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Access to health services for riverside residents in a municipality in Amazonas State, Brazil

Acesso a serviços de saúde por ribeirinhos de um município no interior do estado do Amazonas, Brasil

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ABSTRACT

OBJECTIVE: To describe the characteristics of access to health services for riverside dwellers in the Municipality of Coari, Amazonas State, Brazil. METHODS: Descriptive, cross-sectional, population-based study was conducted with riverside dwellers in the rural area of Coari, from April to July 2015. The interviews were conducted using a previously prepared questionnaire. Socioeconomic, demographic and access to health services variables were used. The probabilistic sample by clusters was composed of 492 subjects. RESULTS: More than half (54.9%) of the riverside inhabitants used small wooden boats to access health services, sailing the average of 60 km and of 4.2 h travel time. The health service most sought by those populations was hospital (65.0%), followed by Basic Health Unit (26.6%), and pharmacies (5.4%). About one in four riverside dwellers (22.2%) stated that they tried unsuccessfully to book a medical appointment, with the main reasons being there were no appointments available (57.8%), the lack of professionals to assist them (28.4%), and the delay to get appointments (13.8%). CONCLUSION: The access to health services for riverside dwellers is limited, especially by geographical barriers. It is necessary to articulate strategies that promote access to health services, enabling the continuity of health care to this population.

Keywords: Rural Population; Vulnerable Populations; Universal Access to Health Services.

RESUMO

OBJETIVO: Descrever as características do acesso a serviços de saúde por ribeirinhos do município de Coari, estado do Amazonas, Brasil. MÉTODOS: Estudo descritivo, transversal, de base populacional, conduzido com ribeirinhos residentes na zona rural de Coari, no período de abril a julho de 2015. As entrevistas foram realizadas por meio de questionário previamente elaborado. Foram utilizadas variáveis socioeconômicas, demográficas e de acesso a serviços de saúde. A amostra probabilística por conglomerados foi composta por 492 sujeitos. RESULTADOS: Mais da metade (54,9%) dos ribeirinhos utilizavam pequenas embarcações de madeira para acessar os serviços de saúde, navegando em média 60 km e tempo médio de viagem de 4,2 h. O serviço de saúde mais procurado pelos ribeirinhos foi o hospital (65,0%), seguido da Unidade Básica de Saúde (26,6%) e de farmácias (5,4%). Cerca de um em cada quatro ribeirinhos (22,2%) afirmaram tentar agendar uma consulta médica sem êxito, tendo como principais motivos a falta de fichas (vagas) para agendamento (57,8%), a falta de profissionais para atendimento (28,4%) e a demora no atendimento para a marcação de consulta (13,8%). CONCLUSÃO: O acesso a serviços de saúde pelos ribeirinhos é limitado, sobretudo por barreiras geográficas. É necessária a articulação entre estratégias que promovam o acesso aos serviços de saúde pelos ribeirinhos, viabilizando a continuidade da assistência a saúde a essa população.

Palavras-chave: População Rural; Populações Vulneráveis; Acesso Universal aos Serviços de Saúde.

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INTRODUCTION

The Brazilian Amazon has an approximate surface area of 5,217,423 km², corresponding to about 61% of the Brazilian territory, among which about a third (1.6 million km²) belongs to the largest state in Brazil, Amazonas. Inversely proportional to the extensive territorial area, the State has the second-lowest demographic density in the country (2.2 inhabitants/km²)[1].

The demographic dispersion and the vast territory, bathed by extensive hydrographic basins and covered by the largest tropical forest on the planet, impose severe inequalities in access to health care and other social distortions concerning other Brazilian regions[2].

The riverside populations of the Amazon are descendants of indigenous peoples mixed with northeasterners and other migrants and live on the banks of rivers and lakes[3]. These inhabitants survive from fishing, hunting, family farming, and subsidies from the federal government's social programs. Their communities lack basic resources, such as basic sanitation and electricity, and depend on urban areas to purchase consumer goods and health care. Commute to urban areas is by the river, using small boats, on trips that can last from a few minutes to days of navigation[2]. Along with the adverse conditions in the region, riverside dwellers are exposed to infectious diseases (malaria, parasitic diseases, Chagas disease)[4] associated with typical morbidities of large urban centers, such as hypertension and diabetes[5].

