COVID-19 pandemic in a local town in the Amazon: socio-political and socio-cultural scenarios in São Caetano de Odivelas, Pará

José Guilherme dos Santos Fernandes[1]
Talita Vieira Aranha[1 2]
Rondinell Aquino Palha[1]

[1] Colaboratório de Interculturalidades, Inclusão de Saberes e Inovação Social, Programa de Pós-Graduação em Estudos Antrópicos na Amazônia, Universidade Federal do Pará, Belém, PA, Brasil

[2] Secretaria Municipal de Planejamento, Prefeitura Municipal de São Caetano de Odivelas, PA, Brasil

Abstract

This study aims to record clinical and epidemiological data on COVID-19 in the local town of São Caetano de Odivelas (PA), in order to propose guidelines for the control of the pandemic and to reverse the socio-economic impacts. A form elaborated in the Google Docs application was used, by 200 respondents, followed by analysis and interpretation based on discourse and socio-cultural characteristics, revealing the ideology of political groups that hinder public policies, as well as the absence of socio-anthropological aspects in the consideration of sanitary measures. To conclude, three lines of action are proposed: awareness and clarification for the public concerning the pandemic, configuration of contagion networks based on families, and the guarantee of income and provisions for workers.

Keywords: COVID-19. Local town. Amazon. Socio-anthropology. Public policy.

e19902
http://doi.org/10.1590/1809-43412022v19e902

Pandemia de COVID-19 em cidade local na Amazônia: cenários sociopolítico e sociocultural em São Caetano de Odivelas, Pará

Resumo

Este estudo tem por objetivo registrar dados clínicos e epidemiológicos sobre a Covid-19 na cidade local de São Caetano de Odivelas (PA), a fim de propor diretrizes para o controle da pandemia e para a reversão de impactos socioeconômicos. Utilizou-se formulário elaborado no aplicativo Google Docs, através de 200 informantes, com análise e interpretação baseadas no discurso e em aspectos socioculturais, relevando-se a ideologia de grupos políticos que dificultam as políticas públicas, bem como a ausência de aspectos socioantroplógicos em consideração às medidas sanitárias. Ao fim, propõe-se três eixos de ação: conscientização e esclarecimentos ao público sobre a pandemia, configuração de redes de contágio a partir de famílias e garantia de renda e abastecimentos aos trabalhadores.
Palavras-Chave: Covid-19. Cidade local. Amazônia. Socioantropologia. Políticas públicas.

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Introduction

The global crisis provoked by the COVID-19 pandemic affected not only large cities, but, on a reduced scale, had its reflection in local towns in the interior of the Amazon, since these towns are linked to large regional urban centres and are dependent on them, for supplies, for services, or through the internal migration of productive force from local towns, who later send financial resources to the families who remain in their towns of origin. What characterises a local town for Santos (2008: 87) is 'a polarising activity and, given the functions they exercise at the primary level, we could almost speak of *subsistence towns*'. This is the case of São Caetano de Odivelas[1], the town which this research focuses on, due to its polarising extractive fishing activity that characterises it as a society of primary economic activity and traditional cultural practices. Following the need for social isolation and the limitations of lockdown, much was lost in this flow between metropolises and towns in the interior, causing local towns to collapse due to the unemployment of migrant workers, in addition to the lack of local perspective following the closure of non-essential activities for the self-employed and restrictions on freedom of movement in these communities marked by close daily relationship among families and within neighbourhoods. Because local towns are marked by polarising, borderline subsistence activities, which in our *locus* translates into the prioritisation of artisanal fishing activities and sport fishing tourism that the local economy revolves around. In addition, only public services provide employment, and the remainder mostly survive on resources from social programmes, primarily *Bolsa Família* (a direct income programme for families in extreme poverty), which constitutes a second source of income (27.5%) according to those interviewed in this research.

In this scenario, the pandemic becomes an aggravating factor, more social than sanitary, as local residents must choose between protecting their health, remaining isolated or socially distanced in their homes, or draw on their survival activities in which they need to go out into the streets and public spaces daily, where the necessary precautions to avoid contagion are not always present. This lack of options for both survival and protection from conditions that promote transmissibility are factors that favour the pathological nature of the novel coronavirus, SARS-CoV-2, responsible for COVID-19, since its means of transmission are air dispersal

1 A town located in the coastal region of the State of Pará, in the micro-region of Salgado, with a population of 18,050 inhabitants, according to IBGE projection (2019). Its economy is based on fishing several species of fish and crustaceans, and it provides this product for the state capital, in addition to the incipient provision of services. The town was founded in the eighteenth century, but did not fully develop to become a pole in the region, which has been assumed by the town of Vigia, 18 km away. Its population has a reasonable level of education, predominantly high school and some higher education, since the town has a university centre of the Federal University of Pará (UFPA).

(in droplets) or contaminated surfaces (depending on the material), which are very common in highly crowded public spaces with no proper hygiene. The severity and speed of contagion and manifestation means that, after around five days of incubation, the virus reaches the respiratory system following entry through the mouth, nose and eyes (mucosa), settling in the throat, larynx and trachea, later passing to the lungs, and from there to the blood system, disseminating throughout the body. It is a virus, that is, an acellular (primitive) organism, so it needs a host cell to reproduce and propagate, which is why it can be lethal in human beings.

This study seeks to unveil the reasons and practices of the socio-cultural relationships that resulted in the consequent clinical and epidemiological status of the pandemic in São Caetano de Odivelas, provoking socio-economic consequences. This is already sufficient a contribution to highlight the need for this research to generate information in relation to an invisible reality in the view of large urban centres and that of the nation-state, to which a huge part of the medical and financial resources are sent to combat the effects of the novel coronavirus.

