

Lessons from urgent times: the experience of Yanomami health care then and now

Lições de tempos urgentes: a experiência da atenção à saúde Yanomami ontem e hoje

Lecciones de tiempos urgentes: experiencias de atención de la salud a los Yanomami ayer y hoy

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“If the Yanomami and all the countless other yet unwesternized peoples of the planet have come this far, more or less sheltered from such materialistic and greedy values, why not presume that they carry something valuable within themselves? Why not presume that there is something big behind such a cultural contrast?” ¹ (p. 1, free translation).

The Yanomami indigenous people live in the mountainous region between the Amazon and the Orinoco rivers basins, covered by rainforest, in the western region of the Brazilian states of Roraima and Amazonas, and the southeastern Venezuela. There are six subgroups – Sanöma, Ninam, Yanonami, Yaroamë, Yānoma, and Yanomam ² – that share a cultural and linguistic unity. More than half are located in Brazil. In the same territory, the Ye'kwana, ethnic group of the Karib linguistic family and the oldest contact, coexists as well as other six groups that deliberately preserve themselves from contact with national society. In total, there are 26,854 people, in 379 communities, occupying 9.6 million hectares ³.

The Yanomami are known for their broad sense of humor; they are a community filled with laughter. Their social, political, and economic system is permeated by great territorial mobility, expressed in an intricate network of paths ⁴. They live in small villages and move for various reasons: hunting and management of natural resources and crops; group divisions for political or family reasons; visits to strengthen ties and promote exchanges among groups; and participation in ceremonies and rituals. The presence of religious missions, Brazilian National Indigenous Peoples Foundation (FUNAI) posts, and Brazilian Army platoons (Calha Norte military project of occupation and integration, 1985) interfere in this logic by exerting a centripetal force of population concentration around its facilities. In turn, illegal mining, roads, and invasions within their territory have explosive magnitude: they remove, attract, destroy, decimate. This has happened, with varying intensity, over the past few decades, producing an enormous impact on Yanomami life, health, and society. However, in the last four years, it has acquired the shape of a genocide, due to deliberate governmental negligence and encouragement of illegal activities ⁵.

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In January 2023, the Public Health Emergency of National Importance (ESPIN/Yanomami) was declared due to the absolute lack of assistance to this population, and measures were established to cope with the crisis ^{6,7}. In December 1989, 34 years earlier, the Yanomami Emergency Health Care Plan (PEASY/1990) was approved to reverse the precarious living and health conditions found ⁸. This interval of decades denotes the existence of a structural issue, arising from developmentalists military projects, economic interests of predatory exploitation, and oscillating indigenous health policy since the 1970s. Although the indigenous health subsystem within the scope of the Brazilian Unified National Health System (SUS) only emerged in 1999, the experience of PEASY/1990, followed by the creation of the Yanomami Sanitary District (DSY), brought important subsidies for the formulation of the national indigenous health policy ^{9,10,11}.

Since the RadamBrasil project (Brazilian Ministry of Mines and Energy) disclosed the potential for mineral exploration in the region in 1975, waves of mining invasion have occurred in the area. The mining intrusion increased to such an extent that, between 1987 and 1989, Senator Romero Jucá (then president of FUNAI) banned nongovernmental organizations in the area – which included anthropologists and health professionals – claiming their activities to be life-threatening. On the other hand, it allowed the entry of 40,000 prospectors. Consequently, the same scenario observed today occurred: malaria in epidemic proportions, malnutrition, alcoholism, tuberculosis, violence, environmental destruction, and disruption of their traditional way of life ¹².

After a series of complaints, interinstitutional articulation, and sensitization of international organizations, the Federal Government instituted PEASY/1990, also implemented in the first months of a newly installed government. The plan was coordinated by the Brazilian Ministry of Health, with the support and expertise of the institutions active in the area, such as FUNAI, Commission for the Creation of Yanomami Park (CCPY), Diocese of Roraima, and others, and of teaching and research facilities (University of Brasília – UnB, Federal University of Rio de Janeiro – UFRJ, and Oswaldo Cruz Foundation – Fiocruz), with logistical support from the Brazilian Air Force.

In addition to the necessary urgent care, its main pillars were census and active search for malaria cases. The census was important for assessing the impact on mortality (estimated at 15% to 30% ¹³) and planning future actions. Active search would be the most effective way to interrupt the chain of disease transmission. For this, as many communities as possible were to be visited and the approach could not be restricted to spontaneous demand.

Operationally, the main characteristics of the fieldwork were: respect for culture, emphasis on multidisciplinary teams (health professionals, anthropologists, interpreters, microscopists, among others), and communication mechanisms for removals and teleconsultations (at the time, by radiophony).