Although the Federal Constitution of 1988 guarantees the right to universal and equal access to health for all Brazilians[6], there is evidence that access has been a challenge for users of the Unified Health System (Sistema Único de Saúde – SUS).

A study carried out at the national level and with data from the National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílios – PNAD), excluding the rural population of the states of the North Region, pointed out that the main reason for not obtaining health care was not getting a vacancy or there were no doctors available[7].

In the metropolitan region of Belo Horizonte, health professionals pointed out some factors that hinder access to health by the population: the distance from the user's residence to the Basic Health Unit (Unidade Básica de Saúde – UBS), the deficiency of public transport in the city, and the impossibility of paying transport due to economic difficulties[8].

In the North Region, an investigation carried out with fishers along the Machado do Ji-Paraná River, in Rondônia State, pointed out that, when seeking a health service, the most significant problems they faced were the lack of specialist doctors, the delay in making appointments and specific exams and the lack of medication in the UBS[9].

The access limitations to health services make up a multifactorial, complex, and subjective context[10], which may affect different aspects of the way of life of these populations. In this sense, this study aimed to describe the characteristics of access to health services by riverside dwellers in the municipality of Coari, Amazonas, Brazil.

MATERIALS AND METHODS

This study is part of the research "Health, Medicines and Self-medication in Ribeirinhos do Amazonas" (Saúde, Medicamentos e Automedicação em Ribeirinhos do Amazonas – SAMARA).

This is a cross-sectional, population-based study conducted with riverside dwellers living in the rural area of Coari, carried out from April to July 2015.

Coari is located in the central region of the Amazonas State, in the middle channel of the Solimões River, 363 km away from Manaus. Access to the city is done by river (9 to 30 h of travel, depending on the vessel) or by air (1 h to Manaus). The estimated population in 2017[1], was 84,762 inhabitants. The territorial area of Coari is 57,970 km² and the demographic density is 1.3 inhabitants/km².

The primary health services in Coari are a medium-complexity hospital (105 beds), 12 UBS, a Tropical Medicine Institute, a Fluvial UBS, a hospital boat to cover all riverside communities, a Central Laboratory for Clinical Analysis, a Service of Emergency, a Health Surveillance Center, a Polyclinic, and a Psychosocial Care Center[11].

The inhabitants of the rural area are distributed in communities scattered along the banks of the Solimões River, lakes and streams, in areas of dry land and floodplains.

The calculated sample consisted of 470 subjects, depending on the number of riverside communities covered by the Municipal Secretariat of Health of Coari (N = 135), to ensure the representativeness of the territorial research area and the number of adult inhabitants (N = 10,333). The technique of probability sampling by conglomerates was adopted. The details of the sample calculation can be seen in a previous publication[2]. Individuals aged 18 years or older who were in residence at the time of the questionnaire application were included.

This investigation collected socioeconomic, demographic, and access to health services information. Questionnaires were administered by previously trained interviewers from the Health and Biotechnology Institute of the Federal University of Amazonas. The riverside dwellers were approached in their homes and invited to participate in the study.

The variables analyzed were those of a demographic nature (gender, age, marital status, residents per household), socioeconomic (education attainment, monthly family income, labor activity), and access to health services (distance and time to access health services, search for health services in the last 30 days, transport commonly used for access, professional and service you seek in case of illness, attempt to schedule appointments and reason for not getting the appointment.

Data were entered using a data entry mask in the software SPSS (Statistical Package for Social Sciences) v22.0 for Windows. Qualitative variables were described by calculating absolute and relative frequencies, and, for quantitative variables, measures of central tendency were calculated.

Individuals who consented to participate in this study signed the Free and Informed Consent Form. For those who did not know how to sign, fingerprint pads were available to collect fingerprints.

