, others stayed at home without going out so as not to get infected. One of the main characteristics was high fever, colloquially the disease was known as "fever" (2020, p. 1).

Shiela Baxy Apinajé, in an article, recalls that the first situation lived among the Panhi Apinajé people at this time was that of psychic suffering.

We began to experience a psychological outbreak of the disease, because the Apinajé, in their memories, had already passed through another epidemic. We remember that in the outbreak of smallpox (Spanish flu) in 1808 many indigenous people died, almost leading our people to extinction. It was a very violent moment for our people (2020, p. 3).

Teacher Koria Tapirapé also mentions that death from infectious flu and malaria diseases in the 1930s and 40s is now a reality narrated by the elders, who claim that the Apywa population was only 52 individuals. This process is also painful and causes fear.

The virus intensely also affects the coexistence of people who are prevented from practicing their rules of coexistence, which almost always tend to the collective and reciprocity. For Sheila Baxy Apinajé the coronavirus attacks the indigenous culture (2020). For Professor Silvino Xerente the indigenous culture is that of agglomeration (Professor Silvino Xerente, 2020).

If on the one hand it affects the Amerindian cultures, on the other hand the fight against the Covid-19 accesses the various Amerindian cosmopolitics. Still on Sheila Baxy,

For older people this new disease is like *mē à*, known by the name of *kupyt kak*, which is the disease of the guariba monkey, which brings very strong flu, very high fever and can kill very fast. The elder José Ribeiro (Zé da Doca) says that the disease has no rattle to warn us and that it is confusing, attacking the psychological side, because the non-indigenous people are dying and we may disappear from the earth (2020, p.3).

Similarly,

Cherán/México, as an indigenous community, strengthens its community cohesion through its rituals, festivals, assemblies, uses and customs, which is why the isolation and social distancing measures promoted by official health organizations seem contrary to community life (Jiménez et al., 2020, p. 1).

Dietz and Cortés note the same

In several regions of Veracruz, as also happens in other Mexican states (Jiménez et al., 2020), indigenous communities reacted to the pandemic in culture specific ways, not by passively confining themselves to individualized, fragmented domestic units, but by closing off all access to their community as a whole, so as to remain not at home, but in their community. These bottom-up local strategies, which the communities even managed to impose on their own local neighbors who were trying to return home after

losing their jobs in urban or tourist areas, in order to (2020, p. 4).

The resistance to the advance of the pandemic is then in the knowledge of the elders, in the therapeutics of the bush and in the indigenous spirituality. Koria Tapirapé states that “from our joint struggle we have the prohibition of some food, usually the strongest meats, considered as bearers of evil spirit. The consumption of these meats could make the situation worse, as cosmology explains” (Valdvane Tapirapé, 2020). To him, yet,

a notable and interesting element is the access to the different spiritualities, we did this to add the strength of our protection, with the *apywa* cosmology, with the owner of the river, the fish, the hill of animals. It is a way to cheer our spirits to protect us from the pandemic. We count on the strength of our *aremomoya*, a big person, who takes care of the organization of nature, we have supernatural beings to overcome the pandemic, according to cosmology so that the disease comes with less aggression” (Valdvane Tapirapé, 2020).

Umya Karajá says that for his community, the songs of the *Ijasò* practiced in these difficult times contribute to warding off the virus. He says, “We are together praying for Arowans to continue to exist. Arowans bring joy, peace, togetherness and a lot of cultural motivation. They are important to our Iny community. If our nature, which is a great defender of various diseases today, ends, we will all end up together” (2020).

Many people always emphasize the use of traditional medicine, even if it is not properly respected by the Brazilian health system, as already aforementioned. For the Krahô people, “our doctor was the shaman himself” (Pohcuto, 2020). For Koria Tapiarapé “we can never think of commercializing traditional medicines. It does not compact with Mayra (non-indigenous) medicines. The owner himself takes away the power of medicine. It would be without effect. It would not cure anything. In this sense we had medicine for everyone. The shamans have made medicine available to everyone. It was a collective struggle (Valdvane Tapirapé, 2020).

A similar attitude was adopted by the Karajá people. Kuriawa, a great teacher and promoter of the culture of his people, told us that his community was treated with by means of medicinal plants. For him, medicinal plants have the power to ward off the corona virus. He celebrates the healing by thanking nature. In general, we have realized the power of healing through the spirituality of medicinal plants among indigenous people. If it were not for the power of medicinal plants of indigenous wisdom, the disaster would be much greater. This, however, does not exclude the possibility of extinction of small population indigenous peoples.

The extinction of a people represents the extinction of its language and the irrecoverable loss of its unique cultural, historical and ecological knowledge. It means the loss of some humanity present on the planet. It is unrecoverable.

The Tenetehar people, also known as Guajajara, from the state of Maranhão, as well as other indigenous peoples, were not prepared to face this disease. When news broke on television that a terrible virus was spreading rapidly around the world and that it would soon reach

Brazil and indigenous territories. They clung to their ancestral prayers and went to seek help in nature and in ancestral memory. Cíntia Guajajara's mother recalled the hot herbal teas she had learned from her grandparents, the seeds and water from the bark of quina, which she had learned from her mother.

They bathed the children with these herbs. Coumaru and saffron helped a lot in fighting the virus. They fight the virus through medicinal plants. They went back to eating food from their region: native fruits, food that comes from the fields, such as corn, beans and potatoes. They also fish from their river again.

Daily Guajajara people made tea for the community; everyone drank. They reinforce the power of plants, seeds, tree houses, food from the fields. That's how they controlled the virus. They made ointments (creams) from the leaves of the trees. The leaf baths of the "black mine" also helped a lot. Their ancestral science saved them from this terrible virus. They remain vigilant and taking care of themselves. According to Cintia Guajajara, she

cried a lot at each loss of a relative, I suffered a lot, without being able to help the more distant relatives, because we had to stay away, when I knew that the relative had the virus it was too late. Many avoided going to the doctor, looking for alternatives in the sacred medicinal plants Guajajara (2020).

Koria Valdane Tapirapé also reinforces the intention to the elder's importance: "It is they who carry our epistemologies, our logs, our readings about nature and the world. We have lost an elder, we have lost a set of knowledge and wisdom. This is the most critical point" (2020). Manaije Karajá embodies his pain by speaking of the deaths of many wise men and women, guardians of millenary knowledge and great masters responsible for transmitting specialized knowledge to younger generations. In their community, many women experts in moving knowledge of their people through art died. These women were mothers of Karajá teachers.

Throughout Brazil, countless indigenous teachers also died, victims of the Covid-19, many of them were also leaders, and fighters of their peoples for the defense of indigenous knowledge and languages.