This pandemic originated in China at the end of 2019 and quickly disseminated throughout the world, reaching Europe in February 2020 and Brazil in mid-March of the same year, due to its high degree of transmissibility and severity. Thus far, cases and doubts concerning COVID-19 have only increased, such that just over a year after its onset in Brazil (May 29, 2021), the COVID-19 numbers reported are as follows:

Table 1. Numbers for COVID-19 in Brazil

Total no. of deaths: 461,142
Deaths in 24 hours: 1971
Average of new deaths in the last 7 days: 1,836
Total confirmed cases: 16,471,009
Cases confirmed within 24 hours: 78,352
Average of new cases in the last 7 days: 60,644 per day

(Source: G1 – *Consórcio de Veículos de Imprensa* [Press Media Consortium][2])

In São Caetano de Odivelas, in addition to the lack of regular information regarding the disease in the town, the only official vehicle for disclosing data, the website of the *Prefeitura Municipal* [Town Hall; municipal government], is updated irregularly, on a weekly basis at best. On Abril 24, 2021, 1,058 confirmed cases were indicated, with 24 deaths[3], which implies a rate of mortality of 2.27%, considered low compared to the initial expectation of 3.4% of deaths published by the World Health Organisation (WHO)[4]. However, the lack of up-to-date information, low levels of testing and under-notification means we have certain reservations regarding official data.

The probable origin of COVID-19 disease is the proximity between humans and wild animals, specifically the consumption of live animals in the market in the city of Wuhan, China (Frutos et al., 2020), which caused the passage of the **causative pathogen from the outbreak** (condition 1) to its **transmitting human reservoir** (condition 2). Condition 3 is the presence of **human events** that can enhance transmission from the host to other humans, which is at the core of the hominid characteristic, that is, sociability. It is exactly these human

2 Given the discrepancies and unreliable information from the federal government regarding statistical data on the pandemic in Brazil, several press agencies decided to join forces to disseminate data based on information directly collected from the state health secretariats: *Folha de São Paulo*, *O Estado de São Paulo*, *Extra*, *O Globo*, UOL and G1. Available at: https://g1.globo.com/bemestar/coronavirus/noticia/2021/05/29/brasil-registra-1971-novas-mortes-por-covid-em-24-horas-e-vitimas-passam-de-460-mil.ghtml.

3 Aavailable at: https://saocaetanodeodivelas.pa.gov.br/boletim-epidemiologico-14-04-2021/

4 In early March 2020, the WHO estimated a mortality rate of around 3%, indicating that COVID-19 effectively kills more than seasonal flu: "Globally, about 3.4% of reported COVID-19 cases have died. By comparison, seasonal flu generally kills far fewer than 1% of those infected" (WHO, 2020).

events that potentiated the transmission and caused the pandemic, since the main problem with regard to stopping the spread of the disease is the control of agglomerations and the maintenance of social distancing, with the use of masks in collective spaces. This seems to be the challenge central for public policies, particularly regarding leisure and commemorative events and in the organisation of work activities to guarantee survival. Furthermore, in local towns, dependent on closer relationships between humans and the environment due to subsistence practices linked to extractivism and primary economics, the possibility of initial contagion between humans and animals is indeed possible, thus making these towns and their livelihood practices the focus of future epidemics.

It is from these considerations that the main research questions arise: what are the characteristics of sociability and conviviality in local towns that contribute to the clinical and epidemiological characteristics of the COVID-19 pandemic? What are the political obstacles to the success of actions to combat COVID-19? What are the most effective measures to minimise the effects of the pandemic, whether these are sanitary or socio-economic? Our objectives in this research were: to record the clinical and epidemiological data of the population of the São Caetano de Odivelas; propose actions to minimise contagion and transmission and the socio-economic impacts on the population; and understand the socio-anthropological interventions in the execution of public policies.

Our hypothesis is that more investment is required to clarify the clinical and epidemiological characteristics of the disease among the local population – hence the need for information and clarity concerning the behavioural data of the pandemic –, together with a lack of public policies to minimise the socio-economic impacts of unemployment and impoverishment of the population due to the suspension of survival activities, which mark the polarisation between health and economic survival in local towns. Similarly, there is a lack of determination for systematic actions to inspect and control economic activities and commemorative and leisure practices, where agglomerations are potentiated, elements of socio-anthropological aspects that are not considered in the planning and execution of public policies during the COVID-19 pandemic. Furthermore, it is worth highlighting that

> l n'y a pas de société où la maladie n'ait une dimension sociale et, de ce point de vue, la maladie, qui est aussi la plus intime et la plus individuelle des réalités, nous fournit un exemple concret de liaison intellectuelle entre perception individuelle et symbolique sociale (Augé, 1986: 82)[5]

This means that the disease is a social phenomenon since the sick body threatens the cohesion of the individual in relation to their social group, either because of the affectivity of the condition or because of the patient's inability to exercise their regular functions in their community. Therefore, based on this relationship between the patient and society, implications are established in accordance with cultures and particular contexts, such as solidarity, marginalisation, integration in new social structures, access to new statutes or forms of expression (Meyer, 2008).

The COLINS Research Group – *Colaboratório de Interculturalidades, Inclusão de Saberes e Inovação Social* [Collaboration on Interculturalities, Inclusion of Knowledge and Social Innovation], linked to the *Programa de Pós-Graduação em Estudos Antrópicos na Amazônia* (PPGEAA) [Post-graduate Programme in Anthropic Studies in the Amazon] of the Federal University of Pará (UFPA), Castanhal Campus –, has already conducted an initial research survey related to the COVID-19 pandemic, though primarily addressing social issues related to social isolation and distancing, considering the characteristics of the local town of São Caetano de Odivelas. This study was entitled '*Fatores de Antropização no Isolamento e Distanciamento Sociais durante a Pandemia de Covid-19:*

5 'There is no society where illness does not have a social dimension and, from this point of view, illness, which is also the most intimate and the most individual of realities, provides us with a concrete example of intellectual connection between individual perception and social symbolism.'

estudo de caso em cidade local da Amazônia estuarina' [Factors of Anthropization in Social Isolation and Distancing during the COVID-19 Pandemic: a case study in a local town in the estuarine Amazon] (Fernandes et al., 2020), and reached the conclusion of that public policies of central governments are not always accepted or followed by local populations, since there exists a hiatus between national universalising standards and models and local practices and values. Therefore, these deserve to be adapted in accordance with local towns, implying recognition of different forms of anthropization that consider local groups based on their ways of establishing and maintaining their territory, as concerns property, affective bonds, history of occupation in collective memory, social use, and forms of defence; at this time, these aspects are materialised in the autonomy of these places to use and move in their ancestral territory, with impediments due to social isolation.