The study was approved by the Research Ethics Committee of the University of São Paulo School of Nursing, under nº 33560914.0.0000.5392, on August 5, 2014.

Table 1 – Distribution of research subjects according to socioeconomic and demographic variables, Coari, Amazonas State, Brazil, 2015

Variables	Riverside dwellers N = 492	%
Gender		
Male	231	47.0
Female	261	53.0
Age (years)		
18 to 39	287	58.3
40 to 59	149	30.3
≥ 60	56	11.4
Illiterate		
Yes	109	22.2
No	383	77.8
Education attainment (years)		
Did not study	48	9.7
1 to 4	146	29.7
5 to 9	143	29.1
≥ 10	155	31.5
Marital status		
Live alone	94	19.1
Live together	398	80.9
Work activity		
Does not work	103	20.9
Agriculture and fishing	311	63.2
Civil servant*	59	12.0
Others	19	3.9
Monthly family income (MW)†		
< 1	205	41.7
1 to 2	195	39.6
> 2	92	18.7
Number of residents per household		
1 to 5	246	50.0
≥ 6	246	50.0

* Civil servant: teacher, community health agent, and lunch lady; † MW: minimum wage referring to April 2015 (BRL 788.00).

RESULTS

A total of 492 riverside dwellers were interviewed, among which 53.0% were female, 88.6% were adults, 58.8% had low education level, and 63.2% had fishing and agriculture as an economic activity. Almost half of the riverside dwellers had a family income below the minimum wage (41.7%) (Table 1).

Among the interviewees, more than half (54.9%) of the riverside dwellers used small wooden boats powered by motors (sterndrive), to access health services, navigating an average of 60.4 km, with an average travel time of 4.2 h (Table 2).

As for the type of professional most sought after in case of health problems, 42.7% said they sought doctors, followed by community health workers (36.2%) and pharmacists (5.3%). Regarding the most sought-after health services, 65.0% said they sought care directly at the city's hospital, followed by the UBS (26.6%) and pharmacies (5.5%). Among the interviewees, 22.2% of the riverside dwellers stated that they had already tried to make appointments without success and the most cited reasons were the lack of vacancies for scheduling (57.8%), lack of health professionals (28.4%), and long wait time for the appointments (13.8%) (Table 3).

Table 2 – Distribution of research subjects according to variables related to access to health services, municipality of Coari, Amazonas State, Brazil, 2015

Variables	Riverside dwellers N = 492	%
Transport used to access health services		
Sterndrive*	270	54.9
Recreio†	169	34.4
Motorcycle	17	3.5
Rowing canoe	15	3.0
Community boat	11	2.2
Others‡	10	2.0
Distance from the community to the health service (km)		
< 50	253	51.4
50 to 100	139	28.3
> 100	100	20.3
Average	60.4	
Commute time from the community to the health service (hour)		
< 1	54	11.0
1 to 4	251	51.0
> 4	187	38.0
Average	4.2	

* Small motor-powered wooden vessel; † Large vessel; ‡ Others: truck, on foot.

Table 3 – Distribution of research subjects according to variables related to the access mode to health services, Coari, Amazonas State, Brazil, 2015

Variables	Riverside dwellers	
	N = 492	%
Whom to look for in case of illness		
Doctor	210	42.7
Community health agent	178	36.2
Pharmacist	26	5.3
Nurse	23	4.7
Friend, neighbor or acquaintance	23	4.7
Nobody	16	3.2
Other*	16	3.2
Health facility you seek in case of illness		
Coari Regional Hospital	320	65.0
Riverside UBS	131	26.6
Drugstore	27	5.5
Others†	14	2.9
Attempt to schedule appointment unsuccessful		
Yes	109	22.2
No	367	74.6
Never scheduled	16	3.2
Reason why the attempt failed (N = 109)		
Lack of vacancies for scheduling	63	57.8
Lack of health professionals	31	28.4
Long wait time to schedule an appointment	15	13.8

* Prayer/Preacher: local healer; † Coari Institute of Tropical Medicine; Private clinic.

