Sailing through the “river of life”: care production in urgent and emergency situations in an Amazon territory

This study examined the production of care in healthcare services, adopting the participatory methodology "river of life". Conducted in a riverside community in the interior of the Amazonas region, the research employed this reflective approach, involving the creation of a river using artistic materials such as colored pencils and cardboard. The technique fostered closeness with the stories, trajectories, and empowerment of community agents, users, and caregivers. This profound experience provided insights into the territorial challenges in accessing healthcare during urgent situations. Recording narratives during collective work sessions served as a data collection method, facilitating dialogue between the healthcare team and caregivers, enriching the understanding of regional dynamics involved in emergency care.

Keywords: Primary Health Care. Community based participatory research. Rural population. First aid
Introduction

The quest for access to healthcare in the Brazilian healthcare system context remains a complex challenge, intensified by the various cultural, historical and geographical differences that permeate the country. The Amazon region stands out as a territory that requires significant investment in care technologies in order to meet the specificities and unique characteristics of this vast tract of land. This space not only represents a challenge, but also emerges as a crucial field for learning, embracing diverse practices and knowledge from different origins.

Within the Brazilian health system, decentralization, participation and comprehensiveness are fundamental challenges, with the territorial extension of official policies and local solidarity networks being a direct reflection of the uniqueness of the Brazilian National Health System (SUS). In the midst of the diversity of municipalities, there is a pressing need to develop and maintain regionalization processes under tripartite responsibility, especially in regions that are specific due to their wide geographical, health and cultural diversity, as is the case in the Amazon. \(^1\)\(^2\).

Historically, riverine communities have faced exclusion from health services due to the concentration of actions in municipal centers. This scenario has undergone a significant transformation with the incorporation, by the National Primary Care Policy (PNAB), of initiatives aimed at promoting the inclusion of the riverside population. The Riverine Family Health Teams (ESFR) and the Riverine Family Health Team (ESFF), together with the Riverine Basic Health Unit (UBSF), have been key players in this inclusion process. \(^1\)\(^3\).

This article aims to analyze the organization of Urgency and Emergency in the PNAB and in the modus operandi of health teams, specifically in the riverside team of the territory under study. Within this scope, the importance of the National Comprehensive Health Policy for Rural, Forest and Water Populations (PNSIPCF) is highlighted, while a participatory methodological approach called “river of life” is proposed. This method seeks not only to understand but also to strengthen the stories and trajectories of the workers, users and popular caregivers who play crucial roles in the riverside community of Mocambo, located in the municipality of Parintins, Amazonas.
Primary health care in the riverine Amazon

Primary health care in the riverine Amazon plays a crucial role in addressing the significant challenges faced by rural populations in this vast region. The legitimacy of this concern stems from the finding that such communities have less access to health care and experience unfavorable health outcomes. Globally, 70% of the 1.4 billion people in extreme poverty reside in rural areas, highlighting the social exclusion related to low income and the lack of vital infrastructure, such as health services, transportation and communication, which are hallmarks of the rural Amazon population. As revealed by the Atlas Sustainable Development Goal (ODS) Amazonas, 68% of the rural population and 31.1% of the urban population of Amazonas live below the extreme poverty line, on a subsistence stipend of R$5.50 per capita per day. In Parintins-AM, where the rural population represents around 79.1% of the total, 55% face this situation of economic vulnerability.

The Agrovila Mocambo do Arari, has a riverside health team linked to the Primary Health Unit (UBS) and is made up of nine community health agents, a nurse, a doctor, a nursing technician and a community endemic disease agent. This team lives in the Agrovila or in the adjacent riverside communities, except for the doctor, who spends a fortnight in the locality.

The special attention of the Amazon region, full of navigable rivers, highlights the importance of boats in Amazonian daily life, not only transporting people, but also food, medicines and other supplies. Health transportation, crucial for the region, varies according to the hydrological cycle, requiring different strategies according to changes in water levels. The rabeta, due to its low cost, is the means of transportation most used by the riverside population.

The Amazonian territory has a significant influence on the health conditions of the riverside population, being shaped by factors such as water flows and barriers to accessing health services. This territory, beyond its characterization as a physical space, manifests itself as a locus of identity belonging, constituting an environment conducive to exchanges of a material and spiritual nature. Its representation thus symbolizes the realization of the exercise of life. Understanding riverside life involves a differentiated view of place and liquid territory.

