Use of specialized public health services by older people in southern Brazil

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Abstract

Objective: To analyze the use of specialized public health services by older adults, by sex and age group, in the city of Porto Alegre. *Methods*: A cross-sectional study with secondary data from the city's outpatient and inpatient consultation systems. All records from 2019 were used, and Pearson's chi-square test was applied. *Results*: In total, 64,888 older people sought specialized services, generating 113.694 visits (82,8% outpatient visits and 17.2% hospitalizations). It was found that 74.7% of the older adults were referred by primary care for specialized care, with higher percentages of young older people and women (p<0.001). On the other hand, men and older adults aged 80 years or older were referred more frequently for care from hospitals and emergency rooms (p<0.001). Women and older adults between 60 and 79 years old used outpatient centers, physical therapy, rehabilitation centers, dentistry and mental health in greater proportion (p<0.001). The main reasons for using specialized services were diseases of the circulatory system, being more expressive among older adults aged 80 years or older and men (p<0.001). Musculoskeletal diseases (22.5%) were the main reasons for outpatient consultations and, in emergency hospitalizations, diseases of the circulatory system (37.9%). Older adults with a history of outpatient consultations had fewer hospital admissions (p<0.001). *Conclusion*: The need for articulated actions by health services is highlighted, prioritizing the male and long-lived population, focusing on the prevention/control of non-communicable chronic diseases and the vulnerabilities of this stage of life.

Keywords: Health Services Accessibility. Comprehensive Health Care. Health Services Research. Aged.

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INTRODUCTION

The Brazilian older population accounts for a large use of health services, which is also due to the higher frequency of chronic diseases, weaknesses and functional losses, in addition to less social and financial resources found in this age group[1]. The use of health services comprises the user's effective contact with institutions and professionals to obtain care[2]. Information about these contacts is available in the national information systems of the Ministry of Health, which generate data for the analysis of the population's health situation, but which are not yet integrated.

In the international context, health systems with integrated care models[3] are consolidated and evidence[4,5] has shown that continuity of care prevents hospital admissions, reduces the use of specialized services and the need for tests, in addition to positively impacting the quality of life of the older people, especially in cases of Chronic Noncommunicable Diseases (CNCD). In a survey of national investigations on the use of public health services in this age group, it was found that most studies explore the points of care in the network in isolation, that is, they analyze a specific level of care[1,6,7].

In the international context, studies on the subject examine different levels of care together more frequently, in addition to pointing out the determinants of the use of these services by the older population[8-10]. In addition, details on the use of health services by sex or age subgroups among older people were scarcely found, both in the national[2] and international literature[8,10]. Although some studies show data on the use of some types of health services by sex, or age subgroups of older people, such differences are not clear in the literature[2,8,10], especially with regard to different levels of complexity. As for the reasons for using the services, studies that have already been carried out analyze the frequency of access and identify the NCDs as the main responsible for the assistance, but do not carry out other comparisons based on these results[1,2,6,7].

Knowing more about the subject, investigating outpatient and hospital services in an integrated approach, used by this population, brings subsidies to fill this knowledge gap. Exploring the interfaces of these points of care can help identify weaknesses and strengths in the care and management of the health of the Brazilian older population, supporting the planning and direction of actions, in addition to improving the services provided to older people. Therefore, the present study aimed to analyze the use of specialized public health services by older people, according to gender and age group, in the city of Porto Alegre (RS).

METHODS

Analytical cross-sectional study with secondary data from outpatient and hospital care of older people residents in the city of Porto Alegre (RS), regulated by the Consultation Management Systems (GERCON) and Hospitalization Management Systems (GERINT), of the Municipal Health Secretariat (SMS), in 2019. The data used are from the use of SMS and were made available by it for use in the present investigation.

In 2019, the older population of the municipality was estimated at 287,022 (19.66%), of which 237,011 (82.58%) were between 60 and 79 years old and 50,011 (17.42%) were 80 years old or older and 110,444 (38%) men and 176,578 (62%) women[11]. In the same period, the Municipal Human Development Index (IDHM) was 0.805 (very high)[12].