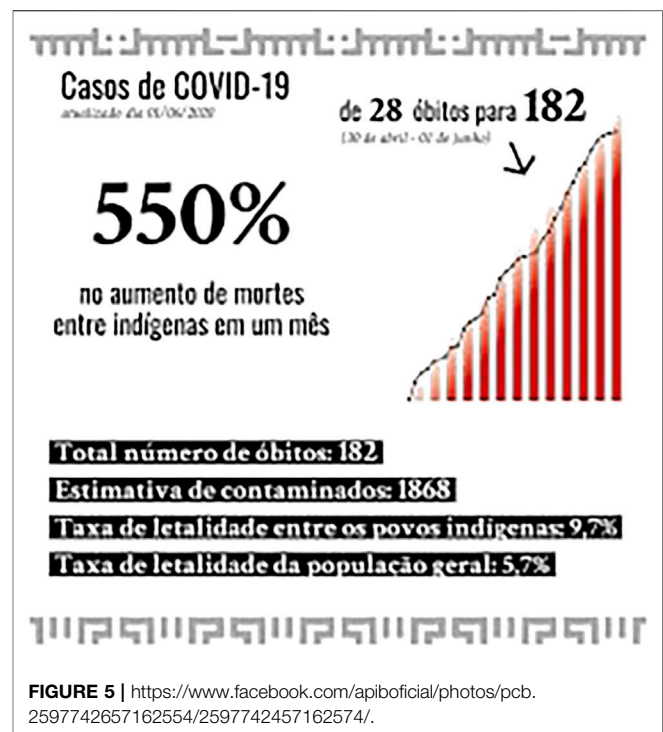
RESULTS

Monoepistemic Necropolitics

As can be seen, Covid-19 continues to advance over native territories and affecting indigenous villages or indigenous peoples in an urban context. This is happening under strong indigenous resistance, and is based on their epistemologies and cosmopolitics. The lethality rate among indigenous peoples remains much higher than for other peoples (Figure 5 below) in the country and abroad, which concretely shows that the situation continues to eliminate indigenous bodies and knowledge.

In accordance with Jimenez; Fernando; Juarez, in Mexico,

The pandemic has demonstrated the inability of the State to resolve the public health issue of the P'urhépechas people. In this sense, the community of



Cherán faces serious problems of chronic degenerative diseases: diabetes, hypertension and obesity in adult population that ranges between 22 and 70 years of age. Diseases are the product of changes in the food and health habits in the daily life of indigenous people. On the other hand, COVID-19 shows the vulnerability of the community to the pandemic that has wreaked havoc on this sector of the population in large cities. In addition to this, there is concern that the medical infrastructure to deal with it is weak. If there is an outbreak of COVID-19, the probability of an infectious condition with devastating consequences for community members is high (Jiménez et al., 2020, p. 1).

Within the same context, Arruti

add to these variables the historical-structural racism that kept most black rural communities out of the field of investments and expansion of state and municipal public health policies. Thus, we will understand why quilombola communities are in an extreme situation with respect to the issue of underreporting and, most likely, in terms of vulnerability to the advance of the pandemic. The precarious situation of these communities in relation to land and educational policies has been widely addressed by specialized literature. Although the pandemic has alerted us to the need and urgency to shed light on this precariousness, concerning access to health policies. In this context, the idea of precariousness is confused with that of necropolitics, that colonial and post-slavery

variation of biopolitics: a way of governing life that normalizes the death of some in favor of the security of others (Arruti, 2020, p. 1).

As a result of state policies, indigenous and black bodies continue to be more affected than others. For a Xerente teacher,²

our authorities who are in front of the Ministério da Saúde (MS) lacked assistance. We thought about how the Akwe people will be served. I even received the mask only once, I didn't receive alcohol gel, I didn't receive anything. I wonder if this is prevention? We need to be better served; we need our authorities differentiated service for our people.

According to another Tapirapé scholar

the government is genocidal, ecocidal, gerocidal, it is the government that practices necropolitics. Our right is being violated, in the constitution and in international law. The government does not take the slightest consideration towards the indigenous people. There is only hate plan. The government that preaches hatred, prejudice, discrimination, intolerance over us. It is the government of authoritarianism. More than 500 years have shown our resistance, our struggle, transmitted by the wind, according to shamans.

The assumptions of necropolitics in agreement with Achille Mbembe is the state's ability to define in its actions who lives and who dies. For the author, the assumption "is based on the concept of biopower and exploits its relationship with the notions of sovereignty (imperium) and the state of exception" (2016, p. 124). For the same author, it is assumed "that the maximum expression of sovereignty lies, to a great extent, in power and the ability to dictate who can live and who should die" (p. 123).

Undoubtedly one of the strongest and most evident of necropolitics is its monoepistemic foundation. At the same time, it eliminates bodies, dismantles knowledge, unties relationships, and attacks other ways of being and knowing. For Mbembe "disregarding this multiplicity, late-modern political criticism has unfortunately privileged normative theories of democracy and made the concept of reason one of the most important elements of both the project of modernity and the territory of sovereignty" (Mbembe, 2016, p.124).

Hence, the public policies in focus have been strengthened their monocultural aspect, intensifying centralized decision mechanisms and reproducing an authoritarian and violent power and decision structure. In other places the same thing happens. For Dietz and Cortés, in Mexico, "Unfortunately in Veracruz but also in the rest of the country, it seems that the pandemic has empowered centralized instances of educational, health and political decisions in general" (2020, p. 7)

This has even cause distrust among indigenous peoples regarding the treatment they will undergo in hospitals. Many do not accept being hospitalized, they prefer to stay in their communities, even at the risk of dying.

Similarly, to Damsokekwa, on education, everybody should understand the importance of having indigenous managers in occupying decision spaces (Damsokekwa, 2020, p. 5).

It is undoubtedly necessary to improve communication in the understanding of cultural diversity and multiplicity, which also means to perceive and reverse the systematic silencing of discourses that aim to deconstruct hegemonic thoughts and practices that exclude knowledge, languages and worldviews. The epistemic articulation allows building new communicative paradigms, even in health, education or any other area, as they require intercultural dialogue in priority tasks such as social emancipation, confronting inequalities without annihilating identity and differences.

As discussed throughout the text the main actions for resistance to Covid-19 and the treatment comes from indigenous peoples. More than ever institutions must be intercultural, with a critical character, making communication between epistemologies possible and reinforcing action in different cultures and contexts. For Damsokekewa, it is necessary to have indigenous agents in the decision processes (2020).

The Covid-19 will leave many narratives of pain and suffering as convey many narratives of revival of indigenous epistemologies. It will also leave the urgent need for collaborative methodologies in public administrations. Understanding indigenous strategies in the fight against the disease, through social organization, medicinal herbs, songs and prayers of indigenous (non-Christian) tradition to thank nature for the remedies has a meaning of greatness and make us reflect on the violent, mechanistic, rationalist and positivist bases of public policies. This same process has culminated in such destruction of ecosystems, widespread social collapse without finding harmonic points for the global human community.

