EDITORIAL
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University indigenous uses social media to report the impact of COVID-19 on their communities

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The spread of coronavirus disease 2019 (COVID-19) continues to pose a serious threat to 800,000 indigenous people in Brazil. There are 305 tribes who speak 274 languages spread across the remote national territory, who have faced historical inequities related to poverty, health problems, and limited access to health care.

Monitoring the impact of the pandemic among Brazil's indigenous communities is a major challenge due to the lack of adequate surveillance systems. The data collected by[1] Government from March 2021 onward suggested ~50,000 cases and 1,000 deaths among those who live in indigenous lands (except for urban indigenous and those waiting on demarcation of land by the government). Many indigenous people go to urban centers in[2] search of better living conditions[3]. The census of the last Brazilian Institute of Geography and Statistics (IBGE) showed that 49% of the total population of Brazilian Indians live in urban centers, outside demarcated indigenous lands[4].

There have been several structural initiatives to mitigate the impact of COVID-19 including the Emergency Plan to Combat COVID-19 in Indigenous Territories and the National Contingency Plan for Human Infection with the new coronavirus in indigenous people, but there are no known published reports on their impact[5].

Indigenous university students, who returned to their villages after suspension of the university's face-to-face activities, provided a unique opportunity to learn about lived experiences of COVID-19 in their villages through government-sponsored programs. Semi-structured interviews *via* WhatsApp were conducted with 26 indigenous students from 19 villages located in the central-west, south, and northeast regions of Brazil, which has a population of about 54,000 indigenous people.

The topics covered included socio-demographic, access to health care, (i.e., description of the village regarding location, housing, form of subsistence, access to health, education, social organization, and impact of the pandemic on the village). The interviews were conducted in May and June 2020, after authorization from the indigenous leaders, from the Special Indigenous Sanitary District (DSEI) and approval of the study by the Research Ethics Committee (CONEP) with opinion 4.279.173.

To enrich the narratives, prior to the interviews, indigenous students conducted informal dialogues with their village leaders and other members of the community to obtain socio-demographic and access to health care information regarding the impact of the pandemic in their villages. The thematic analysis was used to analyze the data. The ethnic groups in 19 villages were as follows: Atikum and Pankararu (northeast); Terena, Guarani Kaiowa, Pankará, Pitaguary, Tuxi and Pataxó (midwest); and Kaingangi and Guarani (south). In general, houses are made of clay or wood. Sustainable livelihoods are based on farming, fishing, hunting, livestock, and handicrafts. Each village is governed by a chief, 88% of the villages had an elementary school (for 6–14 years old), and 35% had a secondary school (for 17 years old), with classes held in Portuguese in 52% of schools. A total of 100% of villages had at least one Community Agent for Indigenous Health whose role is to 26% had a Health Centre (Base Pole) with nurse, dentist, doctor, some Poles with nutritionist, and psychologist.

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The narratives, although originating from three distinct geographic regions, were convergent and provided contextual insights into the impact of the pandemic on income loss with consequent food insecurity, lack of access to health services, physical and emotional manifestations, and violence and abuse of psychoactive substances.

With deforestation from illegal loggers and miners and climate change, indigenous communities are already vulnerable to food and nutritional insecurity. The loss of income from social isolation preventing the sale of handicrafts exacerbated food and insecurity. Due to the scarce natural resources, these Indians have a diet similar to that of a non-indigenous person, although they still maintain a preference for foods from hunting and fishing. The food is basically purchased from local stores, distributed by the federal government, or generated from subsistence agriculture and the raising of animals such as chickens and pigs.

The "Base Poles" are manned by significant non-indigenous health professionals and struggled to provide a service with reduced visits from non-indigenous professionals, indigenous health professionals' self-isolation because of high risk of the existing comorbidities (i.e., diabetes, hypertension, asthma, and chronic obstructive pulmonary disease) or COVID-19 infections, and with the shortage of personal protective equipment. There was a strong emphasis on the negative impact of social isolation on their communities given multi-generational housing and the fear of losing indigenous elders who are integral to the maintenance of indigenous traditional knowledge, culture, and practices and are the custodians of customary law and governance. There was also a perception of an increase in substance abuse and family conflicts.