Material and Methods

Data collection was performed from June 1 to 16, 2020, and involved around 200 residents of the municipality of São Caetano de Odivelas (slightly more than 1% of the population), in the town hall. Collection was performed by the COLINS research group, responsible for this initiative, linked to the PPGEAA of the UFPA.

The town has an estimated population of 18,050 inhabitants (IBGE, 2019), thus the selected sample is approximately 1.1% of the population. Due to the limitations of transport, the limitations of the internet and mobile phone networks, and restrictions regarding social distancing resulting from the pandemic, we chose to perform the data collection in the town hall building, where we were able to provide mobile phone access to apply the questionnaire. The town was divided into six neighbourhoods or communities: Centro (21.6% of the sample), Umarizal (16.2%), Pepéua (14.2%), Marabazinho (24.5%), Cachoeira (13.7%) and Belém Nova (9.8%).

We used Google Forms to develop the questionnaire, available at: https://forms.gle/aXirMdNe3qkqWB87A. After contacting possible participants, and after they agreed to take part in the research, the researchers sent the form to their mobile phone. Initially, a term of free, informed consent[6] was presented, to which the participant had to agree, and only after they agreed could they access the form. There is a record of mobile phone numbers for further auditing of the participants' agreement. The complete results of the interviews conducted, in terms of percentages, can be accessed at this link: https://docs.google.com/forms/d/e/1FAIpQLSeISSgozpKf9InYQKk5eWymGivoQffMOrUmyeL3__KUiMozVA/viewanalytics.

The universe surveyed is composed of 53.9% women and 46.1% men, in the following age groups: 10-19 years old, 1.4%; 20-29 years old, 15.3%; 30-39 years old, 22.2%; 40-49 years old, 20.7%; 50-59 years old, 15.35%; and ≥ 60 years old, 25.15%. The origin of their main income is: 33.8% self-employed; 27.5% on social benefits; 19.6% public servants; and 9.8% unemployed. Given this profile of work activities, in which the majority of individuals had to guarantee their survival on a daily basis, the conditions of work activities were as follows: 40.4% in-person work activities; 29.1% in suspended activities; 27.1% of unemployed individuals; and only 3.4% in remote work. When you add the workers performing in-person activities (40.4%) to the percentage of unemployed (27.1%), you have 67.5% of the population surveyed that needs to leave home every day to guarantee

6 The text of the term of free, informed consent: "Você está convidado(a) a participar da pesquisa Pandemia em Cidade Local – PANLOC, que tem por objetivo registrar dados clínicos e epidemiológicos da COVID-19, no Município de São Caetano de Odivelas, Pará. O motivo que nos leva a estudar este fenômeno é a falta de testagem para o público e a possibilidade de grande número de casos suspeitos, fatores que têm impedido o real planejamento de estratégias para a minimização dos efeitos da Pandemia a curto e médio prazos. Para esta pesquisa utilizaremos formulário com perguntas objetivas. O motivo deste convite é que você se enquadra no perfil, pois é morador (a) desta Cidade. Você será esclarecido(a) sobre a pesquisa em qualquer aspecto que desejar e estará livre para partcipar ou recusar-se a participar, retirando seu consentimento ou interrompendo sua participação a qualquer momento. Para participar desta pesquisa, Você não terá nenhum custo, nem receberá qualquer vantagem financeira. O pesquisador irá tratar sua identidade com padrões profissionais de sigilo e privacidade, sendo que seu nome ou material que indique sua participação não será liberado sem sua permissão. Os resultados desta pesquisa estarão a sua disposição quando finalizada. Ao responder às questões do formulário e enviá-las, automaticamente Você estará concordando com sua participação, declarando ter sido ESCLARECIDO dos objetivos e ACEITADO LIVREMENTE o uso de suas respostas para finalidades acadêmicas-científícas".

basic provisions, which strongly determines any policy to minimise contagion by COVID-19, since it is evident that the greater the flow of people in public spaces, the greater the chances of contagion and dissemination of the disease. Naturally, any public policy must consider this socio-economic reality in the town, one which likely has echoes in many towns throughout the interior of the Amazon.

Add to this socio-economic reality, which drives workers in their daily search for resources to guarantee their provisions, another historical and cultural aspect in local Amazonian towns, that of prolonged residence in the same house: 69.6% declared that they had lived longer than 5 years in the same residence, while 22.1% declared between 1 and 5 years of residence, and 8.3% less than 1 year. This data implies that a large portion of the population surveyed maintains close social relationships with their neighbours, when the latter are not relatives who live within the same perimeter, leading us to conclude that social isolation is almost impossible to accomplish, since parents, godparents and surrounding relationships are prioritised. Hence, a good portion of the interviewees stated that they probably acquired the disease at home, an aspect discussed below. We can even highlight this cultural practice as one answer to the research question – what are the characteristics of sociability and conviviality in local towns that contribute to the clinical and epidemiological features of the COVID-19 pandemic? – since sociability in local towns is established daily, in close relationships between family members and neighbours.

The characteristics of the identification profile (questions 1 to 10, in the form) of the interviewees present a scenario that largely explains the failure of general policies to control contagion and transmission, since controlling the population in their homes and among family breaches the constitutional guarantee (Art. 5, Clause X, in Brasil, 2006) of the inviolability of intimacy and private life. By getting to know the identity and cultural aspects of the local reality better, it is possible to attain greater success in raising awareness of the facts and orientations, through assertive public policies aimed at combating the pandemic.