This discussion demonstrates how policies need, in reality, to change their old paradigms, centered on the fragmentation of knowledge, on the rationalization of the world and on cultural and human distance.

The pandemics is indicating the need for more complex models of analysis and that the impact of an infectious disease in this portion of the Brazilian population is also associated with other particularities and contingencies as sociocultural, political, historical, food, nutritional, epidemiological, emotional, economic, territorial and environmental. The pandemic also spells out the weaknesses of the structured care system to protect and promote the individual and collective health for indigenous peoples, and how vulnerable and dependent it is on the (dis) commitment of public managers on duty with their rights, including healthy (Verdum, 2020, p. 35).

We suggest that public policies and State institutions should be anchored in co-theoretical and intercultural foundations, incorporating different languages and forms of expression in the dialogical process of managing demands. This saves lives. It is essential

²The two indigenous leaders below preferred not to identify themselves for security reasons

to develop collaborative methodologies in rescuing the silenced cultural links and erased epistemic spaces, The art, narratives and histories of oral literature contribute to the construction of new methodological and pedagogical approaches to be considered in the investigation and production of new epistemic bases.

All indigenous lives matter! All lives matter!

As a country, we need to recognize the epistemicide, as Correa Xakriabá (2018) argues, which occurs from the monopoly of monoepistemic policies which impacts the circulation and existence of other forms of knowledge that do not fit in the established canons of eurocentric knowledge. We must all put an end to the monoepistemic necropolitics that allows the death of many knowledges and bodies.

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Practicing Social Isolation During a Pandemic in Brazil: A Description of Psychosocial Characteristics and Traits of Personality During COVID-19 Lockout

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The experience of the pandemic caused by the Coronavirus and the consequent disease triggered by it (COVID-19) brought to light fragilities that have been long overlooked by the scientific community and by various political and social institutions. The pandemic also brought to the fore certain social practices resulting from individual behaviors, such as wearing a mask and practicing social isolation. It demonstrated the need for social commitment and pro-social behaviors if societies are to respond successfully. The purpose of this article is to evaluate psychological and sociodemographic characteristics associated with compliance or noncompliance of individuals with these practices in two different phases of the pandemic experience in Brazil: in the first month and after three months. Participants for the first phase of the study were recruited through advertisements in the media and social networks. 1,914 individuals aged between 14 and 81 years agreed to participate, 78.2% of these were women, from 25 Federative Units in Brazil. In the second phase, 761 individuals who participated in the first phase, were reassessed. The authors used the following instruments for data collection: a standardized questionnaire collecting information of sociodemographic characteristics and dynamics of social isolation; the Kessler Psychological Distress Scale; the Life Satisfaction Scale; the Positive and Negative Affections Scale; and the Reduced Personality Markers and Stress Mindset Scale. All instruments used presented evidence of validity and adequate reliability indexes. The comparison of categorical exploratory variables with motives for following social isolation protocols was performed using Pearson's Chi-square, and the comparison of continuous exploratory variables was performed using the Mann-Whitney test. Covariance Analysis was performed using as covariates those that showed significance/effect on isolation in previous analyses. The results showed that respondents practicing social isolation to comply with governmental recommendations had lower scores on the scales of neuroticism and conscientiousness. They reported also less stress, anxiety, and depression, and less general distress. Overall, these respondents also displayed more positive affect, and tended to reframe stress in a more positive way

than others. These preliminary results describe the psychological characteristics of individuals and their associations with social behaviors in a period of collective stress and high social risk.

Keywords: pandemic, social isolation, psychological characteristics, personality traits, pro-social behavior, social support

INTRODUCTION

The disease caused by Coronavirus Disease 2019 (COVID-19) was first identified in December 2019 in the city of Wuhan, China, and in January 2020 the World Health Organization (WHO) declared it a public health emergency of international interest (Maia and Dias, 2020). The pandemic can be identified as a stress-inducing social reality and it requires appropriate individual behavior to contain its worst effects. In this way it can be described as a stressful live event that demanded coping strategies to face it (Lazarus and Folkman, 1984). As such, it has brought to light individual and social fragilities that have been long overlooked by the scientific community and social institutions. Among the most prominent of these are individual attitudes and behaviors that can be described as anti-social; the difficulty of acting locally on what are global problems; and the permeability of borders and the interconnectedness of individuals and groups when social isolation is required. The pandemic has showcased the social consequences of individual behaviors, such as wearing a mask or adopting practices of social isolation, as well as the need for the social commitment and pro-social behaviors that controlling this pandemic requires.

In terms of public health, slowing the spread of the virus has challenged current social practices and behaviors which have tended to reduce compliance to the new social rules now required to slow the spread of the Coronavirus (Fischer et al., 2020). This manuscript presents a study of the association of certain personality and psychosocial aspects with social behavior and commitment to social isolation to control the pandemic in Brazil.

The Pandemic as a Social Science Challenge

Since early 2020, there has been an abundance of research on Covid-19 pandemic mainly from medical and epidemiological disciplines (Ward, 2020). However, there is a critical need to have an interdisciplinary conversation, both theoretically and empirically, on the psychosocial and sociological consequences of the pandemic experience (Ferreira et al., 2020).

The socio-epidemiological literature on pandemics documented the many challenges that governments and public health institutions faced in encouraging the population to practice and sustain restrictive behaviors. For example, (van der Weerd et al., 2011) described the social resources used by public health during the early stages of the influenza virus (H1N1) pandemic, when there was still no vaccine or drug treatment available. At that time, preventative practices such as wearing a mask, maintain proper hygiene, and social

distancing to reduce the contagion were seldom adopted by the public. Importantly, risk perception and the degree of confidence in the information transmitted by health authorities significantly influenced the personal decision to adopt protective measures.

Giubilini et al. (2018) pointed to the benefits of restrictive behaviors such as quarantine and social isolation in tackling Ebola infections between 2014 and 2015 in West Africa, as well as the social challenges for their implementation. The authors justified the application of coercive and compulsory measures by the State as a way of controlling infections with the potential to harm the whole of society, but they also reminded us of the need for a compelling justification for the implementation of such actions. These discussions become even more relevant as individual protective measures cannot easily be implemented entirely by coercion in democratic societies (Clark A. et al., 2020).

In the context of Covid-19 pandemic, all countries committed to the goal of reducing the spread of the coronavirus, but some have been more successful than others. Researchers have identified differences in personality traits and social behaviors that positively or negatively influence whether an individual will engage in the social health practices needed to contain Covid-19 (Zajenkowski et al., 2020). For example, people who have lower levels of “agreeableness” (sense of cooperation and social Harmony) and “conscientiousness” (self control and practicality), or who manifest psychopathological personality traits such as machiavellism, narcissism or psychopathy (Blagov, 2020), or antisocial traits represented by lack of empathy, callousness, deceitfulness and risk-taking (Miguel et al., 2020) tend to show lower levels of commitment to practices controlling the contagion.

