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Original Article

Evaluation of Primary Health Care in the fight against COVID-19: a comparison between Brazilian regions

Avaliação da Atenção Primária à Saúde no enfrentamento da COVID-19: comparação entre as regiões brasileiras

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ABSTRACT

Objective: to compare the care offered by Primary Health Care to people with suspected and/or diagnosed COVID-19 among different Brazilian regions. **Methods:** an analytical cross-sectional study with a convenience sample. Data were collected using a self-administered structured questionnaire made available via e-mail to managers of Primary Health Care units. A Poisson regression model with a random effect was used to estimate the prevalence ratios, comparing the variables by region. **Results:** 1,474 primary care service managers participated in the survey, of which 676 (45.9%) were from the Southeast region. Active and continuous surveillance of patients receiving follow-up was 36% more prevalent in the North than in the South. Immediate notification of Flu Syndrome and Severe Acute Respiratory Syndrome was 13% higher in the Southeast than in the South. **Conclusion:** structural and political factors reflected in the heterogeneity of the Primary Care response to the pandemic in the different states and regions of the country. Active surveillance was essential for monitoring and managing COVID-19 cases, avoiding unnecessary hospital referrals. **Contributions to practice:** to provide subsidies for improving public policies in Primary Care in health crisis scenarios.
Descriptors: COVID-19; Primary Health Care; Local Health Strategies; Health Inequities.

RESUMO

Objetivo: comparar a assistência oferecida pela Atenção Primária à Saúde às pessoas com suspeita e/ou diagnóstico de COVID-19 entre as diferentes regiões brasileiras. **Métodos:** estudo transversal analítico com amostra por conveniência. A coleta de dados ocorreu por meio de questionário estruturado autorrespondido disponibilizado via *e-mail* a gerentes de unidades da Atenção Primária. Foi utilizado o modelo de regressão de Poisson com efeito aleatório para estimar as razões de prevalência comparando as variáveis por regiões. **Resultados:** participaram da pesquisa 1.474 gerentes de serviços da Atenção Primária, sendo 676 (45,9%) da região Sudeste. A realização de vigilância ativa e continuada de pacientes que estão recebendo acompanhamento foi 36% mais prevalente no Norte do que no Sul. A notificação imediata de Síndrome Gripal e de Síndrome Respiratória Aguda Grave foi 13% maior no Sudeste quando comparada ao Sul. **Conclusão:** fatores estruturais e políticos refletiram na heterogeneidade da resposta da Atenção Primária à pandemia nos diferentes estados e regiões do país. A vigilância ativa foi uma estratégia essencial para o monitoramento e manejo dos casos de COVID-19, evitando encaminhamentos desnecessários a hospitais. **Contribuições para a prática:** oferecer subsídios para o aprimoramento de políticas públicas na Atenção Primária em cenários de crise sanitária.
Descritores: COVID-19; Atenção Primária à Saúde; Estratégias de Saúde Locais; Desigualdades de Saúde.

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Introduction

The COVID-19 pandemic has required a rapid and effective reorganization of all levels of health care. In the initial phase of the pandemic, especially during the community transmission phase of the disease, when vaccines were not yet available, countries sought to adopt strategies to assist people with COVID-19. They also sought measures to contain the spread of the virus. During this period, home office and physical isolation were adopted to flatten the epidemiological curve and prevent hospitals and Intensive Care Units (ICUs) from overloading with a demand that exceeded their capacity[1].

In this context, Primary Health Care (PHC) played an essential role during the COVID-19 pandemic, especially in Brazil, due to its potential in health surveillance actions[2]. During the critical phase of the pandemic, in 2020 and 2021, PHC underwent significant changes, such as the cancellation of non-priority in-person elective consultations, the cancellation of groups and collective activities, and the creation of care flows that prioritized the immediate identification of respiratory symptoms and reduced the number of contacts within the health unit environment[3].

The pandemic has highlighted the weaknesses of health system models worldwide, and organizations such as the World Health Organization have been discussing the importance of strengthening public health systems and PHC[4].

It is worth noting that in Latin American countries, curative and hospital-based approaches focused on the individual treatment of COVID-19 in the initial phase of the pandemic. Regarding government strategies for dealing with the pandemic, countries such as Cuba, Venezuela, and Uruguay have adopted centralized, organized, and planned approaches, with active citizen participation in government health-related decisions. On the other hand, in countries like Bolivia, Brazil, and Chile, the government response was less centralized and structured, which made it challenging to coordinate and effectively implement epidemiological control measures. Disparities in the organization of countries regarding the role of PHC in tackling the COVID-19 pandemic have led to significant variations in the effectiveness of responses within the Latin American region[5-6].