The form was elaborated as follows[7]:

Table 2. Clinical and Epidemiological Data Form

CLINICAL DATA
11 – Approximate date of the first symptoms _____/_____/2020 12 – Average duration of the first symptoms ( ) 1 week ( ) 2 weeks ( ) > 2 weeks ( ) Still present 13 – Type of care ( ) Hospital ( ) Outpatient ( ) Home ( ) None of the above 14 – Intensity of symptoms ( ) Mild ( ) Moderate ( ) Severe

7 The Ministry of Health *Ficha de Notificação do SINAN – Sistema de Informação de Agravos de Notificação* [Notifiable Diseases Information System (SINAN) Notification Sheet] was used as a reference for this form. Available at: http://portalsinan.saude.gov.br/images/documentos/Agravos/NINDIV/Notificacao_Individual_v5.pdf.

15 – Tests
( ) Rapid Test
( ) Laboratory
( ) Imaging
( ) None of the above

16 – Test results
( ) Positive
( ) Negative
( ) Inconclusive
( ) No test performed

17 – Local healing practices
( ) Tea (leaves and roots)
( ) *Garrafadas*[8] (maturation)
( ) All of the above
( ) None of the above

18 – Use of medication (check all that apply)
( ) Analgesic/antipyretic
( ) Anti-inflammatory
( ) Antibiotic
( ) Anticoagulants
( ) None of the above

19 – Pre-existing diseases (check all that apply)
( ) Diabetes
( ) Heart disease
( ) Cancer
( ) Respiratory diseases (rhinitis, sinusitis, asthma)
( ) Hypertension
( ) Lung diseases
( ) None of the above

20 – In cases showing recovery from symptoms, which of these measures were taken
( ) Clinical tests
( ) Laboratory tests
( ) Imaging tests
( ) All of the above

EPIDEMIOLOGICAL DATA

21 – Possible place of contagion
( ) Residence
( ) Neighbourhood
( ) Public space/road
( ) Workplace
( ) Business or commercial space
( ) Don't know

22 – Frequency of domestic purchases and services
( ) Daily
( ) Weekly
( ) Monthly

23 – What preventive measures are most frequently used. (Check all that apply)
( ) Hand sanitisation
( ) Avoiding close contact
( ) Use of masks
( ) Household cleaning
( ) All of the above
( ) None of the above

8 In general, these are alcohol-based infusions of herbs and plant materials made in a bottle – a '*garrafa*'.

24 – Measures taken at the onset of symptoms
( ) Isolation
( ) Distancing
( ) Neither

25 – Preconditions for contagion
( ) Travel to an area of risk
( ) Contact with suspected case
( ) Contact with confirmed case
( ) All of the above

26 – Told health authorities about the symptoms.
( ) Yes
( ) No

27 – If you told health authorities about the symptoms, how would you classify the service?
( ) Good
( ) Regular
( ) Poor
( ) Excellent
( ) Did not communicate

28 – What activities need preventive control during the pandemic. (Check all that apply)
( ) Domestic/Family events
( ) Religious events
( ) Sports event
( ) School
( ) Parties and festivities
( ) Work

29 – What conditions do you believe increase the aggravation of transmission. (Check all that apply)
( ) Sanitary conditions
( ) Housing conditions
( ) Transport conditions
( ) Food conditions
( ) Health care service deficiencies
( ) All of the above

30 – How would you evaluate local actions to fight the pandemic.
( ) Good
( ) Regular
( ) Poor
( ) Excellent
( ) Don't know

Source: Elaborated by the authors.

The data prioritised in this research is composed of the clinical and epidemiological characteristics of those surveyed. The reason for this is the lack of supplies for laboratory tests, which are applied to a large part of the population, especially serological tests. This restricts us to the possibility of inferring the occurrence of the disease in the participants, while providing us with signs for possibly tracking carriers of the virus and antibodies, and tracing the epidemiology of COVID-19 in the town. Clearly, the data presented here are insufficient to define public policies to combat the disease at the local level, and this now urges us to conduct extensive testing on the population so we can define the real panorama of people who have already acquired the disease and who are apparently immune, which will provide us greater certainty in actions to open up and control economic, social and cultural activities. However, the possibility of testing is beyond our purview, and at this time, we can only strive to present the data collected and suggest that the local government officials apply the proper means to ensure the full health of the contributors, since more than two thirds of the population that participated in the research presented symptoms, without undergoing any type of testing (72.3%).

Furthermore, of those who were tested through their own efforts, virtually all were positive for contagion (27.2%), while a mere 0.5% had an inconclusive response to the test. This demonstrates that a large part of the population consists of underreported cases, which further justifies an action for mass testing.

Results and Discussion

First, we briefly discuss the **clinical data** generated by the application of the survey form:

a) There was a peak in symptoms in the first fortnight of April, with the majority of symptoms lasting up to two weeks (65.8%), in line with that currently observed elsewhere; in a few cases the symptoms lasted for more than a month (5.5%), in such cases this configures more permanent sequelae;

b) Most of those who participated presented mild symptoms (63.4%), and thus were treated at home (53.0%) and/or in outpatient clinics (32.2%). Those who were moderately symptomatic stood out (34.2%), with some likely being cared for in hospital (9.4%). Around 5.4% of respondents received no medical care;

c) Tests were not performed on the vast majority respondents (72.3%), while the rapid test was performed on about one in five participants (17.8%). The test results indicated 27.2% were positive and 0.5% were inconclusive;

d) During the curative process, respondents indicated priority use of analgesics and antipyretics (97.0%), followed by anti-inflammatory drugs (67.3%) and antibiotics (59.9%). The use of traditional healing practices is surprising, including teas (75.7%) and *benzimentos* [blessings] and/or massages (1.1%), with 15.8% claiming the use of all these traditional medicine practices, including the use of *garrafadas* containing herbs and roots;

e) Respondents claimed pre-existing diseases of the respiratory tract – asthma, sinusitis, respiratory allergies in general, lung diseases (29.0%) –, followed by hypertension (29.0%), and diabetes (19.5%), but a good portion did not claim any pre-existing disease (37.5%). After recovering from symptoms, 86.1% did not undergo any exams to confirm the infection, but 11.4% were submitted to clinical tests and 2.5% to imaging exams.