Although theoretically, all five major personality traits can relate differently to the restrictive behavior demanded to face Covid-19, the results from a Polish sample showed that only agreeableness predicted compliance to the Covid-19 social and individual restrictions (Zajenkowski et al., 2020). Also, individuals with different personality traits perceived risk differently during the Covid-19 pandemic.

A large body of research is growing to address the psychosocial consequences of the pandemic and the stressors associated with measures of contagion control, with special emphasis on social isolation. These include increased levels of anxiety, depression and stress, confusion, anger, and even post-traumatic stress (Brooks et al., 2020; Maia and Dias, 2020). The consequences of social isolation can also be different depending on personality traits and individuals’ characteristics (Zajenkowski, et al., 2020). The perception of stress is worsened by feelings of ignorance about

the disease, paired with confusing, inconsistent messages from the media, as well as the perception of risk for oneself or one's group of origin (Brooks et al., 2020; Clark C. et al., 2020; Zajenkowski, et al., 2020).

This study has been designed to aid researchers, health managers, and government officials in understanding the psychological and social factors that can contribute to the population's engagement in behaviors needed to reduce the spread of the disease. This knowledge can help authorities to better implement public health measures as well as to encourage different groups of the population to adhere to these public health policies.

The Context of Brazil

These challenges are greater in a country like Brazil that is multiethnic, geographically diverse, and with a significant degree of social inequality (Instituto Brasileiro de Geografia e Estatística (IBGE), 2018). In Brazil, social isolation was presented as a containment measure to prevent the spread of Covid-19 through the national Quarantine Law (Law No. 13,979; *Diário Oficial da União*–DOU, 2020). However, local governments were given autonomy in making decisions about the best strategies to face the pandemic according to the epidemiological profile of each city or Federative Unit (Moreira, 2020). Lack of explicit guidance on the part of the federal government, exacerbated by turnover of health ministers, left local political leaders uncertain about what measures to adopt and enforce (Aquino et al., 2020). Inconsistent measures and guidelines from government officials at different jurisdictional levels, and from health authorities fueled people's sense of confusion, uncertainty, ignorance and mistrust, raising even further the stress resulting from the experience of the Covid-19 pandemic. People were left to decide on their own if and how to protect themselves and others from the spread of the Covid-19, there seemed to be no consistent policy to confront the pandemic (Teixeira et al., 2020). That created a sense of solidarity between different groups and organizations to face the pandemic in Brazil.

This manuscript reports the preliminary results of a study designed to investigate psychological and sociodemographic traits associated with attitudes and behaviors relating to social isolation, social distancing, and mask-wearing in two different phases of the pandemic experience in Brazil: in the first month (April 2020) and after three months (May to June 2020). This paper also describes the psychological and sociodemographic profiles of people who reported practicing social isolation for different reasons: 1) as a social commitment and pro-social behaviors, such as to avoid infecting others, 2) to follow the authorities' recommendation, or 3) for individualistic reasons, particularly to avoid getting infected. The samples in the two phases of this study have comparable sociodemographic characteristics and can be used to compare over the course of the pandemic the association between psychological profiles and the social practices of mask-wearing and practice isolation.

METHODS

Study Design

This study is correlational and is designed to collect data from Brazilian adults age 14–81 years old, in two different months of the pandemic.

Phase 1 includes participants who filled out an online questionnaire during the month of April, 2020, approximately one month after the start of the pandemic in Brazil. Phase 2 started on May and continued until June, 2020, three months into the pandemic. Some of the participants in phase 2 also participated in phase 1. For this preliminary analysis, we treated the two phases as if independent. So, this manuscript reports preliminary results from the first two available phases, April 2020 and June 2020.

Participants

In the first month of the pandemic in Brazil (Phase 1), 1,914 individuals answered an online questionnaire. We focused on 1,842 of them, 78.2% women and 21.8% men, those who were all practicing social isolation. Their age ranged between 14 and 81 years ($M = 34.91$, $SD = 13.70$). Three percent of them were from the North; 29.7% from the Northeast; 28.3% from the Midwest; 30.7% from the Southeast and 8.3% from the South. About half of the respondents were single (51.2%), about 30% married (30.3%), 8% in a stable relationship (8.3%), 8% divorced (8%), and 1% were widowed (1.1%) or other (1, 2%), respectively.

In the second phase of the study corresponding to the third month of the pandemic in Brazil, 761 individuals answered the questionnaire; only 452 (82.5% were women and 17.5% were men) were practicing social isolation. The age of the sample in the second phase ranged between 17 and 77 years ($M = 34.01$, $SD = 12.97$); 7.1% were from the North, 31.2% from the Northeast, 29.2% from the Midwest, 29.6% from the Southeast and 2.9% from the South. Most of the respondents were single (55.8%), followed by married (26.5%), in a stable relationship (10.4%), divorced (5.8%), widowed (0.9%) and others (0.7%).

For both phases, the following inclusion criteria were considered: agreeing to be part of the study by accepting the Free and Informed Consent Term, as well as answering all questions in the questionnaire.

Instruments

The online questionnaire contained two sections. Section one collected information on sociodemographic characteristics and practices of social isolation; section two administered several psychological scales. All psychological scales or measures presented evidence of validity based on the internal structure and adequate reliability indexes.

Section One: Sociodemographic Characteristics and Practices of Social Isolation

This section was developed to collect sociodemographic information such as age, sex, marital status, occupational sector and family income level of the respondents. Other questions collected are presence of people at high risk or

children in the family unit or household; levels of activity during social isolation; and information on compliance to social isolation, including why respondents practiced social isolation. In relation to this last question, participants were asked for the principal motive for socially isolating. They were given three options: 1) comply with governmental recommendations; 2) avoid infecting others; and 3) avoid getting infected themselves.

Section Two—Psychological Scales

Section Two of the Questionnaire Contained Six Psychological Scales, Described Here Below:

Reduced personality markers

Originally, markers for personality assessment in the *Big Five Model* were developed by Hutz et al. (1998). It is an instrument composed of 64 adjectives divided into five subscales: neuroticism (low emotional stability, referring to a greater tendency to experience negative emotions), extraversion (sociability or engagement in the outside world), openness to experiences (interest in different areas, tending to originality and imagination), agreeableness (sense of cooperation and social harmony) and conscientiousness (self control and practicality). Participants should complement the statement “I am a person ...”. The response scale is a five-point *Likert*, with the following extremes: 1 = “Strongly disagree” and 5 = “Strongly agree”. Subsequently, Hauck Filho et al. (2012) developed a reduced version composed of 25 adjectives whose response procedures follow those of the original scale.

The authors reported satisfactory evidence of validity and accuracy indexes using Cronbach’s alpha between 0.61 (opening to experience) and 0.83 (extroversion).