In this context, the family health strategy has emerged as a powerful tool for decentralizing health services, transforming health care for the population in the state of Amazonas. However, the vast territorial and hydrographic extension poses challenges for health teams, who deal daily with unique aspects of the riverside way of life, influenced by the water cycle.

Despite the scenario of exclusion and adverse socio-economic conditions, we believe in the importance of the dynamics and narratives of the territory and people’s lives, providing information that transcends the bases of conventional information systems. Our approach focuses on people and the power of their ways of life, revealing
possibilities for learning and transforming the conditions of exclusion. By adopting the epistemology of absences, as proposed by Boaventura de Sousa Santos\textsuperscript{10,12}, we seek to give visibility to what is forgotten and hidden in conventional knowledge, creating presences and a more pertinent understanding of place.

**Methodological pathway**

The research applied a participant approach, decentralizing the figure of the researcher into the field of study. From this perspective, we explored the social and cultural life of the participants, who acted mutually as informants, collaborators or interlocutors. In this dynamic, researcher and researched are simultaneously subjects and objects of knowledge, highlighting the complexity of the relationships that shape the theoretical-methodological differences\textsuperscript{13}.

The research was carried out in Agrovila \textbf{São João} Mocambo do Arari, a rural region in the municipality of Parintins-AM, home to almost 11,000 inhabitants spread over 64 communities and one headquarters. Mocambo is the district’s reference riverside community, located in an area that is difficult to access, 3 km from the banks of the Amazon River, requiring a five-hour boat trip to the municipality’s headquarters, and can only be reached by river.

In order to establish more symmetrical and dialogical relationships, we used the research technique called “river of life”, an approach defined by Wallerstein\textsuperscript{13} as a method of description and reflection in which the design of a river is used as a metaphor to examine the processes or life trajectories of the participants. This technique consists of an art-based research method\textsuperscript{14} and is part of the procedural framework of Community-Based Participatory Research (CBPR). It is a research approach in which researchers and researched share power and the partnerships, contexts, processes and results of interventions take center stage in promoting the empowerment and social justice of the communities involved\textsuperscript{13}.

The names of the participants were replaced by letters in order to preserve their identities, as approved by the Research Ethics Committee (CEP), using the Informed Consent Form (TCLE) signed by the participants to preserve the confidentiality of information and images.

The workshop was based on presenting the symbolic concept of the “River of Life” as a culturally significant resource, particularly relevant to the inhabitants of the Amazon, representing life and its transformations. During the introduction, participants were encouraged to reflect on the nature of rivers, their sources and flows, and to associate these elements with significant encounters and influences on their lives, especially in urgent and emergency contexts.

In the first stage, the participants were divided into two distinct groups, made up of workers (CHW Group) and users (Users Group). Each member was asked to reflect on their personal trajectory in relation to health, answering specific questions related to significant events, influences and changes over time.
Afterwards, the participants were given artistic materials such as paper, colored pencils, cardboard and magazines to collectively create the “River of Health Life”. The use of these materials allowed for the visual representation of symbolic elements, such as obstacles and positive moments along the river.

The third stage was done by graphically constructing the “River of Life of Health”, encouraging participants to describe crucial stages, influences, obstacles, and moments of peace in their trajectories. A historical timeline was drawn up to contextualize the relevant dates along the river.

In the fourth step, participants stepped back from their creations and were invited to reflect on the experience, highlighting significant elements, facilitators and challenges identified during the process.

The fifth step provided a moment for collective discussion, where the teams shared their experiences, highlighting similarities and differences in the health trajectories presented. This stage encouraged a more in-depth analysis of the narratives and the identification of common patterns.

The time dedicated to each step was carefully managed to ensure effective participation and the comprehensive exploration of individual and collective experiences in the health context.

This innovative methodological approach was implemented in order to elicit the narratives, presentations and evidence underlying this text. As discussed by Lira et al., the application of the narrative approach emerges as an instrumental technique for accessing the meanings attributed to experiences, providing a deeper understanding of the subjects’ daily reality. The choice of short narratives, as suggested by Silva and Trentini[16], was based on the synthetic approach, emphasizing the minimum structure of the narrative (beginning, middle and end) and focusing on specific episodes, notably the care practices experienced by the research participants.

In addition, after the workshop had finished, the recorded narratives were transcribed to enable a more detailed and in-depth analysis. The methodology adopted for the analysis of the narratives follows a structural perspective, exploring the formal organization of the accounts as a means of discerning patterns and emerging meanings. This process aims to provide a more comprehensive understanding of the experiences shared by the participants, contributing to the construction of knowledge in the field of health and care in specific contexts, such as the Amazon.