Regarding the **epidemiological data**, they were organised as follows:

f) For 35.6% of respondents the contagion occurred at home and 12.9% believe it occurred in a public space/street. Contagion was favoured in these environments because 48.0% confirmed that they left the house daily for domestic supplies or worked in-person (40.4%) or as self-employed workers (33.8%). Only 31.7% purchased supplies weekly, and 20.3% monthly;

g) Routine contact with the neighbourhood suggests that 22.8% became infected through this means, while 17.3% believed that contagion occurred at work, and 11.4% did not know where it occurred. Frequent contact with the neighbourhood is supported by the fact that 69.6% have lived in the same house for more than 5 years;

h) During their symptoms, 60.4% practiced social distancing and 19.3% isolation. One in five respondents (20.3%) did nothing to prevent transmission to others; however, they claimed to practice preventive measures like hand sanitising (62.6%), use of a mask (61.1%), house cleaning (40.9%), or all of these measures (37.9%), even though only 7.4% had avoided close contact;

i) More than half informed the health authorities of their symptoms (56.4%), even though 44.6% said they had not received a return concerning their demands. Despite this, 46% classified health care by local authorities as regular or good;

j) Regarding the need to control social and collective activities, respondents said that parties and festivities (98.5%), sporting events (97.5%), religious events (91.1%), and school activities (90.6%) should be avoided. Concerning the conditions that aggravate transmission, respondents affirmed that attention should be paid to sanitary conditions (73.9%), transport conditions (70.4%), deficiencies in health care (69.8%) and housing conditions among the population (24.6%).

Before proceeding with a discussion of the data presented so orientations for municipal public policies can be indicated, there must be factors that can ascertain these policies, since this implies ideological perceptions that determine priorities regarding official actions that should be followed to combat the pandemic.

Local political barriers to the success of actions to combat COVID-19

We observed that the internal political relationships between the groups participating in local government implicated the partial private use of medical information concerning the disease, and this has generated public policies in accordance with the interests of these groups, based on the need to open up economic activities and prevent contagion, through limiting economic activities in the municipality, which has led to misunderstandings concerning the scientific conditions of the pandemic.

A clear example of this bias was the participation of our research group, COLINS, actuating at the *Núcleo Universitário de São Caetano de Odivelas* (NUSC) [University Centre of São Caetano de Odivelas] of UFPA, in official actions to combat COVID-19. Following the establishment of the Crisis Management Committee by the town hall, resulting from the decree of a state of public calamity (Decree no. 008/2020 – Municipal government of São Caetano de Odivelas, on May 6, 2020), the scientific and higher education institution actuating in the town was initially not invited to participate, in spite of an urgent need for the scientific evaluation of actions to combat the pandemic, a notorious public fact. This despite municipal law no. 166/2018, which created the university centre, and guarantees that one of the objectives of the centre is to 'foster institutional and local development, through research and the application of methodologies that meet local-regional demands.' Worse still, the decree of a public calamity did not specify the university's participation in the composition of the Crisis Management Committee (Art. 3).

Only after communication from the NUSC, and the intervention of the Municipal Secretariat for the Environment, did the local government formalise an invitation for the results of this research to be presented, through Official Letter no. 026/2020, from the Mayor's Office. Even so, the presence of the university was subject to the condition of assisting in the committee's actions, and not as an institution with the right to debate the issues with the committee. The meeting took place on June 24, 2020, and during the presentation it was highlighted that the research was not conclusive, because up to that time it had not generated a final report. We observed that the interests of the conflicting groups in the municipal administration were using the partial results presented to justify the maintenance of the state of calamity, on the one hand, or the opening of economic activities, on the other. The Secretariat for Municipal Planning even advocated the creation of a specific protocol so that a circus group, which had arrived in the town in the beginning of March 2020, could present to the community in order to generate money and leave. At that time, the group had been stuck in the town because it had insufficient funds to leave and continue to entertain in other towns, causing an inconvenience to the mayor, since they asked the town hall for financial aid almost daily to maintain the troupe. This indicates that the committee had no strategic plan up to this point, except for the presentation of the particular demands of each participant, in general, the heads of municipal departments. Given this reality, the COLINS research group, representing the NUSC/UFPA, suggested it should be included in the Crisis Committee and, should its membership in the group be approved, take charge of presenting a strategic planning proposal.

To our surprise, two days after the meeting, on June 26, 2020, the town hall issued Decree no. 027/2020 revoking Decree no. 008/2020 and suspending the state of calamity, thus extinguishing the Crisis Management Committee. In this manner, the participation of the university as a member of the committee was extinguished before it could be approved. Could it be apprehension about considering scientific research in the decision-making process, because scientific facts might bar private interests? Or perhaps the university institution

might compete with private interests? However, the most serious part in this situation was to come, because Decree no. 027/2020 cited, as a condition for ending the state of public calamity and the consequent institution of flexibility in opening up economic activities, the research presented at the meeting on June 24, 2020, clearly declaring in its text:

> CONSIDERING the survey conducted by the UFPA – University Centre of São Caetano de Odivelas publicized at link https://forms.gle/aXirMdNe3qkqWB87A **which shows a drop in rates for the current period**. (Emphasis added)

At no time, in the presentation of our results, did we issue an opinion that the rates of contagion and mortality were falling, mostly because the link indicated as a research source in the document directed respondents to a blank form to be filled in; it never presented results, which were only completed after a subsequent research report was carried out. In other words, scientific and academic sources were improperly used to endorse the particular interests of local government, since they were aware that the academic referendum could justify the suspension of the state of calamity and thus allow the opening up of economic activities. However, once aware of the improper and misleading use of the research, the research coordination contacted the Municipal Prosecutor's Office to demand a correction, which resulted in a second Decree, no. 028/2020, in which the text only refers to the research conducted, without presenting an opinion on our part.