Stress Mindset Scale

Developed by Crum et al. (2013), SMS assesses the beliefs that a person has about the consequences that stress can have on their performance and growth. The scale consists of eight items, four positive (e.g., “The effects of stress are positive and can be useful”) and four negative (e.g., “Experiencing stress exhausts my health and vitality”), answered using the *Likert* type, where responses range from 0 = “Strongly disagree” to 4 = “Strongly agree”. An adaptation study and evaluation of the evidence of SMS validity for the Brazilian context showed the adequacy of a unidimensionality, as well as good reliability indicators, Cronbach’s alpha equal to 0.868 and McDonald’s Omega equal to 0.869 (Peixoto et al., 2019). To compose the final score in stress mindset, the negative items must be inverted, and all the items added up; higher values of these scores indicate higher levels of positive mindset.

Depression, Anxiety and Stress Scale

The Depression, Anxiety and Stress scale (DASS-21) was developed by (Lovibond and Lovibond, 1995), assesses these three constructs using three factors of the same name, composed of seven items each, totaling 21 items on the scale. The response scale is a four-point *Likert* scale, ranging from 0 (“did not apply at all”) to 3 (“applied a lot or most of the time”). In Brazil, DASS-21 was adapted, and its psychometric properties

were evaluated in several regions of the country with samples of adolescents (Patias et al., 2016; Silva et al., 2016) with results that assure the three-factor structure and good reliability indicators between 0.83 and 0.96.

Kessler Psychological Distress Scale (K10)

The translation and adaptation of the k10 scale was carried out to assess psychological distress in the Brazilian population. The instrument presented evidence of validity based on the internal structure from a single-factor structure with a Cronbach’s alpha reliability index of 0.90. This instrument has 10 self-report items that assess the level of emotional distress related to experiencing stress in the last 30 days. Items are answered using a five-point *Likert* scale with the following extreme points 1 = “no time” and 5 = “all the time”. Higher scores mean a higher level of psychological distress and psychological distress (Andrews and Slade, 2001).

Life Satisfaction Scale

Developed by Diener et al. (1985), the LSS assesses cognitive aspects of subjective well-being and is considered the gold standard for assessing this construct (Diener, 2000). This scale has five self-report items that assess the level of satisfaction with the respondent’s life using a seven-point *Likert*-type response scale. The Brazilian version was adapted and validated by (Zanon et al., 2013a) and their adaptation studies demonstrate good evidence of accuracy and validity and preliminary standards (Hutz et al., 2014).

Positive and Negative Affections Scale

Originally developed by (Watson et al., 1988), PANAS assesses the emotional components of subjective well-being through positive (PA) and negative affections (NA). The scale consists of 20 words that express emotions, ten relating to positive affections and 10 relating to negative affections that are answered using a five-point *Likert* scale (1 = “not at all” and 5 = “extremely”). In Brazil, the scale was adapted by Zanon, Bastianello, Pacico, and Hutz, in 2013, presenting studies that demonstrate good precision, evidence of factorial validity and preliminary norms (Zanon et al., 2013b).

Procedure

Participants were recruited through advertisements in the media and social networks (*Whatsapp*, *Facebook*, *Instagram* etc.). The invitation to voluntary participation was attested by accepting the Terms of Free and Informed Consent, which guaranteed anonymity and the possibility of withdrawing at any stage of the survey. The Terms of Free and Informed Consent provided the contacts of the research team for further information on the study or if the respondents experienced any unwanted complications resulting from participation in the study.

Participants responded to the questionnaire online, using the GoogleForms software.

Data Analysis

We conducted descriptive and inferential statistical analyses using the statistical software package SPSS 26.0. As a first step,

TABLE 1 | Sociodemographic characteristics of the sample according to reasons for adherence to social isolation on phase 1 by means (age) and frequency (sex, marital status, profession, educational level, family income, risk group) ($n = 1,437$).

	Motives to practice social isolation			Total	p
	Comply with governmental recommendations	Avoid infecting others	Avoid getting infected		
Age (Mean \pm Standard deviation)	39.17 \pm 15.18	30.94 \pm 11.19	36.34 \pm 13.89	34.89 \pm 13.69	< 0.001**
Sex					
Female	402 (75.1)	606 (78.1)	429 (81.4)	1437 (78.2)	0.05*
Male	133 (24.9)	170 (21.9)	98 (18.6)	401 (21.8)	
Marital status					
Married	181 (33.8) ^a	189 (24.4) ^b	185 (35.1) ^a	555 (30.2)	0.001*
Divorced	52 (9.7)	50 (6.4)	45 (8.5)	147 (8.0)	
Single	236 (44.1) ^b	477 (61.5) ^a	229 (43.5) ^b	942 (51.3)	
Stable relationship	51 (9.5)	47 (6.1)	54 (10.2)	152 (8.3)	
Widower	11 (2.1)	3 (0.4)	6 (1.1)	20 (1.1)	
Others	4 (0.7)	10 (1.3)	8 (1.5)	22 (1.2)	
Profession					
Retired	43 (8.0) ^a	10 (1.3) ^b	28 (5.3) ^a	81 (4.4)	0.001*
Private sector	86 (16.1) ^b	180 (23.2) ^a	97 (18.4) ^b	363 (19.7)	
Public sector	132 (24.7)	173 (22.3)	143 (27.1)	448 (24.4)	
Self employed	99 (18.5)	118 (15.2)	87 (16.5)	304 (16.5)	
Unemployed	135 (25.2)	246 (31.7)	145 (27.5)	526 (28.6)	
Educational level	40 (7.5)	49 (6.3)	27 (5.1)	116 (6.3)	
High school					
UnderGraduate level	40 (7.5)	43 (5.5)	21 (4.0)	104 (5.7)	< 0.001*
Graduate level	197 (36.8) ^b	387 (49.9) ^a	227 (43.1) ^b	811 (44.1)	
Family income	3 (0.6)	2 (0.3)	3 (0.6)	8 (0.4)	
Less than minimum wage	295 (55.1) ^a	344 (44.3) ^b	276 (52.4) ^a	915 (49.8)	
Between 1 and 3 minimum wage					
Between 3 and 5 minimum wage	36 (6.7)	38 (4.9)	24 (4.6)	98 (5.3)	0.29*
Between 5 and 10 minimum wage	116 (21.7)	152 (19.6)	117 (22.2)	385 (20.9)	
Between 10 and 20 minimum wage	88 (16.4)	127 (16.4)	106 (20.1)	321 (17.5)	
More than 20 minimum wage	108 (20.2)	195 (25.1)	110 (20.9)	413 (22.5)	
Risk group					
No	392 (73.3)	653 (84.1)	355 (67.4)	1400 (76.2)	
Yes	143 (26.7) ^a	123 (15.9) ^b	172 (32.6) ^a	438 (23.8)	<0.001*

*Pearson Qui-squared (n , absolute frequency; %, relative frequency). **Kruskal-Wallis test (mean \pm standard deviation).