The municipal network of health services was formed by Primary Health Care (PHC), specialized outpatient care (medical specialties, dentistry, occupational health, tuberculosis, rehabilitation and stomatotherapy center, clinical pharmacy, renal clinics and physiotherapy), by mental health services, by the urgency and emergency network and by hospital care, presented in Chart 1. In 2019, the municipality had 140 Health Units (HU) in the PHC (including prison health), six specialty outpatient centers and 16 hospital providers, two of which are own and 14 are contracted[13]. Some of the hospitals, in addition to inpatient care, also provided outpatient care. In the municipality, patients can be referred for specialized care from various points of care in the area of health and social assistance and all referrals are registered in the aforementioned management systems[14].

In the present study, outpatient care and hospital care were included for older people aged 60 years and over, residing in the municipality in the year of the study and regulated in the systems, and return and duplicate records were excluded. Users aged up to 79 years were considered as young older people, and long-lived aged 80 years or older. From the users, the following data were obtained: sex, age and number of the National Health Card, with the first five digits replaced by "ABCDE" (respecting the General Data Protection Law), making it possible to cross-reference information from users from the two systems and the grouping of records individually. From the consultations, the dates of request and scheduling/hospitalization were obtained, main reason according to the International Classification of Diseases 10th edition (ICD-10), specialty, type of hospitalization (elective or urgent), requesting and executing health unit.

The ICD-10 codes were categorized by their chapters, excluding XV and XVI, as they did not involve the study population. The 197 specialties and subspecialties available in the system were grouped into 59 categories. The categories were defined according to the main specialty, such as, for example, cardiology, which has subspecialties such as arrhythmia, ischemic heart disease, heart failure, among others. Chart 1 describes the composition of the municipal network, the organization of requesting and executing units into 16 categories and the type of service provided to the population.

Chart 1. Description of the composition of the municipal network of Porto Alegre, units that can request or perform assistance and type of assistance provided. Porto Alegre, RS, 2019.

Municipal Network	Requesting/performing unit	Type of service
PHC	Primary Care and Prison Health	Primary Care proper services
Specialized Outpatient Care	Outpatient Centers	Consultations in medical specialties and subspecialties
	Dentistry	Specialized dental services
	Occupational Health	Specialized assistance to workers affected by work-related illnesses and/or injuries
	Tuberculosis Reference Center	Assistance to users with Tuberculosis
	Rehabilitation	Assistance to users who need physical, auditory, visual and/or intellectual rehabilitation
	Stomatherapy	Assistance to users with stomas, wounds, micturition and evacuation dysfunctions
	Clinical Pharmacy	Supply of inputs and guidance for users with diabetes
	Renal Clinics	Assistance to users with Acute and Chronic Renal Failure, with peritoneal dialysis, hemodialysis and clinical treatment services
	Physiotherapy	Physiotherapy service
	Social assistance	Mobile Ophthalmology Unit for examinations and delivery of eyeglasses (frames and lenses) and referrals for cataract surgery, when necessary
Urgent and emergency network	Emergency Care Unit (UPA)	Intermediate complexity emergency care
Hospital care	Hospital	Elective and urgent hospital admissions and outpatient consultations
	Regulation	Internal regulation of patients already receiving outpatient care at the hospital institution, but who had not been regulated via the computerized municipal system
Mental health	Mental health	Assistance to users with severe and persistent mental disorders
	Addiction Unit	Inpatient unit for substance use detox and rehabilitation

Source: Prepared by the authors.

The sample calculation was based on data from the older population of the 2010 Census[12], resulting in a minimum of 2,960 older people, 2,517 young and 443 long-lived, with a confidence level of 95% and a margin of error of 5%. Due to the representativeness of this population in the municipality, after excluding data that did not meet the objectives of the study, it was decided to use all records, totaling 64,888 older people. The system databases were made available by SMS in spreadsheet format.

Quantitative variables were described by mean and standard deviation or median and interquartile range, and categorical variables by absolute and relative frequencies. Pearson's chi-square test was used, complemented by the analysis of the adjusted residuals to verify the associations of the use of services and reasons for attendance according to sex and age group and reasons for attendance with the types of service.

Some variables were multiple choice, that is, the patient could fit into more than one category. The percentage that each category represents was calculated on the number of patients and not on the number of consultations, thus representing more than 100% in the sum of the categories. The significance level adopted was 5% ($p<0.05$).