Based on these facts, it is evident that the political relations and particular interests of the actors involving in the management of the pandemic must be treated with institutionality and transparency, hence it is necessary for the local public to act and for the constant transfer of information to this public, so as to ensure due awareness of the facts and monitoring by public opinion of socio-economic conditions. This is because in a pandemic the macro-economic impacts will be more accentuated according to (i) the containment measures taken, (ii) the structural economic conditions of the countries, (iii) the economic policies implemented and (iv) the social assistance offered by governments (Lanchimba, Bonilla-Bolaños & Díaz-Sánchez, 2020). Even as a local town, our research space is not immune to the impacts considered by the authors regarding the reality of Latin America and the Caribbean, given that in these pandemic conditions, global supply chains are being disrupted and the consumption of durable goods and services is reduced.

Pathways to a safe transition in the town

Overlooking this political concern, the question is: what are the most effective medical-sanitary and socio-economic measures to minimise the effects of the pandemic in a local town? Taking into account the objectives outlined for this research, which are to propose actions to minimise contagion and transmission among the population and to propose actions to minimise the socio-economic impacts in the post-pandemic, we indicate the following possibilities for action.

1. Public awareness campaigns and clarifications regarding the severity and transmissibility of the novel coronavirus, together with prevention strategies using audio-visual support and actions directed towards families and communities, since the basic conformation of local towns is the family unit and surrounding neighbourhood. It is worth highlighting, however, that insisting on social isolation in these communities goes against their form of sociability and can lead to worsening mental health. According to a United Nations report, there was an increase in symptoms of depression and anxiety in several countries (ONU, 2020). For Pereira et al, 'it can be said that together with the COVID-19 pandemic there is a state of social panic at a global level and the sensation of social isolation triggers feelings (e.g. of anguish, insecurity and fear), which can extend even after control of the virus' (2020: 5). Hence, social distancing is more appropriate when there is coexistence outside the family, understood as maintaining a safe distance between individuals and the use of PPE to avoid contagion, but not impeding the coexistence between people in public places.

However, in the case of the family-parental-neighbourhood environment, in this social nucleus we should advocate for more effective awareness of preventive mechanisms in relation to contamination and for stricter monitoring, through community health agents, of sanitary conditions and family health. Because applying restrictions to and fines on families in their living spaces is unfeasible and violates the constitution, which guarantees that the home is an 'inviolable asylum of the individual' (Art. 5, clauses X and XI of the Federal Constitution).

Here, we remember that the institution of the family is a crucial group for the success of public actions in local towns. This is because, in addition to the characteristic of a conjugal cell for the purposes of procreation, in these towns and traditional communities, the family is most commonly one that is extended, that is, 'a unit composed of two or more nuclear families, linked by consanguine ties', which coexist in the same space for generations, with kinship that binds them 'to each other, by mutual, recognised duties and rights' (Marconi & Presotto, 2008: 93), who share a common or contiguous residence, practicing economic cooperation, education shared by common ethical and moral values, which constitutes a collective identity of reference as interactive families, consanguineous or by 'inclusion'. This long-lasting and close co-existence is reflected, in the survey, by the fact that most interviewees have lived longer than five years in the same residence, which enables the consolidation of more emphatic social relationships with their surroundings, resulting in resistance to social isolation, which means strictly staying at home, without contacting their neighbours, and with no social-family interaction;

2. The establishment of traceability for the configuration of **contagion networks** based on families and kinships, involving the traceability of suspected cases and the application of tests. This action can be facilitated if the family-parent and surrounding nucleus is used as a reference, since recent studies on the dynamics of contagion have shown that the increase or decrease of cases may be related to transits and confinement of these social groups, in true 'bubbles of protection', which may explain why the number of deaths and hospitalisations is falling even in towns that did not enact a total blockade on the movement of people or that were inefficient in health surveillance, such as Manaus and São Paulo. According to Magenta (2020) in some Brazilian towns and cities, there are protection bubbles, which indirectly cause social distance and collective immunity, due to a certain isolation of the communities. In these, the disease has difficulty circulating because the population, even if initially exposed, does not coexist as much with other social groups, generating 'bubbles' in which confinement impedes dissemination.

When we consider that one of these groups is the extended family, in local towns, the traceability of cases should be structured based on this group, with the application of research forms on the conditions of occurrence of the disease in the town, since sociabilities, and consequent routine agglomerations, commonly involve the family and its extension as the nucleus. This scenario allows us to perceive that the family is a space of private access, which is difficult for the government to inspect, and is better suited to public awareness campaigns regarding prevention procedures – the use of masks, preventing bodily contact in public and with strangers, respiratory etiquette, hand sanitising, avoiding touching surfaces exposed to possible contamination.

Allied to these actions, epidemiological data must be observed and monitored by determining the rate of transmission, real-time monitoring of the capacity of the municipal health system to attend the public, with some latitude in outpatient and hospital care, as well as the ability to evacuate the most seriously ill to medical centres better equipped to provide care, since, contrary to the precepts of the WHO (a minimum of one ICU bed for each group of 10,000 inhabitants), the municipality does not have any intensive care beds.

Apart from this, it is necessary to understand the susceptibility to the disease, that is, the possibility of another person contracting the virus, paying attention to which practices and actions of the population favour contagion (probability of transmission). This factor is closely linked to the clarity that is required in relation to the forms of sociability in local towns, due to the intense bonding and routine between

inhabitants of the same block or street. In this we refer to Da Matta (1997), who states that social roles 'connected to body and blood (as is the case with roles related to kinship) must occur and be engendered by the *house*' (p. 96), in contrast to the roles of will and choice, such as the forms of civil corporation as part of the public world, these are linked to the street.