^aEqual letters on the same line indicate no significant difference in post hoc.

^bEqual letters on the same line indicate no significant difference in post hoc.

we described the sociodemographic profile of individuals with different motivations and rationales for their adherence to practices of social isolation. We then analyzed the relation between the main reason for socially isolating and other variables.

For categorical variables, we presented means of absolute frequency (n) and relative frequency (%); for continuous variables, we reported means and standard deviations. Specifically, for the parametric test - Ancova - the normality of the variables was tested using the Kolmogorov-Smirnov test. The results indicated normality of the continuous variables. We measured the association between categorical exploratory variables and the principal motive for socially isolating using Pearson's Chi-square and Post-hoc Chi-square tests with Bonferroni correction when significant differences were found in contingencies greater than 2×2 , as suggested by (MacDonald and Robert, 2000).

The comparison of continuous exploratory variables with the principal motive for socially isolating was performed using the Mann-Whitney test. We isolated the effect of social isolation on well-being (positive and negative affect), life satisfaction, psychological distress (K10) and personality traits, by applying

Covariance Analysis and selecting as covariates those that showed significant effect on isolation in previous analysis (sex, marital status, profession, schooling, family income). For all the analyses, we adopted the 95% confidence interval ($p < 0.05$).

RESULTS

Tables 1, 2 describe the sociodemographic characteristics of the sample by social isolation according to principal motive for socially isolating in phase 1 and 2, respectively. Three types of reasons for adhering to social isolation were considered, namely: 1) Comply with governmental recommendations, 2) Avoid infecting others, and 3) Avoid getting infected. The results of phase 1 are shown in **Table 1**.

Except for sex and family income, in phase 1 there were significant differences in participants socioeconomic profiles that were associated with their motives for practicing social isolation. Those who practiced social isolation to follow the authorities' recommendation were older ($M = 39.17$, $SD = 15.18$) than those who practiced social isolation for other reasons. Those who did

TABLE 2 | Sociodemographic characteristics of the sample according to reasons for adherence to social isolation on phase 2 by means (age) and frequency (sex, marital status, profession, educational level, family income, risk group) ($n = 452$).

	Motives for practicing social isolation			Total	<i>p</i>
	Comply with governmental recommendations	Avoid infecting others	Avoid getting infected		
Age (Mean \pm standard deviation)	38.73 \pm 14.73	30.48 \pm 11.35	34.95 \pm 12.53	34.01 \pm 12.97	0.001**
Sex					
Female	81 (82.7)	151 (84.8)	141 (80.1)	373 (82.5)	0.50*
Male	17 (17.3)	27 (15.2)	35 (19.9)	79 (17.5)	
Marital status					
Married	32 (32.7)	36 (20.2)	52 (29.5)	120 (26.5)	0.04*
Divorced	10 (10.2) ^a	5 (2.8) ^b	11 (6.3) ^b	26 (5.8)	
Single	44 (44.9) ^b	118 (66.3) ^a	90 (51.1) ^b	252 (55.8)	
Stable relationship	11 (11.2)	16 (9.0)	20 (11.4)	47 (10.4)	
Widower	1 (1.0)	2 (1.1)	1 (0.6)	4 (0.9)	0.002*
Others	0 (0.0)	1 (0.6)	2 (1.1)	3 (0.7)	
Profession					
Retired	5 (5.1)	1 (0.6)	8 (4.5)	14 (3.1)	
Private sector	13 (13.3)	35 (19.7)	22 (12.5)	70 (15.5)	0.01*
Public sector	40 (40.8) ^a	42 (23.6) ^b	68 (38.6) ^a	150 (33.2)	
Self employed	19 (19.4)	36 (20.2)	26 (14.8)	81 (17.9)	
Unemployed	21 (21.4) ^b	64 (36.0) ^a	52 (29.5) ^b	137 (30.3)	
Educational level					
High school	0 (0.0)	3 (1.7)	5 (2.8)	8 (1.8)	0.01*
Undergraduate level	30 (30.6) ^b	86 (48.3) ^a	68 (38.6) ^b	184 (40.7)	
Graduate level	68 (69.4) ^a	89 (50.0) ^b	103 (58.5) ^b	260 (57.5)	
Family income					
Less than minimum wage	5 (5.1)	9 (5.1)	12 (6.8)	26 (5.8)	0.93*
Between 1 and 3 minimum wage	19 (19.4)	29 (16.3)	30 (17.0)	78 (17.3)	
Between 3 and 5 minimum wage	20 (20.4)	38 (21.3)	43 (24.4)	101 (22.3)	
Between 5 and 10 minimum wage	28 (28.6)	53 (29.8)	51 (29.0)	132 (29.2)	
Between 10 and 20 minimum wage	18 (18.4)	33 (18.5)	32 (18.2)	83 (18.4)	
More than 20 minimum wage	8 (8.2)	16 (9.0)	8 (4.5)	32 (7.1)	0.001*
Risk group					
No	68 (69.4)	154 (86.5)	118 (67.0)	340 (75.2)	
Yes	30 (30.6) ^a	24 (13.5) ^b	58 (33.0) ^a	112 (24.8)	

*Pearson Qui-squared (n , absolute frequency; %, relative frequency). **Kruskal-Wallis test (mean \pm standard deviation).

^aEqual letters on the same line indicate no significant difference in post hoc.

^bEqual letters on the same line indicate no significant difference in post hoc.

not want to infect others were more often unmarried than married, active in the labor force of the private sector, and educated at the “undergraduate level”. People who declared that they were at risk reported more often to practicing social isolation to comply with governmental recommendation and to protect themselves.

Table 2 summarizes the same information but for phase 2, showing significant differences between the principal motive for socially isolating and some sociodemographic characteristics, except again for sex and family income as well as, now, for geographic region.

In phase 2 people who practiced social isolation to comply with governmental recommendation were older and more often divorced. The unmarried were more prone to report practicing social isolation to avoid infecting others.

Different from phase 1, on phase 2 the public workers were less motivated to social isolate to avoid infecting others. However, as in phase 1, in phase 2 unemployed persons, more than other groups, practiced social isolation to avoid infecting others. This group had more individuals with a “undergraduate level” of education. People with a “graduate level of education”, more

likely practiced social isolation. Also, people in the “at risk” group reported more often to practicing social isolation to comply with governmental recommendation and to protect themselves. Employees in the public sector reported more frequently practicing social isolation to comply with governmental recommendation.

Phase 1 had more than three times more participants than phase 2. The sex and age distributions were similar in both phases.

Table 3, 4 show the psychological characteristics of the respondents by motives to practice social isolation in phases 1 and 2, respectively.

