

## Integralidade do cuidado na oferta e utilização de serviços da Atenção Primária à Saúde

### *Comprehensive care in the provision of Primary Health Care services*

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#### RESUMO


Objetivo: Analisar a prevalência e os fatores associados da integralidade do cuidado percebida por adultos nos serviços de atenção primária à saúde dos 32 municípios que compõem a 4ª Coordenadoria Regional de Saúde do estado do Rio Grande do Sul (4ª CRS/RS). Metodologia: Tratou-se de um estudo transversal multinível. O cálculo de tamanho de amostra foi para representatividade da 4ª CRS/RS, e chegou-se a uma amostra mínima de 1.076 indivíduos. A coleta de dados ocorreu entre os meses de janeiro e agosto de 2015. As fontes dos dados do nível contextual foram retiradas do Ministério da Saúde e as variáveis do nível individual foram os dados do instrumento do PCATool versão adulto. Para a explicação das relações entre as variáveis foi elaborado um modelo teórico, organizando-se as dimensões e os níveis. Os dados foram analisados no *software* Stata 11. Resultados: Encontrou-se associação da integralidade com variáveis, tanto de nível individual quanto de nível contextual. Conclusão: Pôde-se evidenciar que a prevalência geral da integralidade nos serviços avaliados foi relativamente baixa (16,9%). Percebeu-se a necessidade de mais estudos longitudinais e pesquisas avaliativas que permitam incorporar fatores contextuais, no que tange aos serviços de saúde.


PALAVRAS-CHAVE: Avaliação em saúde. Epidemiologia. Integralidade.



#### ABSTRACT


Aim: To analyze the prevalence and associated factors of integrality care perceived by adults in primary health care services of the 32 municipalities that make up the 4th Regional Health Coordination of the state of Rio Grande do Sul (4th CRS/RS). Methods: This is a multilevel cross-sectional study. The sample size calculation was for representativeness of the 4th CRS/RS and reached a minimum sample of 1,076 individuals. Data collection took place between January and August 2015. The contextual level data sources were taken from the Ministry of Health and the individual level variables are data from the PCATool adult version instrument. To explain the relationships between the variables, a theoretical model was elaborated, organizing the dimensions and levels. Data were analyzed using Stata 11 software. Results: We found an association of integrality with variables of both individual and contextual levels. Conclusion: It can be evidenced that the overall prevalence of integrality in the evaluated services was relatively low (16.9%). It is understood that further longitudinal studies and evaluative research are needed incorporating contextual factors regarding health services.

KEYWORDS: Health evaluation. Epidemiology. Integrality.

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## INTRODUCTION

In recent years, the operational definition of Primary Health Care (PHC) systematized by Starfield<sup>1</sup> has been used to guide public health policies at this level of care. Based on this definition, first contact access, longitudinality, comprehensiveness and coordination of care have been identified as essential attributes of PHC services<sup>2</sup>. In this context, it is important not only to carry out studies that make it possible to evaluate the effectiveness of PHC in a consistent way, but also to institutionalize a "culture of evaluation" in our health services. Even if the results of evaluations don't lead to immediate decisions, they provide a basis for judgment, leading to a more positive outcome, thus proving to be a feasible strategy for health services<sup>3</sup>.

Health evaluation is a critical-reflective process about practices and processes developed within health services. It must be continuous and systematic, and its duration is defined according to the space it is established in<sup>4</sup>. In order to evaluate PHC health services, individual and population aspects must be taken into account when analyzing the quality of care, referring to the need for approaches that include the elements of structure, process and results for the evaluation of health quality<sup>5</sup>. The proposal to obtain a health evaluation with reliable results for decision-making is based on the use of a validated instrument capable of responding to this demand. The Primary Care Assessment Tool (PCATool) is an instrument recognized by the Ministry of Health for its quantitative assessment of PHC attributes<sup>6</sup>.

The agile format of the questions, the different versions for professionals, users and those responsible for children, as well as the recognition and validation in other countries, have contributed to its application in Brazil, enabling a dialog between the opinions of the two segments (professionals and users), providing subsidies for planning health care<sup>7</sup>. After being validated in three versions (adults, professionals and children), the PCATool Brazil version is able to assess the presence and extent of essential attributes (access, longitudinality, coordination of care and comprehensiveness), as well as derived attributes (family orientation, community orientation and cultural competence) of PHC<sup>8</sup>.