Differences in the organization of PHC in dealing with the critical phase of the pandemic were also evident in the Brazilian context. More socioeconomically vulnerable states have found it more difficult to reconcile the increased demand caused by COVID-19 with maintaining routine activities. The fragmented actions of the federal government during the pandemic contributed to the decentralization of actions. As a result, states and municipalities were forced to adopt different measures with the federal plan, primarily physical distancing actions and the opening activities considered essential. These divergences in the response to the pandemic resulted from the lack of national coordination and the different needs and local realities faced by the states and municipalities[7-8].

Considering the magnitude of COVID-19 and the response capacity of the different Brazilian regions and states. However, there is still a gap in knowledge regarding the evidence that shows what is familiar and what is different in the organization and assistance offered by PHC services during the critical phase of the pandemic. This is in a country as continental and diverse as Brazil. The aim was, therefore, to compare the care offered by Primary Health Care to people with suspected and/or diagnosed COVID-19 among different Brazilian regions.

Methods

This cross-sectional observational study followed the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE). The sample was established for convenience due to the lack of official data on the total number of PHC service managers in Brazil. Therefore, 1,474 PHC

health service managers from Brazilian municipalities that had at least one confirmed case of COVID-19 in the period from February 26, 2020, to June 30, 2021, participated.

Data was collected from April to September 2022 using a self-administered online questionnaire on Google Forms, based on the Protocol for the Clinical Management of Coronavirus (COVID-19) in Primary Health Care[9], including the following variables: identification of suspected cases of the flu syndrome and COVID-19; measures to prevent contagion in health units; stratification of the severity of the flu syndrome; therapeutic management and home isolation of mild cases; early diagnosis and referral to urgent/emergency services or hospital for severe cases following the organization of the Health Care Network; immediate notification of the flu syndrome and Severe Acute Respiratory Syndrome (SARS); clinical monitoring; community prevention measures and support for active surveillance.

The questionnaire was sent via e-mail to the municipal health departments, along with a survey presentation and the approval report from the Research Ethics Committee. It was then forwarded to the professionals eligible to manage PHC services. To increase the reach of the target audience, the survey was also publicized at the National Council of Health Secretaries and the National Council of Municipal Health Secretaries, which stressed the importance of the participation of municipalities. They also forwarded the instrument to the municipal health secretariats. Supporters of the Council of Municipal Health Secretaries also collaborated in publicizing the survey at the Regional Health Departments.

The following inclusion criteria were defined for participating in the survey: being a PHC health service manager in the municipality and having held the position for at least three months during the COVID-19 pandemic. Managers who were on leave and/or vacation during the pandemic and those who did not complete all the answers to the questionnaire were excluded.

The data was entered into and analyzed using SAS 9.4 software. Absolute and relative frequencies were used to describe the qualitative variables. The Poisson regression model with random effects was used to estimate prevalence ratios (PR) and 95% confidence intervals (95%CI), compared by region. A significant level of 5% was adopted for all the analyses.

The study was accepted by the Research Ethics Committee of the Federal University of São Carlos Certificate of Submission for Ethical Appraisal 52527521.8.0000.5504, under opinion no. 5,339,284/2022.

Results

A total of 1,474 PHC health service managers from municipalities across the country took part in the survey, with 676 (45.9%) from the Southeast, 311 (21%) from the Northeast, 258 (17.5%) from the South, 173 (11.7%) from the Midwest and 56 (3.8%) from the Northern. The state with the highest participation was São Paulo, with 365 (24.8%) participants. Regarding gender, 1,276 (86.6%) reported being female and 198 (13.4%) males, with an average age of 38.9 years.

It is important to note that all the participants answered that their health units adopted measures to reorganize care and prevent contagion when welcoming patients suspected of COVID-19.

When comparing the Central-West, Northeast, Northern, and Southeast regions regarding the measures adopted to reorganize care for patients with suspected or diagnosed COVID-19, there was a statistically significant difference in guidance on home isolation for 14 days for household contacts of patients with flu-like syndrome, which was 27% less prevalent in the Central-West when compared to the Southeast (Table 1).