The social feedback on this research resulted in the publication of a book entitled “The art of health care in the liquid territory: shared knowledge in the Lower Amazon River - 2020”[17], available free of charge online in PDF.

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Results and discussion

The rivers of life and access in urgencies and emergencies

We begin this session by presenting the image created by the group of participants engaged in the collective construction of the “Health Rivers of Life”. The visual representation highlights the Mocambo do Arari Agrovillage.

Figure 1. Agrovila Mocambo do Arar.
Source: Artistic production - Community Health Workers Group (2020)

The first story came from Community Health Worker (CHW) V, who has been working in the riverside area for 20 years. The narrative presents a situation of urgency and emergency:

[...] It was an accident that happened on the road. At the time of the accident, the man was working on the road in a cart, he was coming from the center and met a man on a motorcycle coming in the opposite direction, and they collided. At the time, the Basic Health Unit was without an ambulance, it was being repaired in Parintins. Everything that happens in the community, the community members look for the CHW first, so as soon as the accident happened, they called me, we started first aid, it was a serious situation. We had
to charter a boat to take us to Parintins, we had no other option, we left here at about 5 o’clock in the afternoon, the river was dry, and at this time of year our region becomes more difficult to access. We have to cross a beach, in which case we had to carry the patient and the boat. Before that, we tried to call Parintins and the ambulance was supposed to pick him up on the banks of the Amazon River. We arrived at the appointed place and the ambulance wasn’t there, so we waited more than 20 minutes. We arrived in Parintins at 9:30 in the evening in a motorboat with a 15hp engine. It was an overcoming of life, because I thought that the patient didn’t let himself get carried away by the tragedy, in the situation he was in [...]. (CHW V)

The user also gave his version of the accident:

[...] The road conditions caused him (the boy on the motorcycle) to make a risky maneuver; he didn’t hit because he wanted to, he hit because it had to happen. It happened so fast that I didn’t react or even think to lift my leg. For me, what happened was the devil, God wouldn’t do something like that. They tried to carry me, but it was too ugly, so they brought a net and I was able to carry myself. Some of it I remember, but some of it I’ve forgotten, it was too many people. V. (CHW) who accompanied me [...]. (UBS user)

The first story comes from CHW V, who has two decades of experience in the riverside area. He shares a story about an urgent and emergency incident during a road accident. At the time of the incident, the UBS didn’t have an ambulance available, as it was being repaired in Parintins. Following protocol, the community initiated first aid with the help of the CHW, who quickly left his post and began providing assistance in a serious situation.

Due to the absence of an ambulance, it was necessary to charter a boat to transport the patient to Parintins. CHW V highlights the challenges faced, including the difficulty of access due to the low river, the need to cross a beach carrying the patient and the frustration of waiting for the ambulance, which didn’t show up at the designated location. Despite the adversities, they arrived in Parintins in a motorboat with a 15hp engine at 9:30 in the evening. The CHW emphasizes the patient’s impressive resilience in the face of this difficult situation.

The second testimony comes from the user involved in the accident. He described the poor road conditions that led to the incident and believed that the consequences occurred for unavoidable reasons. He expressed the feeling of shock and forgetting part of what had happened, highlighting the presence and support of the CHW, who accompanied him during the journey, even carrying him in a hammock due to the severity of the damage.

The CHW’s memory encompassed a variety of characters who played crucial roles in the experience, involving not only him and the user, but also other participants, such as the first responders at the UBS, the assistants in transporting the patient and the speedboat, the pilot of the other speedboat that brought him from the Amazon River, those who accompanied and supported the patient and, finally, the professionals.
responsible for the surgery at the Parintins hospital. The experience became collective, with characters who, although present-absent in the words of the narrators, played crucial roles in the narrative, becoming an integral part of the story that transcends the singularity of the user and the worker, becoming the story of “many people”.

Memory, according to Halbwachs et al.\textsuperscript{17} and Bosi\textsuperscript{18}, is the bridge between past and present. Halbwachs et al.\textsuperscript{17} point out that memory is associated with connections with other subjects and that these connections emerge as individual memories. However, for the author, the essence of collective knowledge forms the basis of social memory.