Based on the assumptions of PHC, comprehensiveness is listed as the range of services available and provided by primary care, i.e. the actions that the health service should offer so that users receive comprehensive care, both from the point of view of the health-disease process and the promotion, prevention, cure and rehabilitation actions that are appropriate in the context of PHC. However, some actions cannot be offered at this level of care, which includes referrals to local medical specialties, hospitals, among others<sup>2</sup>. Thus, adopting comprehensiveness as the axis of care implies recognizing health needs as a reference for organizing health services and practices, shaping the care network<sup>8</sup>.

Given this situation, few studies have tried to assess the prevalence of the integrality attribute and its associated factors<sup>9-11</sup>. The attribute of comprehensiveness in PHC services from the perspective of health unit users has been shown to be very favorable in terms of gateway, list of services and coordination in samples from other Brazilian states<sup>9,10</sup>. In addition, the attribute proved to be important in the care of children and adolescents in the same Regional Health Coordination<sup>11</sup>. Therefore, the aim of this study was to analyze the prevalence and associated factors of comprehensiveness of care perceived by adults in primary health care services in the 32 municipalities that make up the 4th Regional Health Coordination (4<sup>a</sup>CRS).

## METHODOLOGY

This was a multilevel cross-sectional observational epidemiological study. The study population consisted of adults from the 32 municipalities belonging to the 4th CRS region. The headquarters of the 4th CRS is located in the central region of the state of Rio Grande do Sul, in the municipality of Santa Maria, 286 km from the capital Porto Alegre. In 2012, it had 542,357 inhabitants and 148 PHC units divided into two health regions: Verdes Campos and Entre Rios<sup>12,13</sup>.

The sample size was calculated to ensure that the 4th CRS was representative. The sample weight of each municipality for the adult age group was taken into account and the sample was stratified according to the proportion of the population size of each municipality in relation to the general population. This resulted in a minimum sample of 1,076 individuals, taking into account a sampling error of 5%.

Data was collected using the adult version of the *Primary Care Assessment Tool - PCATool-Brazil*<sup>5,2</sup>, plus a questionnaire with socioeconomic and demographic information. The PCATool measures the presence and extent of the four essential attributes and three derived attributes of PHC, based on the model for assessing the quality of health services proposed by Donabedian<sup>14</sup>.

The research instruments were applied face-to-face by evaluators and research assistants, who had previously undergone 10 hours of training, including content related to the research and the evaluators' approach technique. The data was collected at the Health Units, via prior contact with the coordinators, during opening hours, in order to coincide the data collection with the unit's service routine, without affecting user service, in a reserved place in each unit, in order to preserve the anonymity and privacy of the interviewees. The interviewees were selected at the UBS according to their availability, i.e., there was no randomization to select users in their homes.

The following inclusion criteria were adopted for the participants: age  $\geq$  18 years on the date of collection, and the exclusion criteria were: users aged  $<$  18 years on the date of collection,

who were accessing the service for the first time, and users with cognitive difficulties in answering the questionnaire.

The data on the first level (individual) referred to the interviews carried out with adult users (PCATool); and the data on the second level (context) referred to the characteristics of the municipalities in which the users interviewed lived. The source of information for the first level variables was data from the PCATool adult version instrument and the socio-economic and demographic questionnaire, while the second level data sources were taken from the Atlas of Human Development<sup>15</sup> and the Ministry of Health<sup>16</sup>.

With regard to the contextual independent variables (municipality level), the following information was used: health region (Verdes Campos / Entre Rios); population size (up to 5,000 inhabitants / between 5 and 10,000 inhabitants / between 10 and 20,000 inhabitants / between 20 and 50,000 inhabitants / between 50 and 100,000 inhabitants / between 100 and 500,000 inhabitants); population coverage by family health teams; proportion of hospitalizations for primary care sensitive conditions.