Table 1 – Comparison between the Central-West and Northeast, Northern, and Southeast regions regarding measures adopted to reorganize care for patients with suspected and/or diagnosed COVID-19 (n=1,474). São Carlos, SP, Brazil, 2024

Variables	Central-West *vs* Northeast		Central-West *vs* Northern		Central-West *vs* Southeast	
	PR (CI 95%)*	p-value†	PR (CI95%)	p-value	PR (CI 95%)	p-value
Separate care ward for patients with symptoms like COVID-19						
Yes	1.004(0.87;1.16)	0.950	0.93(0.8; 1.07)	0.300	0.93(0.82; 1.06)	0.290
Active and continuous surveillance of patients being monitored						
Yes	0.91(0.74; 1.13)	0.400	0.86(0.7; 1.05)	0.130	0.88(0.72; 1.07)	0.200
Remote monitoring every 48 hours and, if necessary, in person						
Yes	0.85(0.58; 1.26)	0.420	0.79(0.54; 1.16)	0.230	0.77(0.54; 1.11)	0.160
Home isolation for 14 days for contacts						
Yes	0.82(0.63; 1.06)	0.130	0.89(0.67; 1.19)	0.430	0.73(0.57; 0.94)	0.010
Referral of severe cases at a referral center						
Yes	1.005(0.98; 1.03)	0.670	1.006(0.97; 1.04)	0.710	0.981(0.98; 1.02)	0.980
Immediate notification of flu syndrome and SARS‡						
Yes	1.02(0.95; 1.1)	0.580	0.997(0.9; 1.1)	0.950	0.97(0.92; 1.03)	0.360
Sanitizer dispensers available						
Yes	1.06(0.99; 1.14)	0.120	0.98(0.92; 1.06)	0.640	0.99(0.93; 1.05)	0.670
Confirm bed availability before referring the patient to a referral hospital						
Yes	1.12(0.85; 1.48)	0.430	1.15(0.79; 1.68)	0.460	1.23(0.95; 1.59)	0.120
Care guidelines for patients going into home isolation						
Yes	1.005(0.98; 1.03)	0.670	0.99(0.97; 1.004)	0.150	0.999(0.98; 1.02)	0.890

*PR: Prevalence ratio; CI: 95% confidence interval; †Significant for p<0.05; ‡SARS: Severe Acute Respiratory Syndrome

When specifically evaluating the Northeast and South comparison, it stands out that active and continuous surveillance of patients who are being monitored was 27% higher in the Northeast. In the comparison between the Northeast and the Southeast, there was a statistical difference in the guidance on home isolation for 14 days for household contacts of patients with flu-like illness, with an 11% lower prevalence in the Northeast.

When assessing the availability of a functioning alcohol gel dispenser, this measure was 7% less prevalent in the Northeast compared to the Northern and Southeast. Checking the availability of beds before referring a patient requiring hospitalization to a referral hospital showed an estimated 21% lower prevalence in the Northeast than in the South (Table 2).

The prevalence of directing patients with COVID-19-like symptoms to a separate ward was 18% higher in the North than in the South. Active and ongoing surveillance of patients who are being monitored was 36% more prevalent in the North than in the South. Guidance on home isolation for 14 days for household contacts of patients with flu-like illness was 18% less prevalent in the North than in the Southeast.

The variable of providing the necessary guidance on care for patients going into home isolation was 1% more prevalent in the Southeast and 2% more prevalent in the South when compared to the Northeast (Table 3).

Table 2 – Comparison of the Northeast, North, Southeast, and South regions regarding the measures adopted to reorganize care for patients with suspected and/or diagnosed COVID-19 (n=1,474). São Carlos, SP, Brazil, 2024

Variables	Northeast *vs* Northern		Northeast *vs* Southeast		Northeast *vs* South	
	PR (CI 95%)*	p-value†	PR (CI 95%)	p-value	PR (CI 95%)	p-value
Separate care ward for patients with symptoms like COVID-19						
Yes	0.92(0.83; 1.02)	0.110	0.93(0.86; 1.004)	0.060	1.08(0.97; 1.21)	0.160
Active and continuous surveillance of patients being monitored						
Yes	0.94(0.83; 1.07)	0.320	0.96(0.86; 1.08)	0.520	1.27(1.02; 1.59)	0.030
Remote monitoring every 48 hours and, if necessary, in person						
Yes	0.92(0.75; 1.13)	0.450	0.90(0.77; 1.06)	0.210	1.09(0.82; 1.45)	0.540
Home isolation for 14 days for contacts						
Yes	1.09(0.93; 1.29)	0.290	0.89(0.82; 0.98)	0.020	1.04 (0.92; 1.18)	0.490
Referral of severe cases at a referral center						
Yes	1.002(0.97; 1.03)	0.910	0.996(0.98; 1.01)	0.590	1.003(0.98; 1.03)	0.800
Immediate notification of flu syndrome and SARS‡						
Yes	0.98(0.88; 1.09)	0.650	0.95(0.89; 1.02)	0.170	1.08(0.99; 1.17)	0.090
Sanitizer dispensers available						
Yes	0.93(0.87; 0.99)	0.030	0.93(0.88; 0.98)	<0.010	0.92(0.86; 0.99)	0.020
Confirm bed availability before referring the patient to a referral hospital						
Yes	1.03(0.74; 1.43)	0.860	1.1(0.92; 1.31)	0.310	0.79(0.65; 0.96)	0.020
Care guidelines for patients going into home isolation						
Yes	0.98(0.97; 0.997)	0.020	0.99(0.98; 1.01)	0.470	1.01(0.98; 1.03)	0.560