But there is, in local towns like Odivelas, an expansion of the house and nuances between the public and the private. The house presents itself on a *continuum* both towards the street and towards the backyard. The house, being a cell of an extended family, communicates daily with the neighbourhood, both relatives (primary, secondary, tertiary) and 'kindred' (pseudo-relatives, aggregates, godparents), who may be arranged in houses adjoining on the same street or neighbours through open yards with common boundaries; in this case, the location of the residence of children and other close relatives is at the 'back' of the house-ego. This factor must necessarily be considered in screening actions for COVID-19 cases, since it is a probability factor of transmission.

3. A guarantee of **income and provisions** for families, with predictability of spending on food and health in the municipal budget (a minimum universal income) and the rearrangement of economic activities to avoid broad circulation and large agglomerations of people, with the recovery of jobs/occupations, and the establishment of protocols to control environments, together with investment in agricultural and extractive activities that are the town's vocation. According to *Carta Capital* magazine, poverty resulting from the pandemic will affect 230 million people in Latin America, with job losses for about 44 million people (Carta Capital, 2020). If the growing poverty in Brazil was attested to prior to the pandemic, with it the need for a minimum income has been accentuated, because as Suplicy and Buarque remind us 'a development project for Brazil must consider the elimination of absolute poverty and the reduction of disparities in income distribution' (1997: 80). The pandemic has demonstrated the frightening difference between rich and poor that has prevented the implementation of safe practices to control the pandemic due to the need to survive of a large portion of the population, a fact corroborated by the results of this research, since the largest group of respondents are self-employed (33.8%) and must leave home daily to ensure enough food, which is otherwise reflected in the need for daily supplies of food (48.0%). Only by considering a minimum income programme will we be able to contemplate a post-pandemic recovery.

In the coming post-pandemic condition, we must also pay attention to self-sufficiency and food security, since the growing need to import the food that citizens consume is a sign of lack of food sustainability, in addition to contributing to the imposition of food standards in disagreement with local cultural nutritional values. It is also important to consider that, even though there is no data that can link food to the prevention and treatment of COVID-19, a balanced diet can be a good ally in combating the disease, since 'it is known that some nutrients act on the human body, strengthening our defence system' (UFRJ, 2020). These nutrients, called immunomodulators, are found in natural foods, through 'a varied diet that combines *fresh*, minimally processed and properly sanitized foods can be the basis of a healthy diet and, therefore, guarantee the body's immunity' (id.). That is why it is important to invest increasingly in local agriculture (fruit and vegetable) and extractivism (fish and crustaceans), as a means to ensure the quality of food, which because it is produced in the municipality, can reach the table fresher and with its nutritional qualities preserved. In addition to its supply, safe conditions of access to food produced in the municipality must be ensured, such that it is essential to maintain the local commerce booming, but also to guarantee sanitary safety to avoid contagion. Therefore, COLINS, in association with the Municipal Secretariat of Agriculture (SEMAGRI), developed a social technology that would keep the São Caetano de Odivelas Farmer's Market open through a 'buying and selling circuit' (see Appendix 1), which was a fenced in space to control entry and exit. At the entrance, with a means of sanitation provided, buyers viewed a layout of the location of stalls according to the products on sale, allowing buyers to know in advance which stalls they could go to purchase, optimising and

minimising the time spent at the market. This technology was produced by COLINS and SEMAGRI's fishing technician and engineer Talita Vieira Aranha, demonstrating that good relationships between the university and public authorities can achieve excellent solutions for local social demands.

Recently, the World Economic Forum pointed out the need to review the economic standards that have been prioritised by capitalism up to now, implying that new business ventures should pay attention to environmental issues. An article on the WEF report entitled *Fórum Econômico Mundial: "novos negócios terão de levar em conta o meio ambiente"* [World Economic Forum: 'new business will have to take the environment into account'] stated that 'the current crisis highlights the urgency of remodelling food production, land and ocean use; infrastructure and buildings; in addition to activities related to energy and the extractive industry' (RFI, 2020). This implies that we must avoid the loss of species and promote better land use in agriculture and in the construction of urban and transport infrastructures.

Conclusion

What the study indicates is that ways to minimise the effects of the COVID-19 pandemic are not only those that lead us to solve the effects on sanitation and health. In reality, we would only be combating the consequences when we should be following the path of socio-cultural and socio-economic causes. The pandemic took shape among the wealthier classes, those who could afford international travel, spreading until it affected the impoverished populations of the urban peripheries and local towns in the interior of Brazil, notably in the Amazon region, as seen in São Caetano de Odivelas. It is precisely in these social peripheries – whether in the Amazon or on the African continent – that the effect of the pandemic is most destructive, not only for the economy, but for social life, as the UNESCO document (2020: 6) attests to: 'The ban on public gatherings, for instance, in response to the pandemic has had consequent impact on family and community life, increased the possibility of fracturing relationships and undermining trust between states and their citizens, with long-term implications for cohesion and social harmony'.

It is in these places that are not in the daily news bulletins on the pandemic, which makes them invisible and non-existent for public policies, that there is a need for research to bring to light the facts and government actions. The situation is further aggravated when we observe that in these local towns in the Amazon, many, like Odivelas, originated from religious missions of Portuguese colonisation, a certain ethnic transfiguration is still recurrent with regard to historical reconstruction due to the impact of civilisation, since, being on the margins of modern medical and therapeutic instruments and processes, it remains for the *cabocla* population to resist like their indigenous ancestors: 'the survival of indigenous peoples is explained, in large part, by a biotic adaptation to the plagues of the white man' (Ribeiro, 1995: 332). The neo-colonisers, like those behind Bolsonarism and its minions, who have established themselves in Brazil since 2019, seem to re-enact the ethnic and racial wars, when on the one hand, there were tribal societies based on kinship and solidarity, and on the other, the state structure based on conquest and domination. Today, domination occurs through alleged herd immunity, promoted by state Bolsonarism, imposed by a lack of testing, sanitary guidance and adequate hospital resources, leading the inhabitants to be passive actors of natural selection in this pandemic war.