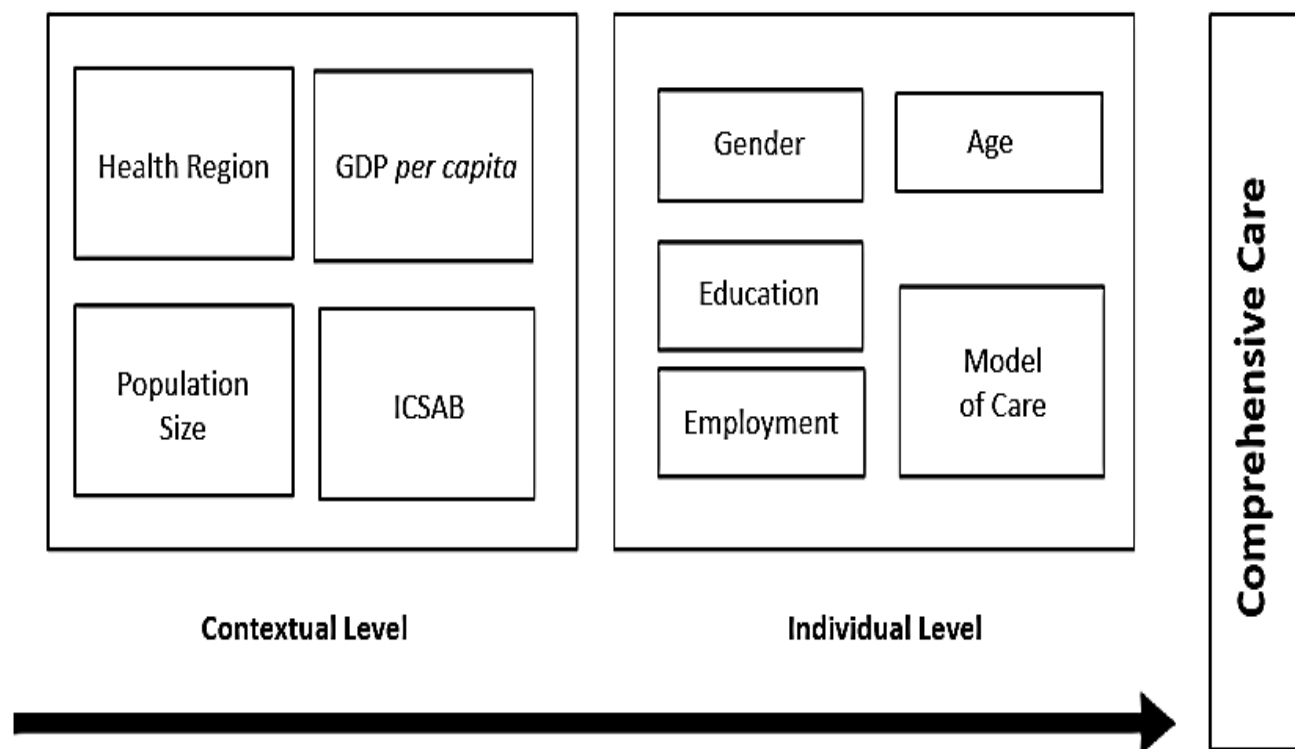
The individual independent variables (health team level) were: gender (female / male), age in years, schooling (not literate / incomplete primary education / complete primary education / incomplete secondary education / complete secondary education / incomplete higher education / complete higher education), health unit care model (ESF / UBS / mixed).

The individual dependent variables were questions from the PCATool instrument on the attribute: comprehensiveness - services available (G), consisting of 22 items, and comprehensiveness - services provided (H), consisting of 13 items for women and 11 items for men. The averages of each variable (G and H) were obtained. After an average between the two variables  $(G+H/2)$ , this new variable was named integrality. The integrality variable was dichotomized based on the cut-off points for the scores obtained: low score, when  $<6.6$ , and high score, when  $\geq 6.6$ , according to the instrument's manual<sup>17</sup>. Therefore, the integrality outcome variable was classified in this way: categorical (yes  $\geq 6.6$  / no  $< 6.6$ ), i.e. it was the presence, at the same time, of the integrality of the services available and provided.

In order to explain the relationships between the variables, a theoretical model was drawn up, organizing the dimensions (socioeconomic, demographic and health service), and the levels (individual and contextual), as there was no source of information in the literature addressing this issue that integrated contextual and individual factors (Figure 1). The data was analyzed using Stata 11 software. Absolute and relative frequencies of the variables studied were analyzed. Multilevel Poisson regression was used to obtain the crude and adjusted prevalence ratios, with their respective 95% confidence intervals and 5% significance level<sup>18,19</sup>. The modeling used was in two stages: model 1 (only the contextual variables in the adjustment within the block itself),

and model 2 (the contextual variables plus the individual variables). Deviance (loglikelihood) was used to analyze the fit of the models.