*PR: Prevalence ratio; CI: 95% confidence interval; †Significant for p<0.05; ‡SARS: Severe Acute Respiratory Syndrome

Table 3 – Comparison of the Northern, Southeastern, and Southern regions regarding the measures adopted to reorganize care for patients with suspected and/or diagnosed COVID-19 (n=1,474). São Carlos, SP, Brazil, 2024

Variables	Northern *vs* Southeast		Northern *vs* Southern	
	PR (CI 95%)*	p-value†	PR (CI 95%)	p-value
Separate care ward for patients with symptoms like COVID-19				
Yes	1.01 (0.92; 1.1)	0.890	1.18 (1.05; 1.32)	<0.010
Active and continuous surveillance of patients being monitored				
Yes	1.03 (0.93; 1.13)	0.580	1.36 (1.1; 1.68)	<0.010
Remote monitoring every 48 hours and, if necessary, in person				
Yes	0.98 (0.83; 1.14)	0.770	1.18 (0.89; 1.56)	0.240
Home isolation for 14 days for contacts				
Yes	0.82 (0.71; 0.95)	<0.010	0.95 (0.81; 1.13)	0.580
Referral of severe cases at a referral center				
Yes	0.994 (0.96; 1.02)	0.690	1.002 (0.97; 1.04)	0.930
Immediate notification of flu syndrome and SARS‡				
Yes	0.98 (0.89; 1.07)	0.620	1.1 (0.99; 1.23)	0.070
Sanitizer dispensers available				
Yes	1.004 (0.96; 1.06)	0.860	0.99 (0.93; 1.06)	0.830
Confirm bed availability before referring the patient to a referral hospital				
Yes	1.06 (0.78; 1.45)	0.690	0.77 (0.56; 1.06)	0.110
Care guidelines for patients going into home isolation				
Yes	1.01 (1.002;1.02)	0.010	1.02 (1.003;1.05)	0.030

*PR: Prevalence ratio; CI: 95% confidence interval; †Significant for p<0.05; ‡SARS: Severe Acute Respiratory Syndrome

The availability of a separate care ward for patients with symptoms like COVID-19 stood out in the Southeast, which had a 17% higher prevalence compared to the South. Active and continuous surveillance of patients being monitored and guidance on home isolation for 14 days for household contacts of patients with flu-like symptoms were 32% and 17% higher in the Southeast than in the Southern region, respectively.

Immediate notification of flu syndrome and SARS, treated as suspected COVID-19, had a 10% higher prevalence in the Midwest compared to the South and 13% higher in the Southeast compared to the Southern.

Checking the availability of beds before referring a patient requiring hospitalization to a referral hospital had an estimated prevalence of 28% lower in the Southeast than in the Southern region (Table 4).

Table 4 – Comparison of the Southern, Midwest, and Southeast regions regarding the measures adopted to reorganize care for patients with suspected and/or diagnosed COVID-19 (n=1,474). São Carlos, SP, Brazil, 2024