The research complies with Resolution nº 466/2012[15] and the project was approved by the Research Ethics Committee of the Porto Alegre SMS with opinion number 4,022,279.

RESULTS

Records of 64,888 users with a total of 113,694 visits were analyzed, of which 81,760 were outpatients and 31,934 were hospitalized. Table 1 presents the characteristics of the older people and the care received at the points of care under study.

As shown in Table 2, 74.7% of the older people with specialized care were referred by the PHC. The highest percentages of referrals to specialized services by the PHC were young older people (76.9%) and women (77%) ($p<0.001$).

Table 1. Demographic characteristics of the older people and of outpatient and hospital care and type of care (N=64,888). Porto Alegre, RS, 2019.

Variables	n (%)
Age (years) – median ± SD	71.0 ± 8.2
Age group (in years)	
60 – 79	53,984 (83.2)
≥ 80	10,904 (16.8)
Sex	
Female	40,033 (61.7)
Male	24,855 (38.3)
Number of consultations - median (P25-P75) [min-max.]	1 (1 – 2) [1 – 23]
1	37,001 (57.0)
2	15,889 (24.5)
3 or more	11,998 (18.5)
Type of service (multiple choice question)	
Outpatient clinic	53,719 (82.8)
Elective hospitalization	6,766 (10.4)
Urgent hospitalization	15,976 (24.6)
Outpatient + Elective hospitalization	4,377 (6.7)
Outpatient + Urgent hospitalization	6,754 (10.4)

Source: GERCON and GERINT Systems.

Table 2. Types of health units requesting and performing care for older people, according to gender and age group. Porto Alegre, RS, 2019.

Variables (Multiple choice question)	Total sample	60-79 years	≥80 years	*p*	Male	Female	*p*
	n (%)	n (%)	n (%)		n (%)	n (%)	
Requesting unit							
Primary Care	48,464 (74.7)	41,512 (76.9)	6,952 (63.8)	<0.001	17,619 (70.9)	30,845 (77.0)	<0.001
Hospital*	20,823 (32.1)	16,214 (30.0)	4,609 (42.3)	<0.001	9,217 (37.1)	11,606 (29.0)	<0.001
Outpatient centers	4,770 (7.4)	4,070 (7.5)	700 (6.4)	<0.001	2,022 (8.1)	2,748 (6.9)	<0.001
Emergency care unit	3,107 (4.8)	2,161 (4.0)	946 (8.7)	<0.001	1,393 (5.6)	1,714 (4.3)	<0.001
Mental health	1,332 (2.1)	1,281 (2.4)	51 (0.5)	<0.001	418 (1.7)	914 (2.3)	<0.001
Stomatotherapy	329 (0.5)	269 (0.5)	60 (0.6)	0.533	161 (0.6)	168 (0.4)	<0.001
Renal Clinics	249 (0.4)	214 (0.4)	35 (0.3)	0.281	152 (0.6)	97 (0.2)	<0.001
Rehabilitation	195 (0.3)	156 (0.3)	39 (0.4)	0.272	61 (0.2)	134 (0.3)	0.052
Dentistry	174 (0.3)	152 (0.3)	22 (0.2)	0.171	82 (0.3)	92 (0.2)	0.02
Regulation	169 (0.3)	119 (0.2)	50 (0.5)	<0.001	58 (0.2)	111 (0.3)	0.323
Tuberculosis Reference Center	20 (0.0)	20 (0.0)	0 (0.0)	0.037	11 (0.0)	9 (0.0)	0.192
Addiction Unit	23 (0.0)	23 (0.04)	0 (0.0)	0.024	6 (0.0)	17 (0.0)	0.322
Social assistance	17 (0.0)	11 (0.0)	6 (0.1)	0.052	4 (0.0)	13 (0.0)	0.315
Occupational Health	15 (0.0)	15 (0.0)	0 (0.0)	0.092	10 (0.04)	5 (0.01)	0.046
Physiotherapy	12 (0.0)	9 (0.0)	3 (0.0)	0.437	4 (0.0)	8 (0.0)	1
Clinical Pharmacy	3 (0.0)	3 (0.0)	0 (0.0)	1	0 (0.0)	3 (0.0)	0.291
Performing Unit							
Hospital*	64,887 (99.9)	53,983 (99.9)	10,904 (100)	1	24,854 (99.9)	40,033 (100)	0.383
Outpatient centers	12,852 (19.8)	10,774 (20.0)	2,078 (19.1)	0.032	5,035 (20.3)	7,817 (19.5)	0.024
Physiotherapy	9,157 (14.1)	8,098 (15.0)	1,059 (9.7)	<0.001	2,518 (10.1)	6,639 (16.6)	<0.001
Rehabilitation	1,913 (2.9)	1,606 (3.0)	307 (2.8)	0.386	563 (2.3)	1,350 (3.4)	<0.001
Dentistry	1,266 (2.0)	1,164 (2.2)	102 (0.9)	<0.001	555 (2.2)	711 (1.8)	<0.001
Mental health	1,211 (1.9)	1,168 (2.2)	43 (0.4)	<0.001	345 (1.4)	866 (2.2)	<0.001
Renal Clinics	890 (1.4)	691 (1.3)	199 (1.8)	<0.001	470 (1.9)	420 (1.0)	<0.001
Clinical Pharmacy	493 (0.8)	426 (0.8)	67 (0.6)	0.064	205 (0.8)	288 (0.7)	0.145
Stomatotherapy	370 (0.6)	301 (0.6)	69 (0.6)	0.378	181 (0.7)	189 (0.5)	<0.001
Social assistance	211 (0.3)	194 (0.4)	17 (0.2)	0.001	68 (0.3)	143 (0.4)	0.08
Addiction Unit	26 (0.0)	26 (0.05)	0 (0.0)	0.015	6 (0.0)	20 (0.0)	0.163