**Figure 1** – Theoretical model of comprehensive care in the use of primary health care services by adults, according to individual and contextual characteristics, 4th Regional Health Coordination, Rio Grande do Sul, 2018



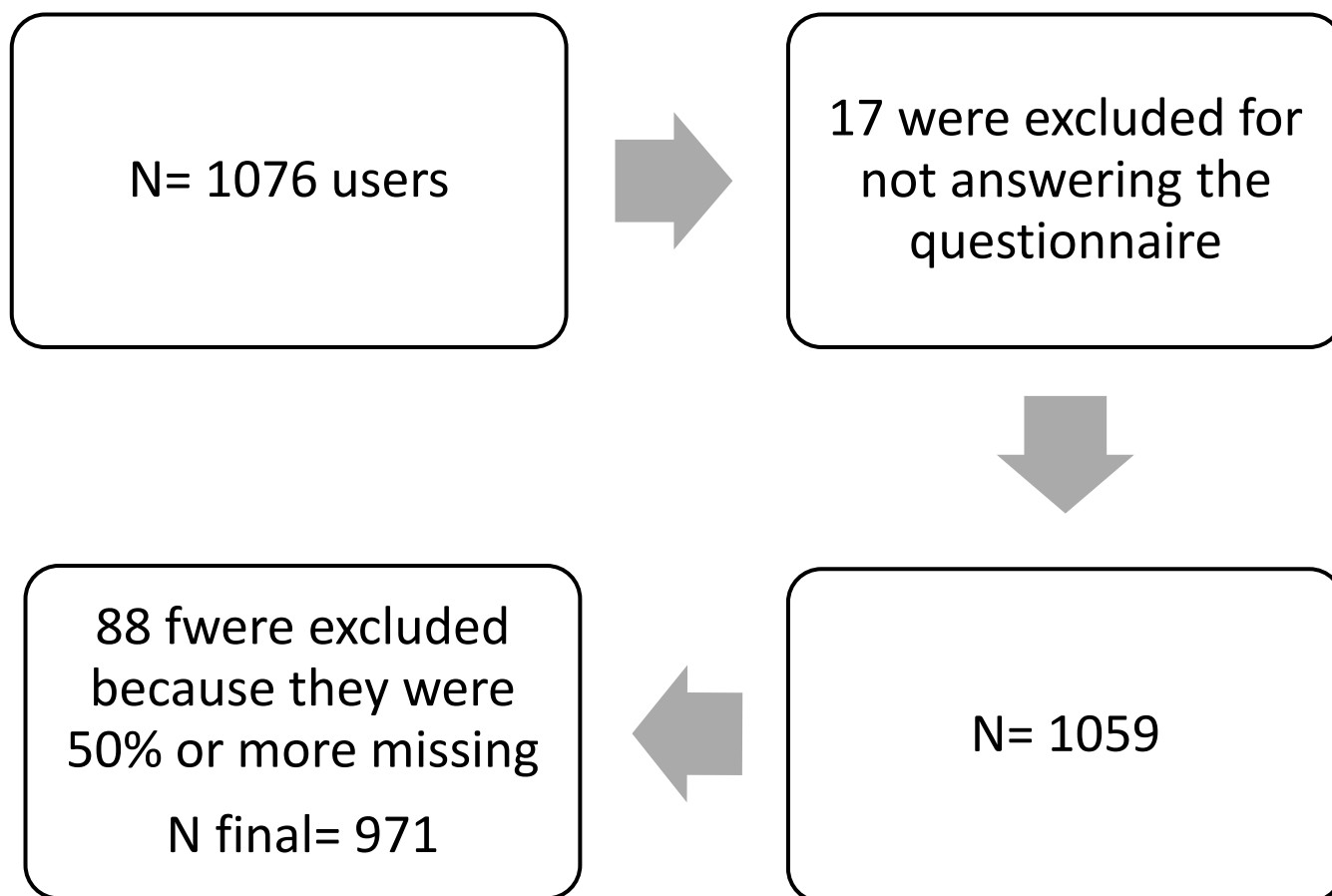
Source: Prepared by the authors

This study belongs to the matrix project "PCATool (Primary Care Assessment Tool): evaluation of Primary Health Care in the 4th Regional Health Coordination of the State of Rio Grande do Sul (4th CRS/RS)", approved by the Research Ethics Committee of the Federal University of Santa Maria, under the number of the Certificate of Presentation for Ethical Appreciation (CAAE) 34137314.4.0000.5346 and approval 756.292.