In phase 1, those who practiced social isolation to comply with governmental recommendations presented different mean scores on almost every psychological scale compared to those who practiced social isolation to avoid infecting others or themselves (**Table 3**), even when controlling for a set of sociodemographic covariates (see significative variables on **Table 1**). More specifically, people who practiced social isolation to comply with governmental recommendations had lower scores on neuroticism and conscientiousness, had less

TABLE 3 | Personality trait and psychological characteristics according to reasons for adherence to social isolation on phase 1.

	Motives for practicing social isolation			<i>p</i> *	<i>p</i> **
	Comply with governmental recommendations	Avoid infecting others	Avoid getting infected		
Agreeableness	20.27 ± 2.88	20.16 ± 2.86	19.96 ± 3.13	0.42	0.25
Neuroticism	13.69 ± 4.59a	15.50 ± 4.31b	15.19 ± 4.35b	< 0.001	< 0.001
Extroversion	17.33 ± 3.64	16.65 ± 3.98	17.14 ± 4.19	0.003	0.80
Openness	15.62 ± 3.74	15.50 ± 3.76	15.21 ± 3.73	0.12	0.31
Conscientiousness	21.03 ± 3.07a	20.36 ± 3.04b	20.70 ± 3.17	< 0.001	0.02
Mindset for stress	10.01 ± 6.24	9.43 ± 6.32	8.85 ± 5.98	0.007	0.008
Stress	7.11 ± 5.02a	8.68 ± 4.78b	8.16 ± 4.80b	< 0.001	< 0.001
Anxiety	4.50 ± 5.10a	5.96 ± 5.38b	5.60 ± 5.42b	< 0.001	< 0.001
Depression	5.76 ± 5.33a	7.15 ± 5.65b	6.71 ± 5.40b	< 0.001	0.001
K-10	23.50 ± 8.67a	26.83 ± 8.52b	25.60 ± 8.39c	< 0.001	0.001
Meaning of life	22.14 ± 6.90	21.91 ± 6.71	21.83 ± 6.62	0.71	0.33
Positive affects	31.21 ± 8.13a	28.44 ± 7.59b	28.33 ± 7.54b	< 0.001	0.001
Negative affects	26.23 ± 9.29a	29.18 ± 8.75b	28.57 ± 8.80b	< 0.001	0.001

*Kruskal-Wallis Test; **ANCOVA test.

^aEqual letters on the same line indicate no significant difference in post hoc.

^bEqual letters on the same line indicate no significant difference in post hoc.

^cEqual letters on the same line indicate no significant difference in post hoc.

TABLE 4 | Psychological characteristics according to reasons for adherence to social isolation on phase 2.

	Motives for practicing social isolation			Total	<i>p</i> *	<i>p</i> **
	Comply with governmental recommendations	Avoid infecting others	Avoid getting infected			
Mindset for stress	9.74 ± 6.12	10.06 ± 6.03 ^a	8.78 ± 5.96 ^b	9.49 ± 6.04	0.11	0.02
Stress	8.80 ± 5.38	10.15 ± 5.04	9.68 ± 5.46	9.67 ± 5.29	0.11	0.84
Anxiety	4.41 ± 4.85	5.15 ± 4.68	5.54 ± 5.43	5.14 ± 5.03	0.16	0.25
Depression	6.15 ± 5.10	7.62 ± 5.75	6.60 ± 5.32	6.90 ± 5.47	0.09	0.67
K-10	24.05 ± 8.22	26.49 ± 8.58	25.48 ± 8.73	25.57 ± 8.59	0.09	0.85
Meaning of life	22.96 ± 6.60	22.93 ± 6.41	22.80 ± 6.40	22.88 ± 6.43	0.84	0.42
Positive affects	27.08 ± 7.59	27.25 ± 7.58	27.05 ± 8.00	27.14 ± 7.73	0.91	0.32
Negative affects	26.57 ± 8.37	28.67 ± 8.76	28.14 ± 8.69	28.01 ± 8.67	0.19	0.70

*Kruskal-Wallis Test; **ANCOVA.

^aEqual letters on the same line indicate no significant difference in post hoc.

^bEqual letters on the same line indicate no significant difference in post hoc.

stress, anxiety, depression, and general distress, more positive affect, less negative affect and tended to see stress in a more positive way than others.

On phase 2, we could not find the difference observed on phase 1 for psychological characteristics. The results are shown below in **Table 4**.

The only significant difference that we found was on stress mindset when controlling for a set of sociodemographic covariates (see significative variables on **Table 1**). People who practiced social isolation to avoid infecting others tended to see stress in a more positive way than those who did it to avoid getting infected.

DISCUSSION

The pandemic presents the deepest public health and economic crisis of our times. Extreme measures have been taken: countries are in lockdown; borders have closed; and individuals were

socially isolated for the collective health (Matthewman and Huppertz, 2020). Specifically, in the Brazilian context, the effects of the pandemic were further aggravated by social inequalities and high-income concentration by specific groups in society. Social inequality is a driver of disaggregation and concrete vulnerabilities (Godinho, 2011). Also, Brazil is a large and diverse country with strong spatial heterogeneities in terms of demography, age distribution and access to public health. Considering these inequalities, the Covid-19 pandemic should impact these populations differently (Coelho et al., 2020) and engender different ways of coping with the pandemic and social isolation. Understanding of psychosocial aspects related to social isolation and the behavior of individuals in the context of a distressful event like the pandemic could help produce better public help policies. As a result, this study investigated whether people who reported practicing social isolation for reasons of social commitment such as to avoid infecting others, presented different psychological and sociodemographic profiles than those who were moved by other considerations and rationales, such as

to comply with governmental recommendations or to avoid getting infected. More respondents participated in the survey in April than in July, but the two phases (phase 1 and 2) have similar sociodemographic profiles. The results of this study indicate that people who practiced social isolation as a social commitment were younger, mostly single, and with a “undergraduate level” of education. They were more often employed in the private sector (phase 1) and less frequently in the public sector (phase 2) and they perceived themselves as not being in the risk group. This finding opens an interesting scenario of the pandemic in Brazil, where the younger and better educated, with access to scientific information, also displayed greater social commitment and pro social behaviors in face of the pandemic. These same people had higher neuroticism levels and less “conscientiousness” levels compared to those who socially isolated to comply with governmental recommendations. These results are consistent with findings in the international literature stating that people who are higher in neuroticism tend to avoid risks (Jonason and Sherman, 2020). Although our sample is composed of young adults, the ones who have higher levels of neuroticism appeared to be more prone to worry about the social consequences of their behavior. This suggests that psychological characteristics, like personality traits or individual perceptions of risk, correlate with resilience to stressful personal and collective events. It also means that such traits have a social impact, as they manifest in pro-social behaviors and actions that benefit the collectivity.