Variables	Central-West *vs* Southern		Southeast *vs* Southern	
	RP (CI 95%)*	p-value†	RP (CI 95%)	p-value
Separate care ward for patients with symptoms like COVID-19				
Yes	1.09 (0.93; 1.27)	0.280	1.17 (1.06; 1.29)	<0.010
Active and continuous surveillance of patients being monitored				
Yes	1.16 (0.89; 1.52)	0.280	1.32 (1.08; 1.62)	<0.010
Remote monitoring every 48 hours and, if necessary, in person				
Yes	0.93 (0.61; 1.43)	0.750	1.21 (0.94; 1.55)	0.130
Home isolation for 14 days for contacts				
Yes	0.85 (0.65; 1.11)	0.230	1.17 (1.06; 1.28)	<0.010
Referral of severe cases at a referral center				
Yes	1.008 (0.98; 1.04)	0.590	1.008 (0.98; 1.03)	0.550
Immediate notification of flu-like illness and SARS‡				
Yes	1.1 (1.02; 1.19)	0.020	1.13 (1.05; 1.21)	<0.010
Sanitizer dispensers available				
Yes	0.98 (0.91; 1.05)	0.530	0.99 (0.94; 1.04)	0.680
Confirm bed availability before referring the patient to a referral hospital				
Yes	0.89 (0.67; 1.16)	0.380	0.72 (0.61; 0.85)	<0.010
Care guidelines for patients going into home isolation				
Yes	1.01 (0.99; 1.04)	0.370	1.01 (0.99; 1.04)	0.250

*PR: Prevalence ratio, CI: 95% confidence interval; †Significant for p<0.05; ‡SARS: Severe Acute Respiratory Syndrome

Discussion

All the health units participating in this study have adopted measures to prevent the spread of the disease. PHC services in the Southeast reported greater availability of a separate ward for suspected COVID-19 cases than those in the South. Home isolation guidelines were less prevalent in Northern, Northeastern, and Central-West services than in the Southeast. Active and ongoing surveillance of patients in home isolation was more commonplace in PHC services in the Southeast, Northern, and Northeast than in the Southern region.

Implementing measures to prevent contagion by COVID-19 in PHC health units was unanimous and corresponds to the search to adapt health services to mitigate the spread of the virus and maintain essential care[10]. However, there were significant variations in isolation and active surveillance guidelines between Brazilian regions. This finding may be related to the higher proportion of people living in large urban centers and the greater demographic density in the Southeast than in the other regions. This made home isolation even more essential during the critical phase of the pandemic.

On the other hand, guidance for home isolation

may not be feasible in regions with greater poverty. Low income, more people living in the same household, and inadequate housing conditions have increased COVID-19 incidence and mortality rates[11]. In addition, PHC has faced logistical limitations in reaching isolated areas, which has exacerbated the challenges of care and prevention in Indigenous and riverside communities[12]. These communities have also faced difficulties accessing the vaccine, resulting in low coverage and a higher incidence of the disease than the general Brazilian population[13]. Although many indigenous peoples live in isolation, especially in the northern region, they face risks of infection from people who invade and occupy their lands irregularly[14].

The Northern region, marked by health inequalities and a low Human Development Index, has many communities lacking adequate housing and sanitation conditions, facilitating the spread of the virus. This reality has exposed the population to greater risk and made it difficult to implement preventive measures against COVID-19, such as physical distancing. This region also stood out for its high incidence and mortality rates, mainly due to the limited hospital infrastructure and difficulty accessing health services in remote areas[15].

The state of Amazonas suffered from a lack of oxygen during the second wave of COVID-19 between January and April 2021. The lack of oxygen was associated with the greater transmissibility of the P.1 variant and the lesser physical distancing in the municipalities in the state's interior. After the emergence of the P.1 variant, there was an increase in severe cases and deaths, especially among young people and women[16]. The hospital system in Manaus's capital has collapsed due to high demand and poor logistics for replenishing supplies. By 2021, no city in Amazonas, besides the capital, had ICU beds or COVID-19 diagnostic centers since the state government opted to keep the capital as a reference for hospitalization of severe conditions, leaving the other municipalities unequipped[17].

The number of ICU beds was sufficient for the growing demand for severe COVID-19 cases during the critical phase of the pandemic. Historically, the Southeast region has had the most hospital beds and specialized health services; in April 2020, this region concentrated 51.9% of ICU beds, while the North and Central-West regions concentrated 5.2 and 8.5% of the country's total beds[18]. In addition to the shortage of beds, the precariousness and low quantity of ventilation equipment were also evidenced, exacerbated by the difficulty in accessing essential supplies, especially in the Midwest, North, and Northeast[19].

Among our findings, it is worth noting that the availability of material resources, such as alcohol gel dispensers, varied significantly between regions. The checking of hospital beds before referral to a referral hospital also varied considerably between regions, with the Southeast having the highest prevalence. This disparity in the concentration of material resources is also reflected in the availability of essential items for the execution and organization of care[20].