## RESULTS

From the sample of 1,076 health service users, 971 interviews were carried out. There were 9.75% losses ( $n=105$ ), which referred to users aged  $< 18$  years on the date of collection, who were accessing the service for the first time; users with cognitive difficulties in answering the questionnaire or with 50% or more missing on items G and H, according to the manual for the questionnaire used<sup>17</sup>. The details of this process were presented in the form of a flowchart (Figure 2).

**Figure 2** – Details of the sampling route in the form of a flowchart (n= 971), 4th Regional Health Coordination, Rio Grande do Sul, 2015



Source: Prepared by the authors

With regard to contextual characteristics, 77.03% of users belonged to the Verdes Campos health region, 49.02% of whom lived in municipalities with more than 50,000 inhabitants; 62.51% of users lived in municipalities with a GDP per capita of between 13,663.00 and 16,935.00, and 70.13% of users were in municipalities with more than 28% of hospitalizations for primary care-sensitive conditions (Table 1).

**Table 1** - Description of the sample, prevalence of comprehensiveness and crude prevalence ratios for the contextual variables, in adults, Brazil, 2015 (n=971).

VARIABLE	n (%)	Prevalence of integrity	Crude Prevalence ratio (IC95%)
<b>Population size</b>			
More than 50,000 inhab.	476 (49.02)	10.9%	1
25,000 to 50,000 inhab	81 (8.34)	21.0%	1.92 (1.11-3.32)
20,000 to 25,000 inhab.	44 (4.53)	15.9%	1.45 (0.66-3.20)
15,000 to 20,000 inhab.	157 (16.17)	15.9%	1.45 (0.90-2.34)
10,000 to 15,000 inhab.	45 (4.63)	17.8%	1.62 (0.77-3.42)
5,000 to 10,000 inhab.	81 (8.34)	28.4%	2.59 (1.59-4.24)
4,000 to 5,000 inhab.	23 (2.37)	30.4%	2.78 (1.26-6.13)
3,000 to 4,000 inhab.	38 (3.91)	42.1%	3.85 (2.20-6.74)
Upto 3,000 inhab.	26 (2.68)	34.6%	3.16 (1.56-6.42)
<b>GDP per capita</b>			
Upto 13,662.00	262 (26.98)	19.5%	1
Between 13,663.00 and 16,935.00	607 (62.51)	12.9%	0.80 (0.46-1.39)
More than 16,935.00	102 (10.50)	34.3%	1.86 (1.09-3.19)
<b>Health Region</b>			
Verdes Campos	748 (77.03)	15.1%	1
Entre Rios	223 (22.97)	22.9%	1.06 (0.63-1.78)
<b>ICSAB</b>			
More than 28.6%	681 (70.13)	15.7%	1
Upto 28.6%	290 (29.87)	19.7%	0.80 (0.47-1.33)

Note: hospitalizations for Primary Care Sensitive Causes (PCSCC) are hospitalizations caused by infectious diseases preventable by immunization, complications that could be mitigated by early diagnosis and treatment, and acute complications of non-communicable diseases

Source: Prepared by the authors

In terms of the individual characteristics of the users, 77.75% were female; 47.78% were aged 18-39; 41.52% had incomplete primary education; 72.20% were unemployed, and 42.12% were in traditional units (Table 2).



**Table 2** – Sample description, prevalence of comprehensiveness and crude prevalence ratios for individual variables, in adults, Brazil, 2015 (n=971).

VARIABLE	n (%)	Prevalence of integrality	Crude Prevalence ratio (IC95%)
<b>Gender</b>			
Male	216 (22.25)	15.3%	1
Female	755 (77.75)	17.4%	1.16 (0.79-1.70)
<b>Age</b>			
Between 18 and 29	232 (23.89)	12.5%	1
Between 30 and 39	232 (23.89)	16.4%	1.27 (0.78-2.07)
Between 40 and 49	183 (18.85)	17.5%	1.21 (0.72-2.02)
Between 50 and 59	167 (17.20)	21.6%	1.49 (0.90-2.47)
Between 60 and 69	110 (11.33)	20.0%	1.42 (0.81-2.50)
Between 70 and 79	40 (4.12)	12.5%	0.84 (0.32-2.21)
80 or more	7 (0.72)	28.6%	1.87 (0.43-8.02)
<b>Education</b>			
Not literate	23 (2.39)	30.4%	1
Incomplete Elementary School	399 (41.52)	16.8%	0.48 (0.22-1.07)
Complete Elementary School	122 (12.70)	25.4%	0.79 (0.34-1.89)
Incomplete High School	86 (8.95)	17.4%	0.64 (0.25-1.60)
Complete High School	262 (27.26)	10.7%	0.36 (0.15-0.84)
Incomplete Higher Education	31 (3.23)	16.1%	0.67 (0.20-2.17)
Complete Higher Education	38 (3.95)	23.7%	0.74 (0.27-2.04)
<b>Employment</b>			
Yes	268 (27.80)	15.7%	1
No	696 (72.20)	17.5%	0.97 (0.68-1.40)
<b>Model of care</b>			
ESF	406 (41.81)	17.0%	1
Traditional	409 (42.12)	14.2%	0.93 (0.62-1.40)
Mixed	156 (16.07)	23.7%	1.33 (0.84-2.11)