Source: GERCON and GERINT systems. *Services performed in hospitals for outpatient consultation or hospitalization.

Men were referred in a greater proportion than women by hospitals (37.1%), outpatient clinics (8.1%), PHC (5.6%), stomatotherapy (0.6%) and renal clinics (0.6%) (p<0.001). Long-lived older people had more referrals by hospitals (42.3%) and PHC (8.7%) than younger older people (p<0.001).

As for the performing units, all older people had at least one specialized service in a hospital, either for outpatient consultation or hospitalization, with no statistically significant association with age group and gender (p=1 and p=0.383). In the outpatient centers, there was a significant difference for age group (p=0.032) and sex (p=0.024), with more frequent services among younger older people and women. Services in physiotherapy, rehabilitation, dentistry and mental health were also higher among young older people and women (p<0,001).

As for the reasons for using the services, by chapter of the ICD-10, the main ones were diseases of the circulatory system (chapter IX) (21.4%), being more expressive among older people aged 80 years or more (25.6%) and in men (23.7%) (p<0.001) (Table 3).

Comparing the types of care, diseases of the musculoskeletal system and connective tissue (Chapter XIII) were the main causes of outpatient consultations (22.5%) (Table 4). In elective hospitalizations, it was neoplasms (chapter II) (35.2%) and in emergency hospitalizations, diseases of the circulatory system (chapter IX) (37.9%). The same causes remained among those with outpatient care and hospitalization, with 37.1% and 47.5%, respectively.

As for the association between the types of hospitalization with the history of outpatient care records in 2019 (Table 5), it was found that, among the older people who had consultations, 19.1% required some type of hospitalization, while in the group without outpatient care, all hospitalized, 82.6% of which were urgent care. Only elective hospitalizations among long-lived older people did not show a statistically significant association (p=0.054).

Table 3. Main reason for using outpatient and hospital health services by older people, according to ICD-10 chapters, gender and age group. Porto Alegre, RS, 2019.