In these towns, due to a lack of information and transparency on the part of local authorities, there is a lack of knowledge on health data, because even supplies for tests are insufficient or non-existent. The importance of this research, even though it does not deal with important laboratory data, by bringing clinical and epidemiological data to the fore, it unravels a possible scenario of reality in these local towns. Beyond the data, when we glimpse the political approach and the various interests in play, certain dubious attitudes of local officials are called into question, contradicted by information of a more scientific nature, ascribing the university its natural destination, that of meeting the demands of society in general.

This, in addition to applied research, an appanage of this study, is concerned with interpretations based on data, which led us to consider the socio-anthropological aspects when considering sanitary measures. This is because, in recollection of Meyer (2008), understanding the disease in a local town is considering the way in which the patient is welcomed in their environment, like family solidarity, which should have been addressed by local government officials. In a situation of imminent marginalisation, at the onset of the pandemic, the discovery that someone had contracted COVID-19 was akin to a death certificate, given the likelihood of a vaccine, which in 2021 is fast approaching. For this reason, in these spaces, the extended family acquires a role that transcends mere coexistence, even nullifying medical experiences with symbolic logics (Augé, 1986), hence the broad use of medicinal plants.

Finally, with this research, we undertook to highlight a specific reality, in an authentic case study; however, we are conscious that reality treated in its specificity can easily reflect what happens in other local towns in the Amazon, hence, conveying this research to other secluded corners can and should be the main outcome of our work.

Received: May 30, 2021
Approved: September 22, 2021

Translated by Philip Sidney Pacheco Badiz

Acknowledgments

This work was carried out with the support of the National Academic Cooperation Program in Amazon – PROCAD/Amazônia of the Coordination for the Improvement of Higher Education Personnel – CAPES/Brazil.

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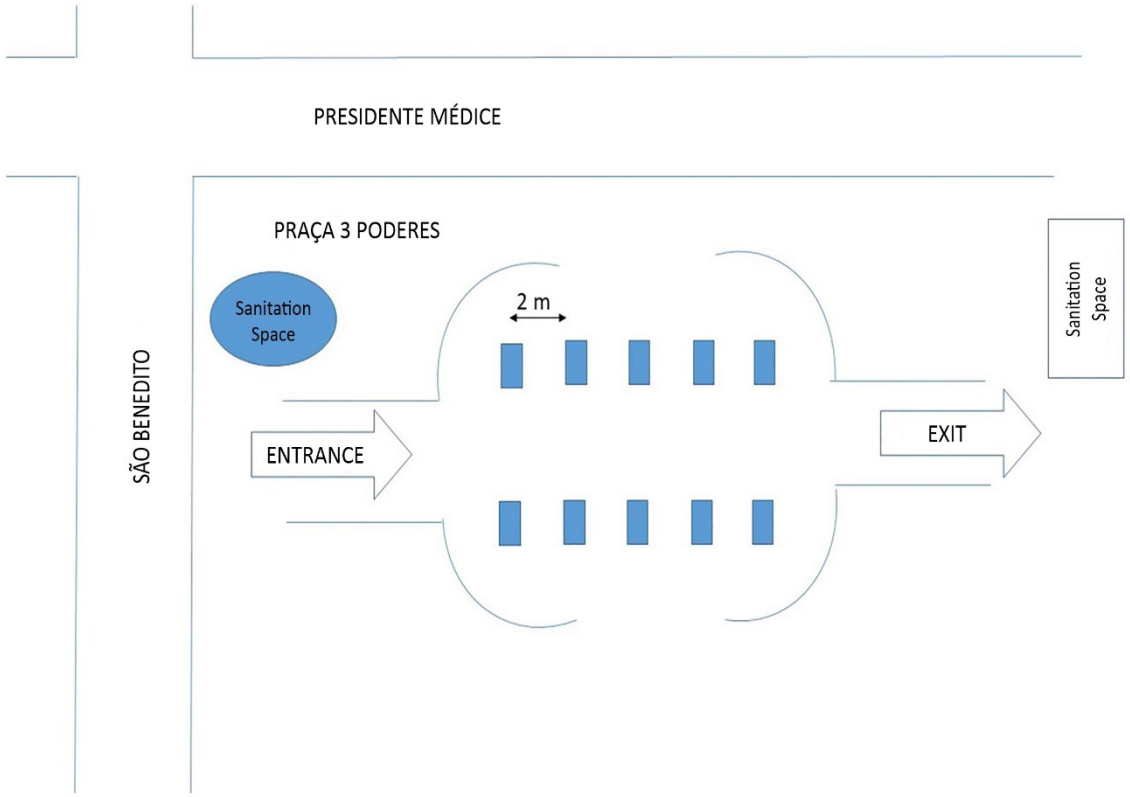
José Guilherme dos Santos Fernandes
https://orcid.org/0000-0001-9946-4961
Doctor of Letters
Collaboratory on Interculturalities, Inclusion of Knowledge and Social Innovation
Postgraduate Program in Anthropic Studies in the Amazon
Federal University of Pará
Email: guilherme.profufpa@gmail.com

Talita Vieira Aranha
https://orcid.org/0000-0002-5424-3273
Master in Rural Development and Agro-Food Enterprises
Collaboratory on Interculturalities, Inclusion of Knowledge and Social Innovation
Municipal Planning Department
Prefecture of São Caetano de Odivelas
Email: talitaranhapesca@gmail.com

Rondinell Aquino Palha
https://orcid.org/0000-0002-9658-3997
Master's degree student in Anthropic Studies
Collaboratory on Interculturalities, Inclusion of Knowledge and Social Innovation
Postgraduate Program in Anthropic Studies in the Amazon
Federal University of Pará
Email: rondipalha@gmail.com

APPENDIX 1

Layout of the Farmer's Market of São Caetano de Odivelas (PA)



Source: Talita Aranha, São Caetano de Odivelas Municipal Secretary of Agriculture