DISCUSSION

The riverside population of Coari had low education and economic levels. The main activities carried out were agriculture and fishing, having rustic motor-powered boats (sterndrive) that travel long distances to access the urban area as the primary means of transport.

The low education level of riverside dwellers can directly affect how their health is managed. Furthermore, it portrays the need for specific actions that take into account the local reality and educational context.

Historically, rural populations worldwide are deprived of favorable conditions to improve the quality of life, which includes access to education, health, clean water, and sanitation. The 2015 Millennium Development Goals Report found that children are four times more likely to be out of school in rural populations in developing countries, and mortality rates are nearly twice as high compared to children of families with favorable economic conditions. Furthermore, only 56.0% of births are accompanied by specialized health professionals in these areas, while the percentage is 87.0% in urban areas. Another important aspect is access to drinking water sources (four times less) and access to sanitation (three times less) in rural areas compared to urban areas[12].

Educational limitations also hinder economic development and, consequently, access to consumer goods (medicines, food, health plans), negatively impacting life expectancy. Furthermore, preventive health is hampered by the limitations of understanding the health-disease process, preventing morbidities, and promoting health[13].

Educational limitations contribute to morbidity and mortality high rates from preventable parasitic diseases in the health context. Between 2001 and 2009, Brazil registered 13,449 deaths from diseases related to inadequate basic sanitation, corresponding to 1.31% of the total number of deaths in the period and about R$ 2.1 billion in SUS spending on medical consultations and hospital admissions[14].

The Brazilian Amazon has several infectious diseases typical of the region and some other chronic ones arising from changes in eating habits in recent years[5], providing a worrying environment concerning the control and prevention of these diseases. Many communities

do not have electricity, limiting access to information provided by the internet, radio, and television. In addition, there is no basic sanitation, and to have drinking water is needed to use hypochlorite, not always available or with inadequate guidance as to how to use it, which can lead to a false impression of prevention[2].

With regard to the low economic level of riverside dwellers, it is essential to discuss the impact of any health problem and the economic burden on the individual and their family. It is necessary to consider the distance to access health services (60 km on average), the duration of the trip (4 h on average), commuting costs (small wooden vessels require fuel), and, in cases of hospitalization, the costs of accommodation and food for companions, as riverside dwellers generally do not have a residence in the urban area. There is also the impact caused by the need to interrupt the activities of agriculture, fishing, among others, sometimes the only sources of income in the communities. The sum of these issues can affect the already limited income of riverside dwellers and the outcome of the health problem, forcing them to resort to resources available in the community itself[15], which can aggravate the underlying problem in an attempt to solve or delay the search for the health service in the expectation of an improvement in the morbid condition.

Other studies carried out in riverside populations in the Amazon showed that geographic issues directly interfere with access to health services[2,15,16]. In other countries, such as Australia, safeguarding socio-political, geographic, and cultural differences, rural populations also suffer adverse consequences imposed by the same issues[17], showing that geographic characteristics can limit the access to health services for these populations.

The Brazilian government directed some strategies to reduce the inequalities faced in access to health by vulnerable populations, including riverside populations in the Amazon. The Mais Médicos Program was created in 2013 (Provisional Measure nº 621/2013) to meet the needs of doctors in vulnerable regions of Brazil[18]. In that same year, the Northern Region of Brazil had the lowest ratio of physicians per 1,000 inhabitants (1.0 doctor/1,000 inhabitants), a situation that was aggravated in Amazonas State, especially in the inland (0.2 doctor/1,000 inhabitants), corresponding to a ratio 10 times lower when compared to the capital Manaus (2.0 doctors/1,000 inhabitants)[16]. Between 2013 and 2017, the Mais Médicos Program had 18,240 doctors (62.6% were Cuban doctors), distributed in 72.8% of Brazilian cities[18]. This program, notoriously, brought greater coverage of doctors in areas of difficult access and greater vulnerability; however, alone, cannot fill the gaps in health care for these populations[19,20].