Source: Prepared by the authors

The overall prevalence of comprehensiveness in the services evaluated was 16.9% (95%CI: 15.2-18.6). The highest prevalence rates of comprehensiveness were found in small municipalities and those with a higher GDP per capita (Table 1).



In the hierarchical analysis, after adjustments, among the contextual factors (Table 3: Model 2), the highest prevalence ratios for comprehensiveness were for users living in municipalities with a population of between 3 and 10 thousand inhabitants, compared to municipalities with a population of more than 50 thousand inhabitants, and among the individual factors, users with completed high school education had the lowest prevalence ratio for comprehensiveness when compared to users with no schooling. The other factors at the contextual level (GDP per capita, health region and ICSAB), as well as the factors at the individual user level (gender, age group, employment and health unit) did not show statistically significant differences.

**Table 3** – Adjusted prevalence ratios and their respective 95% confidence intervals, according to the models in adults, Brazil, 2015 (n=971)

VARIABLE	Prevalenceratio (95%CI) Model1	Prevalenceratio (95%CI) Model2
<i>Ccontextual characteristics</i>		
<b>Health Region</b>		
Verdes Campos	1	1
Entre Rios	1.01 (0.59-1.73)	1.08 (0.62-1.88)
<b>PopulationalSize</b>		
More than 50,000inhab.	1	1
25,000 to 50,000 inhab	2.43 (0.77-7.62)	2.33 (0.73-7.42)
20,000 to 25,000 inhab.	2.16 (0.81-5.75)	2.16 (0.79-5.89)
15,000 to 20,000 inhab.	1.47 (0.69-3.10)	1.60 (0.74-3.49)
10,000 to 15,000 inhab.	1.48 (0.55-3.98)	1.59 (0.58-4.34)
5,000 to 10,000inhab.	2.62 (1.27-5.38)	2.48 (1.19-5.15)
4,000 to 5,000 inhab.	2.89 (1.04-8.00)	3.09 (1.09-8.81)
3,000 to4,000 inhab.	3.50 (1.20-10.21)	3.47 (1.17-10.24)
Upto 3,000 inhab.	3.89 (1.58-9.59)	4.41 (1.73-11.22)
<b>GCPper capita</b>		
Upto 13,662.00	1	1
Between 13,663.00 and 16,935.00	0.86 (0.46-1.60)	0.97 (0.1-1.85)
More than 16,935.00	1.13 (0.58-2.19)	1.26 (0.64-2.49)
<b>ICSAB</b>		
More than 28.3%	1	1
Upto 28.6%	0.67 (0.37-1.19)	0.73 (0.40-1.32)

(Conclusion)

VARIABLE	Prevalence ratio (95%CI) Model1	Prevalence ratio (95%CI) Model2
<i>Individual Characteristics</i>		
<b>Gender</b>		
Male	-	1
Female	-	1.21 (0.80-1.82)
<b>Age</b>		
Between 18 and 29	-	1
Between 30 and 39	-	1.38 (0.84-2.28)
Between 40 and 49	-	1.08 (0.63-1.86)
Between 50 and 59	-	1.58 (0.92-2.68)
Between 60 and 69	-	1.41 (0.76-2.59)
Between 70 and 79	-	0.97 (0.35-2.63)
80 or more	-	2.59 (0.57-11.72)
<b>Employment</b>		
Yes	-	1
No	-	0.91 (0.60-1.36)
<b>Education</b>		
Not literate	-	1
Incomplete Elementary School	-	0.46 (0.20-1.05)
Complete Elementary School	-	0.79 (0.32-1.92)
Incomplete High School	-	0.73 (0.27-1.92)
Complete High School	-	0.38 (0.15-0.93)
Incomplete Higher Education	-	0.80 (0.23-2.73)
Complete Higher Education	-	0.73 (0.25-2.10)
<b>Model of care</b>		
ESF	-	1
Traditional	-	1.05 (0.70-1.56)
Mixed	-	1.10 (0.67-1.81)