Both narratives offer a comprehensive view of the complexities associated with urgency and emergency in riverside areas. The accident that occurred during a work activity highlights the absence of immediate health transportation, the need for alternative means of locomotion due to the maintenance of the ambulance and the specific challenges faced during patient transportation. Temporality in emergency response is emphasized, underlining the critical importance of time in saving lives. The testimony also highlights the patient’s resilience in the face of adversity and the solidarity of the community in assisting with healthcare.

**Traditional practices in health care**

The community midwife’s narrative (Figure 2) shows many curves, rapids and rocks, but it also shows the “holes” (shortcuts) and gaps that appear between the rivers and lakes.

![Figure 2. The house and its possibilities.](Source: Artistic production - Users Group (2020)).
[...] I drew a house, and this house belongs to a pregnant woman, where I often give birth on the floor. Many pregnant women don’t want to go to Parintins because they have no support there, no family and no relatives. [...] Every birth is a birth, every birth is a learning experience. So, I brought here what has been with me since birth. It’s something you don’t pass on to anyone, but you can pass on the experience. I like every CHW to know about childbirth, so I tell the CHW in the area. Then the nurse made me sign this document. To this day, I have to declare that the woman was treated well in childbirth with two witnesses [...]. (Midwife)

The midwife’s narrative revealed the birth of her journey as a young woman who dedicates herself to the craft of midwifery, attending to parturients in their own homes, who choose not to go to the UBS. This is due to the belief that, when they go to the UBS, they will be referred to the municipal center, as directed by the municipal administration. The health professionals, in turn, have no autonomy in this context, while the parturient bases her choice on trust in the midwife’s knowledge. This trust, however, is not reciprocated by the management, which requires the signing of a term of responsibility with two witnesses, attesting that the parturient has been properly treated. This scenario reflects the common practice of medicalizing childbirth in Brazil, and the Amazon region is no exception.

According to a study on the profile of hospitalizations in hospitals serving the riverside population of Parintins, the main cause of hospitalization is related to “pregnancy, childbirth and puerperium”, representing 49.1% of a total of 1,700 hospitalizations between 2017 and 2018. These commonplace situations could be avoided if midwives were integrated into the work of family health teams in riverside communities.

[...] I’ve delivered babies with a doctor, I’ve delivered babies with a nurse, and then we can’t anymore. Now we do it at home and then tell the CHW in the area. I don’t weigh and I don’t measure, because ideally, we should measure the chest, head, abdomen and length, but I don’t have this material yet. I ask the CHWs in Mocambo for help because I’ve gone several times to accompany women to Parintins in pain. The child wasn’t born and at those times the woman faints, becomes limp, so she has to go there, right? Here there’s that whole process, there’s affection, because the woman is having her first child, she doesn’t know what it’s like. [...] These children who are born for me are an overcoming of life, because I’m working with life, with children, it’s that blood that strengthens me. Today I’m a grandmother with a child, but I’m still sad because we’re not supported [...]. (Midwife)
The midwife emphasized that her work goes beyond the home environment, mentioning that she has attended births with the presence of doctors and nurses. However, she emphasized the limitations of her work, highlighting the lack of equipment to record information about the child. Going along with pregnant women to the hospital is a common practice among midwives in the Amazon, sustained by the trust and affection established between the pregnant woman and the midwife. However, when they arrive at the hospital, they often face resistance from the health team, who often prevent them from exercising their role, even though they are experts in the act of traveling.

Since 2018, the midwives of Amazonas have organized themselves through the Association of Traditional Midwives of the State of Amazonas, achieving significant gains in the recognition of their practices and knowledge. One of these achievements was instituted by State Law no. 5,312 of 2020, which authorizes the presence of midwives throughout labor, childbirth and the immediate postpartum period, when requested by the parturient, in maternity hospitals, birthing centers and hospital establishments, in both the public and private networks in the state of Amazonas. This advance represents an important milestone in recognizing the role of midwives in the labor and birth process.

The discussion about the leading role, resistance and challenges faced by traditional parties in the provision of health care, especially in riverside and Amazonian contexts, is fundamental to understanding the complexity of the biomedical model. Traditional health practices are intrinsically linked to the “rivers” of popular knowledge in the production of care. In Agrovila do Mocambo, midwives play a fundamental role in the collective experience, contributing to a unique moment in people’s lives, which is labor and birth. The emergency situations narrated by the midwife during childbirth not only describe logistical aspects, such as transportation and location, but also highlight the value of care based on a lifetime of experience.