ICD-10 chapters (Multiple choice question)	Total sample n (%)	60-79 years n (%)	≥80 years n (%)	*p*	Male n (%)	Female n (%)	*p*
I. Infectious and parasitic	2,856(4.4)	2,200(4.1)	656(6.0)	<0.001	1,326(5.3)	1,530(3.8)	<0.001
II. Neoplasms (tumors)	6,489(10.0)	5,434(10.1)	1,055(9.7)	0.221	2,855(11.5)	3,634(9.1)	<0.001
III. Blood and hematopoietic organs	2,601(4.0)	2,220(4.1)	381(3.5)	0.003	963(3.9)	1,638(4.1)	0.177
IV. Endocrine. nutritional and metabolic	2,790(4.3)	2,393(4.4)	397(3.6)	<0.001	1,045(4.2)	1,745(4.4)	0.356
V. Mental and behavioral disorders	1,509(2.3)	1,220(2.3)	289(2.7)	0.015	622(2.5)	887(2.2)	0.02
VI. Nervous system	2,176(3.4)	1,819(3.4)	357(3.3)	0.634	845(3.4)	1,331(3.3)	0.622
VII. Eye and appendages	12,115(18.7)	10,303(19.1)	1,812(16.6)	<0.001	3,988(16.0)	8,127(20.3)	<0.001
VIII. Ear and mastoid process	2,385(3.7)	1,867(3.5)	518(4.8)	<0.001	852(3.4)	1,533(3.8)	0.009
IX. Circulatory system	13,917(21.4)	11,131(20.6)	2,786(25.6)	<0.001	5,883(23.7)	8,034(20.1)	<0.001
X. Respiratory system	3,907(6.0)	2,710(5.0)	1,197(11.0)	<0.001	1,630(6.6)	2,277(5.7)	<0.001
XI. Digestive tract	7,838(12.1)	6,879(12.7)	959(8.8)	<0.001	3,543(14.3)	4,295(10.7)	<0.001
XII. Skin and subcutaneous tissue	2,202(3.4)	1,891(3.5)	311(2.9)	0.001	805(3.2)	1,397(3.5)	0.09
XIII. Musculoskeletal and connective tissue	12,320(19.0)	10,922(20.2)	1,398(12.8)	<0.001	3,133(12.6)	9,187(22.9)	<0.001
XIV. Genitourinary system	6,391(9.8)	5,296(9.8)	1,095(10.0)	0.469	3,098(12.5)	3,293(8.2)	<0.001
XVII. Birth defects	276(0.4)	245(0.5)	31(0.3)	0.016	83(0.3)	193(0.5)	0.006
XVIII. Symptoms, signs and abnormal findings	6,761(10.4)	5,535 (10.3)	1,226(11.2)	0.002	2,329(9.4)	4,432(11.1)	<0.001
XIX. Injuries and poisoning	4,013(6.2)	3,107 (5.8)	906(8.3)	<0.001	1,372(5.5)	2,641(6.6)	<0.001
XX. External causes	41(0.1)	33 (0.1)	8(0.1)	0.799	14(0.1)	27 (0.1)	0.699
XXI. Factors influencing health status	2,148(3.3)	1,787 (3.3)	361(3.3)	1	874(3.5)	1,274(3.2)	0.022
No CID	4,446(6.9)	3,866 (7.2)	580(5.3)	<0.001	1,736(7.0)	2,710(6.8)	0.299

Source: GERCON and GERINT Systems.

Table 4. Main reason for using outpatient and hospital health services by older people, according to ICD-10 chapters and type of care. Porto Alegre, RS, 2019.