Our data also reveal that the group that declared that they socially isolate to comply with governmental recommendations had higher levels of conscientiousness, mostly worked in the public sector, and are older. Those who have a more conservative profile seems to be associated with engagement in social isolation “to do the right thing” or what is socially expected, without questioning it (Zajenkowski, et al., 2020). In terms of mental health, these people reported less psychological distress, anxiety, depression and stress, negative affect, and more positive affect. In a sociological perspective, these results are aligned with the article by (Matthewman and Huppatz, 2020), entitled “A sociology of Covid-19”. For the authors, the Covid-19 pandemic provides opportunities for ‘disaster capitalists’ to profit and it will enhance certain forms of surveillance, and it will impact some groups far more negatively than others.

Results from Phase 2 present a different scenario and warrant attention, and a preamble on the current political and social situation in Brazil. In the first month of the pandemic, the health minister communicated with the public and provided guidelines and procedures to face the Covid-19 pandemic in a daily national report. Official media reported daily the number of people affected by Covid-19, the number of deaths, and statistics on the spread of the virus. It was made clear what actions were expected of individuals to be done and what each Brazilian region was facing and should do. However, because of political factions and internecine tension in the political establishment, this flow of data and information was put to a halt. The health minister was replaced more than once, and in the third month of the pandemic there was no health minister to lead the management and response to the pandemic. This situation still persists despite

evidence and research from multiple disciplines that highlights the importance of production and access to transparent information and of governmental leadership to face better adversity such as the current one.

So, in the first month of the pandemic in Brazil we conclude that people who reported that they engaged in social isolation to comply with governmental recommendations may have also had less psychological distress and negative health outcomes. In fact, they were told what to do; they had a clearly expected behaviors to follow. The stress they were facing could have been positive (stress mindset), and despite the stressful situation they were living, it was possible for them to still experience positive affect. This interpretation of the results aligns with the argument of (Lazarus and Folkman, 1984). According to their coping theory when individuals appraised the stress as a challenge, they are more prone to use problem focused coping strategies and got more positive health outcomes.

By the third month of the pandemic in Brazil the recommendations from the government became unclear and were highly inconsistent (Aquino et al., 2020; Moreira, 2020). We observed in our data an increase in psychological distress for this group (people who engaged in social isolation to comply with governmental recommendations). This can be partially explained by a phenomenon that, in the macrocontext, (Joia and Michelotto, 2020), explained as universalism x utilitarianism. The authors pointed out that the pandemic made explicit that the Brazilian population is divided into two contrasting philosophical approaches: the universalism—understanding life as an asset of infinite value and, therefore, more important than the country’s economic preservation—and the utilitarianism—where the focus is on the mitigation of the Covid 19 pandemic-enabled economic crisis. The main cause for these different sense-makings is associated with the lack of a monosemic definition for the Covid-19 pandemic construct. The authors add that trends emphasized by experts, such as a new-normal and the digital transformation of society, played a peripheral role in the social representation of the Covid 19 pandemic in Brazil. So, for the ones who were following the governmental recommendations, which have prioritize since the begging of the pandemic the economic aspect, the lack of recommendation plus the increase of economic problems caused by the pandemic increase the psychological distress.

This paper described some personality traits that fit the universalist profile, and others the utilitarian postulated by (Joia and Michelotto, 2020). In this way it can help to understand the macro category of Brazilian social reality nowadays and the way the Brazilian Society are facing the Covid pandemic.

Limitations and Further Research

We recognize the limitation of using the internet and social media or social networks for the recruitment of the participants and for the administration of the questionnaire. In particular, we note the drop in response rate from one phase to the next. In phase 2, the respondents were less than a third than phase 1. In these few months, people were overstudied, and constantly solicited to respond to a variety of internet surveys on all aspects of the Covid-19 pandemic. The proliferation of surveys and assessments unfortunately has not been accompanied by the application of

rigor and scientific standards of quality. Recent studies remind us of the need to balance between the easy and quick access to data worldwide via internet surveys and the slower and rigorous process that prevents cumulation of misunderstanding and research malpractices (Dinis-Oliveira, 2020) or sample bias (Nikolov et al., 2015).

As mentioned before, Brazil is a big country with great social disparities what can be observed also in the access to the internet, to information, and to health services (Barros et al., 2000). These disparities produce substantial bias, especially in data collection mediated by the internet. This is obvious in our study; compliance with social isolation, whatever the motive, was reported by about 95% of the respondents. In both phases, the average age was 34, and the sample was composed mostly of single women and professionals, undergraduate and graduate level of education. Also, the authors of this manuscript are university professors who utilized their social networks to circulate the links to social media and for engaging respondents in the survey (Nikolov et al., 2015). However, although all these observations must be taken into account they highlighted once more the necessity of accessing psychosocial aspects to understand better social behaviors especially in complex societies like Brazil.

CONCLUSION

This study shows that in phase 1, people who practiced social isolation to comply with governmental recommendations reported less psychological distress, anxiety, depression and stress, negative affect and more positive affect than people with other motives. But that result was not reproduced in phase 2 three months after the pandemic began in Brazil. The data point to the importance of considering the psychological characteristics and their influence on the social behavior of individuals and on supportive (pro-social) behavior, even in a period of significant stress and high social risk.

In terms of personality traits, the group which socially isolated to avoid infecting others was also the one which has higher neuroticism levels and less conscientiousness levels compared to those who practiced social isolation to comply with governmental recommendations. This finding is consistent with research on people who are higher in neuroticism and who also tend to avoid risks (Jonason and Sherman, 2020). Our results remind of the importance of considering psychological traits and their influence on individuals' social and pro-social behavior, even in a period of significant stress and high social risk.

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According to Singu et al. (2020), studying the social determinants of health, and how they impact populations during times of crisis, will help governments to manage better health emergencies. This seems to be particularly important in the case of Brazil, a country of continental dimensions and with great economic inequality. We argue that government actions based on empirical evidence are particularly important.

Our results can support the development of public policies. However, it is important to highlight that Brazil is a new nation, in all senses, including the maturity of its public policies as actions and services that serve the citizen as a subject of rights. In Brazil, thinking about coping with this social, political, economic and culturally constituted reality is to conceive a set of structuring public policies, capable of acting intersectorally and jointly with the purpose of guaranteeing citizens access to all legally constituted rights. Social policies should not be operationalized without considering their social context, their intervention reality, and in the case of Brazil, their context of poverty and social inequality (Godinho, 2011).

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

This study followed ethical recommendations for research with human beings. The participants provided their written informed consent to participate in this study. The authors declare that the research was carried out in the absence of any type of commercial or financial relationships that could be interpreted as a potential conflict of interest in the results found.

AUTHOR CONTRIBUTIONS

DSZ was responsible for the research design, the data analysis, results interpretation and the manuscript writing. EMP was responsible for the research design, the literature review, analysis interpretation and manuscript writing. JMA contributed to the literature review, research design, results interpretation and manuscript writing. LT reviewed and edited two iterations of the manuscript. All authors read and approved the final manuscript.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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