Unquestionably, these narratives illustrate that the pandemic is deepening profound systemic inequities, but they also give a strong sense of young indigenous students wanting to maintain their indigenous systems and that the interviews given them an opportunity to advocate for a response to safeguard their communities (Table 1).

Table 1. Themes and illustrations of the narratives.

Themes	Illustrative quotes
Loss of income with consequent food insecurity.	The lack of money and food is very difficult, we can no longer sell our crafts and many were fired, we are in a risk group so we would have to leave and continue paying, but then the boss found it easier to say goodbye. (E8–male, 20 years old) The situation of COVID-19 in Brazil is tense because there is a whole reality in which our society lives, which is very difficult, precarious housing, lack of basic sanitation, health and even food. (E16–male, 24 years old). In the beginning we were left without food, because we had no money and because the basic government Fridays were slow to arrive, then the people who know us started to bring us food. (E3–female, 46 years old). We made signs and banners on the roads asking for food and help. (E9–female, 19 years old).
Lack of access to health services	Particular conditions make us vulnerable, we have difficulty accessing health services due to the geographical distance or unavailability of health teams. (E12—male, 22 years old). The health personnel did not appear here anymore and we know that the indigenous health subsystem created to serve indigenous health suffers from a lack of resources, so we don't even blame it. (E8–male, 31 years old).
Physical and emotional manifestations	[T]he way of life of our people can increase exposure to infectious diseases differently from that of non-indigenous people, as we live in collective houses that can increase contagion. (E16–male, 25 years old). What saddens me most is that we live in community, we've always done everything together, we've shared everything even the food and now we can't do it anymore and it will make people sick with the virus or the head. (E11–male, 23 years old). I am afraid of losing the elderly, they are the living history that cannot die and they are the most at risk. (E7–male, 30 years old). We don't want to be contaminated or contaminate relatives, but it is an anguish, being isolated here makes us sick. (E5–female, 31 years old).
Violence and abuse of psychoactive substances	All of this affects indigenous communities a lot, relatives are drinking, fighting, leaving home and what was happening is getting worse. (E3–female, 26 years old). I think family fights have increased, the lack of money and food makes everyone nervous and angry and then fight. (E17–female, 28 years old). This disease is so strong that you can't even say goodbye to relatives who died. (E8–female, 25 years old). You cannot get the family together to do the rituals with prayers, prayers, so that you can keep your faith steadfast in this difficult time. (E4–female, 71 years old).

CONCLUSIONS

Finally, we alluded that each culture has its shape, patterns, expressions, and structures to know, explain, and predict the state of well-being, as well as behavior patterns related to the health-disease process and the social and cultural universes where they occur. Then, the valorization of traditional knowledge and practices are paramount in the establishment of therapeutic relationships.

Although data on the impact of COVID-19 on indigenous groups around the world are still irregular, it is already worrying how the pandemic has affected indigenous communities and how the situation remains unfavorable for all indigenous people, as the fragility of public policies, the absence of health teams in many communities, the distance from some villages to medical centers, and the natural fragility of this population to respiratory diseases are added to other health problems.

An essential aspect of this study was to ensure that indigenous views of the world are reflected which are centered on the connection between people and nature. Without pretending to exhaust this reflection, we proposed to continue seeking scientific results that reflect the impacts of the pandemic on indigenous communities, the strategies that indigenous people and health workers have adopted in responding to the pandemic, particularly in relation to the use of traditional knowledge and practices, and in addition to their perceptions of priorities for policy responses. Finally, the data have repercussions in the defense of the protection of indigenous rights and in the strengthening of the actions of young indigenous people who seek help for their communities.

AUTHORS' CONTRIBUTIONS

IMAVD: Formal Analysis, Writing – original draft, Writing – review & editing. **FAQ:** Formal Analysis, Writing – original draft, Writing – review & editing. **MGCG:** Formal Analysis, Writing – original draft, Writing – review & editing. **AJG:** Formal Analysis, Writing – original draft, Writing – review & editing. **PTCJ:** Formal Analysis, Writing – original draft, Writing – review & editing. **SH:** Formal Analysis, Writing – original draft, Writing – review & editing.

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