The midwife expresses her frustration at the lack of support for the development of her work, even after three generations of experience in auxiliary births, and is still obliged to update responsibility documents for each delivery carried out. In this context, the bends and barriers of the river can be metaphorical for the difficulties imposed by management, which, in the dynamics of life and births, do not present themselves as obstacles to her performance, but, on the contrary, as reasons for joy in “working with life” in the birth of children.

In a study carried out by Silva in a quilombola territory in the state of Amazonas, it was found that care based on traditional knowledge is predominantly provided by midwives, prayers, blessers and bone pullers. These agents are recognized by the community as essential elements in the network of access to health production in the territory. In order to make this sharing of knowledge effective in the production of care, it is imperative to plan actions that integrate these agents into the health teams.
Final considerations

In the intricate territories of the riverine Amazon, distance is revealed in the time it takes to travel along waterways, boreholes and streams, acting as natural “roads” that connect localities and communities. The concept of liquid territory is deeply intertwined with the population’s way of life, influencing food production, transportation methods, livestock and soil transformations during periods of flood and drought. Expressions such as “great flood” or “great drought” stand out, leaving their mark not only on the water levels recorded in trees and houses, but also in the memories of those who experience them. In this context, the question of access is intrinsically linked to the “pulse of the waters”, the movement of the rivers, the hydrological cycle and the very dynamics of life.

The narratives emerging from the “rivers of life” reveal that access in urgent and emergency situations carries with it memory, marking experiences at work and in community life. In this scenario, the health team organizes its practices considering the movement of the waters, where the imposing Amazon River presents itself as the viable path in this territory.

The “river of life” technique provided a revealing journey into the work and lives of health professionals, users and popular caregivers. The meetings, the elaboration of the springs and rivers, the narratives resulted in a mosaic of stories and memories that give meaning to what was experienced. The place thus reveals itself to be open and intensely diverse, escaping a quick and distant glance\(^2\). On the contrary, it demands attention to negotiations with others, the characteristics of the territory and traditional knowledge.

The “river of life” establishes a dialog with other issues that can be explored in the participatory approach, such as negotiation strategies between management and popular caregivers (midwives, bone pullers, prayers). The research involved a significant connection with the community and the team, broadening the observations and supporting the demands and needs of the population, including processes of permanent education, dialog about territorial management and the dynamics of access to health services.

The potential of this approach lies in its ability to employ a culturally rich metaphor, such as the “river”, facilitating expression and reflection on vital experiences. The collective construction of these symbols offers an inclusive platform for individual narratives, allowing participants to symbolically articulate the crucial influences in their lives. In addition, the use of diverse materials promotes creative and individualized expression, enriching the representations of the “rivers” with a diverse range of cultural and personal elements. This approach, by incorporating cultural symbolism and allowing artistic expression, becomes a powerful tool for participatory research and in-depth understanding of the influences and transformations in the lives of the participants.
In conclusion, this study does not end in itself, but opens up to new narratives and encounters. The place that historically welcomed black people (the meaning of the word Mocambo) continues to welcome people, but the struggle persists for inclusion, against racist ways of treating the riverside population. The riverside community remains a place of difficult access, chosen by people to be the best place to live, one of many in the Amazon that require inclusive and integrative policies.

The study highlights the distance between official policies and the riverside communities of the Amazon, emphasizing the invisibility of the diversity and daily adversities that compromise the integrality of care in the SUS. This is reflected both in the Amazonian territories and in the ostensible invisibility that certain population groups face, naturalizing their “absences” in the formulation of government policies and initiatives.
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All authors actively participated in all stages of preparing the manuscript.

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Conflict of interest

The authors have no conflict of interest to declare.

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Este estudio examinó la producción del cuidado en los servicios de salud, adoptando la metodología participativa “rio de la vida”. Realizado en una comunidad que vive a la orilla de un río en el interior de estado de Amazonas, la investigación utilizó ese abordaje reflexivo, envolviendo la creación de un río con materiales artísticos, tales como lápices de colores, cartulina y otros. La técnica promovió la proximidad con las historias, trayectorias y el empoderamiento de agentes comunitarios, usuarios y cuidadores. Esa experiencia profunda proporcionó insights sobre los desafíos territoriales en el acceso a la salud en situaciones urgentes. La grabación de las narrativas durante trabajos colectivos sirvió como método de colecta de datos, facilitando el diálogo entre el equipo de salud y cuidadores, enriqueciendo la comprensión de las dinámicas regionales envueltas en el cuidado de emergencia.