To exemplify the interdisciplinary approach, the challenge of the census in the identification of indigenous people was great. In a culture where an individual's name is intimate and secretive, to pronounce it denotes disrespect ¹³. There were census lists with the same "name" for all: Ya Taimi, which means "I don't know". Many would also "choose" a white name to relate to the health teams, but often changed their chosen names. The difficulty was even greater when mentioning the dead ones because, for most Yanomami subgroups, their names cannot be pronounced. Anthropologists assisted health professionals in the identification, definition of kinship, support in consultations and verbal autopsies, as well as the recording of displacements and regroupings of communities. The silence about the names of the dead and the unavailability of their physical evidence, given that their bodies are cremated, make verbal autopsies especially relevant for knowing the number, cause of death and reducing of statistics of deaths from ill-defined causes (34% of deaths) ^{13,14}. It is worth mentioning that the traditional interpretation of the disease among Yanomami starts from a proper conception of the body and its causal mechanisms depend on the status of intercommunal relations (common spell comes from friendly communities; warrior spell, from enemies; aggressive shamanism, from the farthest; finally, there is the attack of the double-animal, given that every Yanomami has an animal with a destiny inseparable from theirs in the forest). In these autopsies, 11% of the deaths reported were due to spells or *xawara* (epidemic caused by mining) ¹³.

In the active search for malaria, all people were examined and had slides collected for diagnosis. Treatments were preferably conducted within the village itself to increase adherence and avoid drug resistance. In some circumstances, vaccines for preventable diseases were administered since the overall coverage was low.

The seminar for evaluating the emergency plan in 1990 recommended the development and structuring of continuous health actions, in the short- and medium-term, in line with the national health policy, in addition to the development of intersectoral actions, such as the demarcation of a continuous area (ratified in 1992), withdrawal of illegal mining activity, and the development of environmental recovery measures ¹⁵.

Thus, the implementation of the local health system began, based on the principles of the SUS, with focus on cultural diversity. These guidelines had been defined at the First National Conference for the Protection of the Health of the Indigenous (1986), which incorporated the existing debates in the Brazilian Health Reform Movement and demanded respect and recognition of the differentiated forms of health care for indigenous peoples.

The institutional responsibility was overseen by the Brazilian National Health Foundation (FUNASA), created in 1990, by merging the Public Health Services Foundation (SESP) with the Superintendence of Public Health Campaign (SUCAM). The FUNASA encompassed the Indigenous Health Coordination and regional coordinations. The various levels of the federal coordination aimed to escape local economic interests, not always focused on the indigenous cause. The DSY was the first Special Indigenous Health District, created in 1992, integrating actions and services of the various civil and religious organizations that worked in area ¹¹.

In field practice, the organizational guidelines were: (1) decentralization, with guaranteed primary care within the communities, since over 80% of health problems can be solved there; (2) regionalization in areas of intercommunity relations (AIRs), which do not consider official geopolitical divisions, but the forms of interaction between communities and the consequent chain of disease transmission; (3) hierarchization and integrality, with a guarantee of transfer to more complex levels of healthcare, when necessary (for secondary care, the Indigenous House – CASAI – an organized structure for health care and social assistance for those displaced to the city; for tertiary care, larger and university hospitals); (4) social participation, considering that the Indigenous should be the protagonists in the day-to-day of the system, making the main decisions. The training of indigenous health professionals, the creation of an indigenous health career plan, participation in councils and encouragement of education, based on the intercultural perspective, was encouraged.

Operationally, an information and planning system was set up at the Boa Vista Regional Coordination (Roraima State) for: transportation, logistics, pharmacy, and food. Within the AIRs, base centers represented access areas, usually via airstrips, with a basic structure for health care. In these locations, a small health center was organized, with basic medications and support for eventual more severe cases (when health professionals and shamans provided their respective care at the edge of the network). From the base centers, the traveling teams departed for systematic visitation of the villages (on foot, by helicopter, or by canoe). To cover the assistance, nongovernmental organizations took over the AIRs, via agreements (Doctors without Borders, Doctors of the World, Catholic and Evangelical missions, CCPY). In subsequent years (notably 1999-2004), Urihi-Saúde Yanomami, a nongovernmental organization, played a key role in maintaining coverage of the area. In this period, the average for infant mortality decreased by 76%, the annual parasitic incidence of malaria by 84%, and the most severe cases of falciparum malaria were practically zeroed in some areas ¹⁶.

Notably, the creation of the DSY did not contemplate a clear human resources policy, which was its greatest weakness. There were public tenders from the Brazilian Ministry of Health, mostly for temporary contracts, which impairs the continuing education of professionals. An agreement was also firm with universities for staff training (UFRJ's Medical Residency program). Training, awareness, and sensitization of employees was a determining factor for the proper functioning of the actions; both for technical aspects, with fieldwork routines and standardized clinical protocols, and for the encounter between different cultures, different conceptions of health-disease, treatment of the dead, respect for rituals. A Field Manual ¹, addressing these aspects, was developed for training new professionals.

What does the experience of the 1990s emergency allow us to reflect on the 2023 scenario?