ICD-10 chapters (Multiple choice question)	Outpatient n (%)	Elective Hospitalization n (%)	Emergency hospitalization n (%)	Outp. + Elec. H. n (%)	Outp. + Urg. H. n (%)	Outp. + H. n (%)
I. Infectious and parasitic	1,605(3.0)	273(4.0)	2,127(13.3)*	186(4.2)	884(13.1)*	928(9.0)*
II. Neoplasms (tumors)	5,197(9.7)	2,383 (35.2)*	2,144 (13.4)*	1,622 (37.1)*	1,410(20.9)*	2,603(25.3)*
III. Blood and hematopoietic organs	2,238(4.2)*	154(2.3)	797(5.0)*	129(2.9)	453(6.7)*	534(5.2)*
IV. Endocrine. nutritional and metabolic	2,393 (4.5)*	199(2.9)	934 (5.8)*	165 (3.8)	556 (8.2)*	665(6.5)*
V. Mental and behavioral disorders	1,234(2.3)	59(0.9)	616(3.9)*	54(1.2)	343 (5.1)*	378(3.7)*
VI. Nervous system	1,847 (3.4)*	229(3.4)	705 (4.4)*	174 (4.0)*	418 (6.2)*	553(5.4)*
VII. Eye and appendages	11,949(22.2)*	998(14.8)	963(6.0)	842 (19.2)	939 (13.9)	1,664 (16.2)
VIII. Ear and mastoid process	2,370 (4.4)*	148(2.2)	200(1.3)	137 (3.1)	195(2.9)	313(3.0)
IX. Circulatory system	10,770 (20.0)	1,609(23.8)*	6,051(37.9)*	1,169(26.7)*	3,209(47.5)*	4,051(39.4)*
X. Respiratory system	2,040 (3.8)	298(4.4)	3,065(19.2)*	224 (5.1)	1,220(18.1)*	1,324(12.9)*
XI. Digestive tract	6,756(12.6)*	1,260(18.6)*	1,998(12.5)	909(20.8)*	1,195(17.7)*	1,913(18.6)*
XII. Skin and subcutaneous tissue	1,998 (3.7)*	238(3.5)	448(2.8)	204 (4.7)*	267 (4.0)*	430(4.2)*
XIII. Musculoskeletal and connective tissue	12,080(22.5)*	1,022 (15.1)	928(5.8)	862 (19.7)	833 (12.3)	1,598 (15.5)
XIV. Genitourinary system	5,173 (9.6)	1,142 (16.9)*	2,223 (13.9)*	763 (17.4)*	1,269(18.8)*	1,827(17.8)*
XVII. Birth defects	261 (0.5)*	55(0.8)*	42(0.3)	44 (1.0)*	37(0.5)	71(0.7)*
XVIII. Symptoms, signs and abnormal findings	6,159 (11.5)*	786 (11.6)*	1,599 (10.0)	655 (15.0)*	1,087(16.1)*	1,574(15.3)*
XIX. Injuries and poisoning	2,868 (5.3)	646 (9.5)*	1,818 (11.4)*	540 (12.3)*	738 (10.9)*	1,152(11.2)*
XX. External causes	30 (0.1)	8(0.1)	19(0.1)*	6(0.1)	10(0.1)*	14(0.1)*
XXI. Factors influencing health status	2,059 (3.8)*	269 (4.0)*	331(2.1)	227 (5.2)*	266 (3.9)*	457(4.4)*
No CID	4,446 (8.3)*	266(3.9)	385(2.4)	266 (6.1)	385(5.7)	603(5.9)

Outp. = Outpatient; H. = Hospitalization; * statistically significant association by the test of residuals adjusted to 5% of significance. Source: GERCON and GERINT systems.

Table 5. Association between outpatient visits and type of hospitalization in older people, according to gender and age group. Porto Alegre, RS, 2019.

Variables	Consulted in an outpatient clinic (N=53,719) n (%)	Not consulted in an outpatient clinic (N=11,169) n (%)	*p*
Total sample			
Elective hospitalization	4,377 (8.1)	2,389 (21.4)	<0.001
Urgent hospitalization	6,754 (12.6)	9,222 (82.6)	<0.001
General hospitalization	10,287 (19.1)	11,169 (100)	<0.001
Age 60 to 79 years			
Elective hospitalization	3,874 (8.4)	2,155 (26.8)	<0.001
Urgent hospitalization	5,285 (11.5)	6,282 (78.0)	<0.001
General hospitalization	8,431 (18.4)	8,052 (100)	<0.001
Age ≥ 80 years			
Elective hospitalization	503 (6.5)	234 (7.5)	0.054
Urgent hospitalization	1,469 (18.9)	2,940 (94.3)	<0.001
General hospitalization	1,856 (23.8)	3,117 (100)	<0.001
Male			
Elective hospitalization	1,910 (9.6)	1,082 (22.0)	<0.001
Urgent hospitalization	3,106 (15.6)	4,082 (82.9)	<0.001
General hospitalization	4,599 (23.1)	4,923 (100)	<0.001
Female			
Elective hospitalization	2,467 (7.3)	1,307 (20.9)	<0.001
Urgent hospitalization	3,648 (10.8)	5,140 (82.3)	<0.001
General hospitalization	5,688 (16.8)	6,246 (100)	<0.001

Source: GERCON and GERINT Systems.

Among the older people who consulted, 8.1% were hospitalized electively, while among those who did not consult, this number reached 21.4%. It is noteworthy that emergency admissions were more prevalent among users aged 80 years or older (94.3%) (p<0.001). In both sexes, more than 80% of those who did not consult medical specialties were hospitalized urgently (p<0,001).