Source: Prepared by the authors

## DISCUSSION

This study analyzed the prevalence and associated factors of comprehensiveness of care perceived by adult users of primary health care services in the 32 municipalities that make up the 4th Regional Health Coordination in Rio Grande do Sul in 2015. The analysis showed that the overall prevalence of comprehensiveness in the services evaluated was low. This finding did not corroborate a study that used the PCATool to assess the attribute of comprehensiveness in children in the same health region<sup>11</sup>, which showed that the services had greater gaps related to the availability of services for the adult population than when considering the child population.

Comprehensiveness was characterized by the recognition of the population's needs, considering comprehensive care and focusing on available services that sought to resolve the user's needs<sup>2</sup>. Its low prevalence pointed to a disorganization of health services and practices that sought to break with the polarity between preventive and recuperative (curative) actions.

In general, the evaluation of comprehensiveness by PHC users in a previous survey was quite favorable on the issues of gateway, list of services and coordination, and less focused on the family approach, community orientation and accessibility<sup>9</sup>. The difficulties of quick access and lack of knowledge about health, in a contextual way, may have been one reason why it is still difficult for users to make full use of PHC services. Furthermore, the achievement of comprehensiveness was directly linked to the reconstruction of the way of producing care, since health systems have historically been created based on a disease-oriented model<sup>20</sup>.

It was found that municipalities with small populations had a higher prevalence of the integrality attribute, which can be attributed to the decentralization advocated in Brazilian legislation. For Klering<sup>21</sup>, decentralization of public administration reduces bureaucracy; generates greater sensitivity to local problems; greater representation of minority groups; improves local management capacity; facilitates popular participation in decisions; increases flexibility and capacity for innovation; leads local administration to be more flexible and innovative, and improves efficiency in the distribution of services and public goods, among others.

Thus, in smaller municipalities, populations can be closer to public administrations. Finances can be managed with greater control, facilitating the effective management of human resources, and investments can be defined and executed with the participation and monitoring of society<sup>21</sup>. When comparing the smaller municipalities, which had higher per capita resources for PC, with the larger municipalities, it was possible to identify the presence of the attribute of comprehensiveness, which was greater in the former, possibly due to investments in the care network<sup>22</sup>.

In relation to the non-significant finding for the variables of large municipalities, with lower GDP per capita, in the Verdes Campos region, and with more than 28.6% ICSAB, this may

probably be associated with the demand of the population that the health of each municipality should take care of, accompanied by low financial investment for primary care, contributing to an increase in hospitalizations for sensitive causes, since the municipality with the largest population in the area studied was located in the Verdes Campos region. In relation to the non-significant findings for individual characteristics, among adult males, under 80 years of age, literate, employed and users of other services, the evidence that pointed to the fact that men made little use of health units was confirmed, despite being the population with the most schooling and, in turn, the most purchasing power, having the option of accessing other services, including private ones, to meet their health demands<sup>23</sup>.

An important limitation of the study was its cross-sectional design, which did not allow causal statements to be made. The data was not collected probabilistically, since the users interviewed were not randomly selected, which could result in a possible selection bias. Finally, the possibility of confounding and residual bias was not ruled out, as important information may not have been considered and analyzed. The strengths of this study were the sheer number of municipalities studied, as most PCATool studies are limited to one or two municipalities. We can also consider the use of a statistical model that allowed for multilevel analysis, associating contextual and individual factors, and the possibility of theoretically subsidizing municipal, state and federal managers as a way of including comprehensiveness in the planning of their actions.

## CONCLUSION

Contextual demographic characteristics showed a significant association with the prevalence of comprehensiveness, regardless of individual factors, and the overall prevalence of comprehensiveness in the services evaluated was low. Evaluating the actions carried out in health services, using validated instruments, proved to be an alternative for decision-making by managers, helping them to choose their priorities and, consequently, qualifying the actions in the Unified Health System.

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