Another relevant aspect was the impact of the reforms on the National Primary Care Policy, which had already weakened PHC and the Brazilian Unified Health System before the pandemic. These reforms relativized the criteria for territorial coverage by family health teams and the composition of the minimum team, as well as reduced the prominence of the role of Community Health Agents, negatively impacting the capillarity and effectiveness of primary care. This scenario was aggravated by the imposition of the public spending ceiling, which froze primary expenditure in the public budget for 20 years[21]. Unified Health System underfunding mainly affects PHC in the North and Northeast, limiting the reach and quality of essential services in areas of greater social vulnerability. Notably, in many municipalities, Primary Health Care units are the only access to healthcare for the local population[22].

In this context, the North had one of the highest mortality rates from COVID-19. At the same time, despite facing similar challenges, the Northeast was

more effective in expanding beds and local strategies to deal with the pandemic[15]. In the Northeast, solid interstate coordination and rapid implementation of preventive measures were established[23]. This efficiency occurred despite attempts by the federal government to interfere in state decisions, such as the veto of physical isolation measures and the dissemination of discourse discouraging vaccination against COVID-19[24]. Even so, the case of the Northeast stands out for the relevance of active surveillance strategies with the maintenance of patient follow-up, which can be explained by the more significant presence of CHAs in the Northeast[25]. Active surveillance is essential for controlling the spread of viral diseases, especially where access to hospital services is more restricted, as it allows for an agile and early response to patients' worsening clinical conditions[26].

International experiences in countries such as China, Vietnam, and Thailand have shown that integrated epidemiological monitoring systems have been key to tracking cases, isolating contacts, and limiting the spread of the virus. In addition, in places with overburdened health systems, such as some regions of India and sub-Saharan Africa, community surveillance has played a key role in mitigating the impact of COVID-19, using local health workers to carry out home monitoring and early interventions[27]. These examples show that active surveillance strategies can be decisive in protecting vulnerable populations, optimizing resources, and strengthening resilience in the face of public health crises.

It was also observed that rapid and accurate notification of suspected cases was more prevalent in the Southeast region than in the South of Brazil. Compulsory notification in the Notifiable Diseases Information System allowed local authorities to identify patterns in the spread of the virus, directing efforts towards more vulnerable regions. However, a high level of underreporting deaths from COVID-19 and deaths from SARS without the etiological agent was identified, especially in the northern region, where the local health system collapsed[28]. In another scenario, in South Korea, immediate notification and robust contact tracing systems have significantly reduced community transmission and optimized public health resources[29].

Furthermore, according to our findings, referring patients with COVID-19 symptoms to separate care wards in PHC services stood out in the Southeast region. In another scenario, in Italy, where the health system was overloaded in the first months of the pandemic, the separation of wards was essential to reduce infection rates[30]. In Brazil, field hospitals have been set up to care for COVID-19 patients specifically. This contributes to more efficient management of severe cases and reduces the risk of virus transmission to other sectors[7].

Study limitations

Some of the study's limitations may be linked to data being collected remotely and using a self-administered instrument, which may have restricted participation in locations with limited internet access. In addition, it is possible that different interpretations of the questions by the participants led to variations in the answers, generating possible overestimation or underestimation. However, these limitations did not affect the quality of the results, as the methods used ensured that relevant and consistent data were obtained for the analysis and reached a significant sample of the target population.

Contributions to practice

The findings offer significant contributions to understanding the strategies adopted to deal with the critical phase of the pandemic and strengthening management in health emergencies. To strengthen Primary Health Care and prepare it for future health crises, it is essential to reduce regional disparities in resource allocation and train health teams to adapt quickly to adverse contexts.

Conclusion

Analysis of the results indicates the importance of regional political and structural factors in dealing with the pandemic, which is reflected in the heterogeneity of the Primary Health Care response in different states and regions of the country. Active surveillance was essential for monitoring and managing COVID-19 cases, avoiding unnecessary hospital referrals. Community health workers have uniquely monitored infected patients, especially in the most vulnerable regions. Despite a joint effort by Primary Health Care to tackle the pandemic, regional inequalities directly influenced the effectiveness of control and prevention actions.

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Authors' contributions

Conception and design or analysis and interpretation of data: Poli P. Conception and design or analysis and interpretation of data; Writing of the manuscript or critical revision of the intellectual content: Corrêa APV. Writing the manuscript or critical revision of the intellectual content: Cano RN. Writing of the manuscript or critical revision of the intellectual content; Agreement to be responsible for all aspects of the manuscript: Magno GD. Writing of the manuscript or critical revision of the intellectual content; Final approval of the version to be published: Uehara SCSA.

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