DISCUSSION

The higher prevalence of older people aged between 60 and 79 years and females who used specialized health services found in this study, corroborates the results of national and international research on the subject[1,8,16]. Considering that the estimated older population of the municipality for 2019 was close to 287,000, it is noteworthy that approximately 22% of the older people resorted to specialized public services and, among these, almost half needed more than one specialized, outpatient health care or hospital, which may indicate the proportion of older people in this population with greater vulnerabilities and who depend on the public health system. Although the PHC has sought some advances covering care for older people, such as the expansion of Home Care and the encouragement of multidimensional assessment, it is often faced with important challenges, especially with regard to accelerated population aging and the growing number of demands of this population[14], in relation to the offer of care, in addition to the implementation of the line of care for older people in the national context.

Outpatient consultation was the most used type of care, which was expected, and may be related to the greater number of chronic diseases, occurrence

of comorbidities and other vulnerabilities in this age group that PHC often fails to resolve. A national baseline study by Meier et al.[17] identified that 64% of the older people had up to four medical consultations during the previous year and that the use of these consultations is associated with functional decline, chronic diseases and comorbidities, without specifying the level of care in which they occurred.

As for hospital care, it was observed that more than a third of the older people were hospitalized and that the percentage that required urgent hospitalization was more than double the number of electives. Although no studies were identified with results stratified by type of hospitalization, national surveys show that between 11% and 18% of the older people reported the occurrence of at least one hospitalization in a year. Similar values were also found in studies carried out in developed countries such as England (10%) and the United States (19%) and in emerging ones, such as Colombia (13%)[1,8-10,18,19]. Although the previous history of the patients in the present investigation is not known, it is possible that a greater focus on preventive activities, monitoring of vulnerabilities and coordination of care between PHC and specialized care may influence in the reduction in the use of hospitalizations[1,7].

The identification of units requesting outpatient and hospital care makes it possible to know the type of care used by users to access other specialized services in the year under study. Although the use of PHC has not been directly evaluated, the significant number of referrals made by older people between 60 and 79 years of age and female may indicate that older people from these groups have accessed PHC more, reinforcing its important role as a gateway into the Health Care Network (RAS) and care coordinator[19]. The 2019 National Health Survey (PNS) identified that 70% of people who used PHC services in Brazil were women[20]. The long-lived and men, on the other hand, had most of their referrals made by hospitals and ECU to another specialized service, which may be related to the need to use more complex services when the diseases are already installed and even in advanced stages and by the occurrence of frailty.

Considering the composition of the RAS in Porto Alegre, it is possible that the long-lived have more difficulty in accessing the PHC services due to physical mobility problems for commuting to the health units, which are not always located close to their homes, requiring large displacements by foot or need to use public or private transport. In addition, many older people live alone, often requiring home care, which is not always able to cover their care needs. Thus, health conditions sensitive to PHC often end up becoming more acute, requiring recourse to more complex places.

This inference is based on the identification that in the regions with the highest proportion of older people in the municipality, there are PHC services with a much higher number of people registered than recommended and requiring large displacements, as in the central region, which has only three health units and where 22% of the population is aged 60 or over[21]. In international health systems, such as the National Health Service (NHS) in the United Kingdom, the profile of older people using services differs from that found in this study, with regard to age group, with a higher prevalence of care for the long-lived in PHC (55.8%) in relation to the total population over 60 years old[22].

Hospital services in the municipality concentrate the highest number of consultations, regardless of gender or age group of users, whether for consultation or hospitalization and, possibly, for this reason, there was no statistical difference in its use for these variables. Outpatient centers were more used by younger older people and women. It is possible that the regulation of cases in the municipality will refer more complex patients to outpatient consultations in hospitals to facilitate diagnostic and therapeutic support.

Also noteworthy is the higher prevalence of men treated at renal clinics. Results of studies that address patients with chronic kidney disease, already on dialysis, identified that most of the sample was male and older people in the age group of 60 to 79 years[23,24]. This fact may be related to a lower preventive culture adopted by men, since the late search for health services contributes to the

diagnosis being made in more advanced stages of the disease[25].