- Lula's government – recently inaugurated – intervened with urgent measures toward health care and cutoff mining activities⁷. Under the coordination of the Department of Indigenous Health, Brazilian Ministry of Health (SESAI), a Yanomami Emergency Operations Center (COE Yanomami) was established, with interinstitutional articulation (local government, national SUS force, military personnel, among others). As auxiliary forces, field hospitals were set up in CASAI/Roraima and Surucucus Base Center. Due to the large volume of care and operational reasons, spontaneous demand care prevails, and more severe cases are referred to the municipality of Boa Vista. This emergency strategy promotes crowding in the care units, with a queue for the return of patients to the villages, increasing the risk of illnesses such as the outbreak of COVID-19 in March and April 2023 in CASAI/Roraima¹⁷. As the Yanomami teach us, the integrated actions with shamans, and their auxiliary spirits, within the villages, are important for the health of the universe, to avoid heaven from falling towards earth¹⁸.
- For the development of long-term structuring actions, it is worth ensuring coordination, financing model, emphasis on work processes (not only on structures) and human resources policy. In this context, it is essential to train the personnel for the cultural encounter, learning to listen to the perspective of traditional medicine, gaining a systemic sensitivity, and favoring care within the villages, avoiding removals as much as possible. Even though learning the language requires time and dedication (most Yanomami are monolingual), cultural recognition can be carried out in various ways, overcoming the language barrier, and constituting a fundamental part of the training of professionals working in the area. As the Yanomami teach us, to understand the health-disease process, the statistics of the *napëpë* (non-indigenous, foreigners) are as important as the stories told orally from generation to generation and the interference of shamans¹⁸.
- Over the years, malaria behaves as a sentinel event in the presence of mining, given the strong correlation between this activity and the incidence of the disease^{19,20}. After years of inappropriate and discontinued use of medicines by prospectors, there is a risk of finding drug resistance within the region, hindering its control. In the 20th century, new adjuvant technologies were implemented, such as rapid tests and long-lasting insecticidal mosquito nets (sometimes misused). There is a possibility of mass treatment to reduce parasite density and transmission of the most severe forms of the disease, until systematic and continuous primary care mechanisms are implemented²¹. In the long term, and in the absence of an effective vaccine, epidemiological surveillance, active search in the villages, and removal of the illegal mining activities are indispensable for disease control. As the Yanomami teach us, when the *napëpë* take the gold from the earth, they burn, stir on top of the fire as if it were flour. This causes smoke to come out and creates the *xawara*, which is this smoke of gold. Then, this “smoke-epidemic” spreads in the forest, where the Yanomami live, but also in the land of the whites, everywhere¹⁸.
- Although the number of miners has the same magnitude, the current destruction is at an industrial scale and health teams are unable to reach some areas. This stems from a greater affected area, hijacking of health structures, new technologies for gold extraction, transportation and communication, massive financing of illegal activity, and the presence of organized crime. It also increased the co-optation of indigenous people for illegal mining, episodes of physical and sexual violence, and disagreements with health teams²⁰. Evidence indicates that groups far from the mining locations were also affected. If, in the past, the actions were restricted to the removal of prospectors and implosion of clandestine runways, more comprehensive actions are discussed today such as the tracking of the entire gold chain – from extraction to sale – and greater effective supervision by control and regulatory bodies (Brazilian Institute of Environmental and Renewable Natural Resources – IBAMA, Brazilian Institute for Biodiversity Conservation – ICMBio, Armed Forces, Brazilian National Civil Aviation Agency – ANAC, and Brazilian National Telecommunications Agency – ANATEL). After the first two months of the Federal Government's action, Indigenous people who are vigilant of the situation report that, despite the partial withdrawal, miners maintain intense activities at night and bury machinery and food, with the expectation of returning. As the Yanomami teach us, we must rescue all natures, not only from humans, but from everything that lives around, such as rivers, forests, animals, in a sustainable development project¹⁸.

• For territorial protection and health guarantee, what needs to be sought is a strategic model of surveillance of the Yanomami indigenous territory, integrating the epidemiological, environmental, and mining agendas, among others ²⁰. This will be possible with political will, modern information technology, and empowerment of inspection agents at various levels, from the notification of diseases and mining activities to the application of protocols and sanctions, and the elaboration of public policies of greater amplitude. For it to be effective, Indigenous protagonism is essential: as agents that denounces and demands from the public power; as leaders, interlocutors, and political actors; as health, educational, and managing professionals who recognizes the situation and plans from the real needs. As the Yanomami teach us, the creation of associations – Kurikama, Hutukara, Ayerka, Kumirayōma, Texoli, Taner, Urihi Yanomami, Seduume, among others – and school and university education contribute to a more horizontal and interethnic dialogue. Indigenous organizations and professionals who teach humanity their riches, their values, and some of their secrets for the survival of the planet.

Historically, the 1990 emergency plan showed tremendous resilience and health recovery capacity; now, if effectively implemented, the actions indicate that, once again, the Yanomami will return to their rightful place in space and time. This is the result of the daily resistance in the villages, of the more than one hundred denunciations of their leaders, organizations, and partners, and of the incessant work of the shamans. Even in the chaos, the Yanomami never stopped laughing, which is always an indicator of great hope.

Contributors

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