Another strategy that enabled advances in access to health by riverside populations was the implementation of the National Policy on Primary Care (Política Nacional de Atenção Básica – PNAB) (Ordinance MS/GM nº 2.488/2011 and Ordinance MS/GM nº 2.490/2011). According to the PNAB, municipalities in the Legal Amazon and Mato Grosso do Sul can choose between two organizational arrangements for Family Health Teams: the Riverside Family Health Teams (Equipes de Saúde da Família Ribeirinha – ESFR) and the Fluvial Family Health Teams (Equipes de Saúde da Família Fluviais – ESFF), which must be composed of at least one doctor, one nurse, one technician or nursing assistant and six to 12 community health agents[21].

Although the strategies raised may have advanced in reducing inequalities in access to health care among riverside populations in Amazonas, in 2016, Constitutional Amendment nº. 95 was approved, which provides for a freeze on public spending for the next two decades, including health expenses[22]. In this context, considering the situation of vulnerability already imposed on riverside populations in the Amazon, such a measure may incur dramatic impacts with the reduction of investments and the increase in socioeconomic and access to health inequalities.

When analyzing the searches by type of service and health professional, the data indicate a preference for hospital service and medical care in case of illness among riverside dwellers. This situation may be related to the belief that medical professionals are the only ones capable of solving the population's health problems and the fact that the services offered by primary care are limited in their ability to resolve[23]. On the other hand, the limitations of access to health care and the possibility of complex morbid processes, possibly aggravated until reaching the health service, can lead to the need for specialized care in the hospital.

It should be considered that, as the UBS works during the day and there is a need to schedule appointments for emergency care or at another time, the only health service available would be the hospital. In addition, although riverside dwellers access the urban area of the municipality on a monthly basis[2], the limited length of stay there and the time when the service is sought may not coincide with the operation of the UBS. Such findings warn of the need for service with free demand to contemplate the SUS premises of universality and comprehensive care[24].

The community health agents were frequently sought out by riverside dwellers to resolve morbidities. As there are no health services in the riverside communities, these agents are the only professionals in these locations and act as intermediaries between the population and the network of health services. They are community residents and work in the Family Health Strategy, registering and accompanying families, through home visits, and also guide and develop activities to promote health in the community, preventing diseases and injuries[21,25].

Pharmacies represented the third choice in case of health problems, and pharmacists. It is possible that these establishments replace, in some situations, the demand for health services, especially in cases of morbidities of "easy" resolution[26], such as pain problems, very prevalent in riverside populations due to intense work activities. At this point, it is necessary to

be concerned with the masking of illnesses, which can give rise to other, more severe illnesses. In addition, the search for pharmacies can encourage the consumption of medicines, increasing their medicine cabinet, promoting irrational use, and self-medication in riverside communities[2].

About one in four riverside dwellers were not successful in scheduling appointments when they sought health services in the urban area of the municipality, mainly due to the lack of medical care forms or professionals for care. These data are in line with those of the PNAD, which pointed out such aspects as the main reasons for not getting health care by the Brazilian population[7]. It is worth noting that the aforementioned research excluded the rural population of the North Region, which indicates the need for studies that understand the access to health services in this region.

Among the limitations of the present study, it is considered that the capture of information about the time and distance of access to health services by riverside dwellers can vary significantly in relation to the time of the investigation. This study was conducted when the lakes and the river allowed navigation with ease (during floods), unlike what occurs in the dry periods (between August and November), which isolates some communities and substantially elevates the time taken to access health services.

CONCLUSION

Access to health services by riverside dwellers is achieved through small wooden boats, traveling long distances between communities to the health service. Riverside dwellers tend to seek the hospital more frequently, and it has been found that the difficulty in scheduling care is one of the main reasons that limit access to the UBS.

It is necessary to link strategies that promote health services by riverside dwellers, enabling the continuity of health care for these populations.

AUTHORS' CONTRIBUTION

Guimarães AF, Barbosa VLM, Silva MP, Portugal JKA and Reis MHS contributed to data acquisition, review and interpretation of results. Gama ASM contributed to the design of the paper, acquisition, analysis and interpretation of data, writing, and critical review of the content.

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CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest regarding this research.

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