As for the executing units, the greater use of physiotherapy, rehabilitation, mental health and dentistry services by women and young older people stands out. Studies were identified in which women also sought mental health care and preventive care more frequently and that related mobility difficulties in the long-lived with the lack of adherence to rehabilitation treatments, which may justify the results found[26-28]. The feminization of old age can also explain this finding, since, by using health services more frequently, even for reasons related to their own gender, women are diagnosed and treated for conditions with potential risk to health earlier, which ends up raising their life expectancy compared to men[17].

The impact of NCDs on old age and the use of health services can also be observed when analyzing the main reasons for outpatient and hospital care by groups of causes. The greater presence of diseases of the circulatory system in the long-lived corroborates the result of a study carried out in São Paulo, in which the authors pointed out that the average age increased according to the degree of risk[29].

Diseases of the circulatory system were the main causes of emergency hospital admissions for older people. A study carried out with data on hospitalizations of older people for these diseases in the Southeast region showed that 90.3% of them were admitted to the institution on an urgent basis[30]. This may result from the lack of actions to control cardiovascular risk factors in PHC, such as arterial hypertension, dyslipidemia and obesity[6,17]. Such actions should be developed at this level of attention from the young adult population, mainly on modifiable factors, such as sedentary lifestyle, inadequate diets and smoking, promoting changes in the lifestyle of future older people and preventing NCDs and their complications.

According to a nationally based study on the prevalence of cancer in older Brazilians carried out by Francisco et al.[31], 54.3% of the reported diagnoses were in males. The authors relate this to the fact that the average age of the first diagnosis in women is before 60 years of age, as well as male behavioral characteristics in relation to their health. Women, due to the preventive culture, consulted more at outpatient clinics, while men needed more urgent care, inferring that the finding is linked to a pattern of search for health services by the male population when the problem is already aggravated.

Long-lived older people, on the other hand, had fewer specialized consultations and had more emergency hospitalizations, which may be related, as already mentioned, to the difficulty of traveling to health services for PHC or outpatient follow-up, causing a worsening of their health condition and increasing the hospitalization rates in this age group[32].

In the analysis between the types of care, the results of this study showed that the older people who had at least one outpatient visit needed less urgent hospitalization, both in relation to age and gender, which is a positive finding, since they passed, previously, through evaluation in their health unit[1]. The highest number of elective hospitalizations among those with an outpatient history was predicted, since these procedures are scheduled after the specialist's evaluation and are not of an emergency nature.

Specialized care is necessary to provide continuity and support to PHC and should be included in care for older people to ensure comprehensive care, with referral and counter-referral flows and access to the hospital network when necessary[33]. For comparison purposes, no studies were found that integratedly assess which RAS points this population used before outpatient and hospital care. Research on the subject is limited to describing the profile and characteristics of these users in a given type of service, mostly PHC units[32-35], ECU[6,32] or hospitals[17], without demonstrating the previous relationship with other levels of care.

Some limitations of this study are related to the method employed and the type of data used. As this is a cross-sectional study, it is not possible to measure variations over time or establish cause and effect relationships. In addition, the use of secondary data can generate losses and misunderstandings, as it depends on the quality of the health professionals' records, which were not collected directly by the researcher and were

not produced for a specific research. Variables referring to other aging vulnerabilities, such as functional capacity, which would allow for a broader understanding of the use of these services, were not available.

CONCLUSION

The results of this study provide subsidies for managers in the development of actions related to the health of the older people, prioritizing the male population, the long-lived and the control and prevention of complications from NCDs. Strengthening the PHC in the multidimensional assessment of these users, monitoring their health conditions and identifying individual priorities is essential so that referrals to specialized care are qualified, not generating queues and avoidable hospital admissions.

The use of specialized health services by older people in the second capital with the highest proportion of this group in the country shows that, despite advances in public policies aimed at this population, the RAS still needs to evolve to meet their needs. Other health care points in the network are important, such as day centers and home care programs, which would complement care for the older people and facilitate their access.

It was found that the older people with a history of outpatient consultations had a lower percentage of hospitalizations than those who did not, especially in urgent cases. The proportions of long-lived older people and men who required hospitalization were higher, regardless of having had a previous outpatient consultation, pointing to the need to review policies aimed at men's health and home care for those with limited mobility.

The findings of this study demonstrate the importance of strengthening integrated care models in order to qualify the approach to the health of older men. New studies exploring the use of PHC units and specialized services are suggested.

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