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Epidemiology of medication use among the elderly in an urban area of Northeastern Brazil

ABSTRACT

OBJECTIVE: To analyze medication use and associated factors among the elderly.

METHODS: A population-based cross-sectional study was carried out with a sample of 400 elderly people aged over 60 living in the urban area covered by the Family Health Strategy program in Recife, Northeastern Brazil in 2009. Individuals were selected by systematic random sampling and household data were collected. Demographic, socio-economic, lifestyle factors including nutrition practices and health variables were evaluated. Medication use was the independent variable. Univariate and multivariate statistical analysis were performed.

RESULTS: The prevalence of medication use was 85.5%. Polypharmacy (> 5 drugs) occurred in 11% of cases. Of the 951 drugs reported, 98.2% were prescribed by doctors and 21.6% were considered unsafe for the elderly. The most commonly prescribed groups were: cardiovascular drugs (42.9%), central nervous system agents (20.2%) and drugs with an effect on the digestive tract and metabolism (17.3%). The use of polypharmacy was associated with education (p = 0.008), self-reported health (p = 0.012), self-reported chronic disease (p = 0.000) and the number of doctor appointments per year (0.000).

CONCLUSIONS: The results of this study indicate a high proportion of medication use among the elderly, including of those considered unsuitable, and inequality among groups of elderly individuals regarding the use of medication, when education, number of doctor appointments and self-reported health are considered.

DESCRIPTORS: Aged. Drug Utilization. Polypharmacy. Socioeconomic Factors. Urban Health.

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INTRODUCTION

Changes in quality of life, health care, patterns of consumption and behavior linked to fertility and mortality in the last century have led to an increase in longevity. Ageing populations have become a global pehnomenon.[18,22,25] In Brazil, the population structure is considered aged, as the elderly make up 10.7% of the population (around 19 million people).[a]

The ageing process leads to a progressive reduction in the organism's active tissue, a loss of functional capacity and significant changes in metabolic functions.[17] Consequently, there is increased incidence of chronic disease, hospital admissions and medication use.[16,22,b]

High levels of medication use by the elderly population, in Brazil and worldwide, has been described.[7,9,15,16,20] Biologically, the elderly have less capacity to metabolize medication, they suffer adverse effects more frequently and efficacy of the treatment is reduced. This is due to a combination of factors: higher prevalence of chronic illness, polypharmacy and, often, malnutrition.[4,10,21]

There is no consolidated definition of the term polypharmacy. Bushardt et al,[3] in a revision of the literature, identified a number of concepts; among the most commonly found were "taking medication inappropriate to the diagnosis", "taking multiple medications", "duplicating drugs and/or taking potentially inappropriate medication". In this study, polypharmacy is defined as taking five or more medications simultaneously.[12]

Polypharmacy linked to physiological and clinical conditions which are specific to the elderly makes taking medication a cause of concern for the health care sector.[8,9,21,26] It is important to understand this population's patterns of medication use in order to establish rational use, improve quality of life and maintain functional capacity.

This study aimed to analyze medication use and associated factors among the elderly.

METHODS

A cross-sectional study with 432 elderly individuals aged 60 and over, living in the community, of both sexes, capable of communication, responsible for their own medication and living in areas covered by the Family Health Care Strategy (ESF) in Recife, PE, Northeastern Brazil between April and September 2009. The research took place in Health Care district IV, located in the west of Recife, micro region 4.2, with a registered population of 2,796 elderly individuals in the ESF.[c]

Sample size was determined based on an 80% prevalence of "taking medication", with a variability of 5%, resulting in 246 individuals. In order to correct for potential losses and allow greater breakdown of independent variables, 432 elderly individuals were contacted, of which 27 refused to participate in the study (refusal rate of 6.2%) and five were withdrawn as, after three attempts, they could not be contacted, giving a sample of 400 eligible elderly individuals.

This tracking enabled the prevalence of medication use in the population in question to be estimated, as well as characterizing this use and associated factors.

Individuals were recruited using probabilistic allocation, based on a list of names and addresses of elderly individuals registered with the ESF. Names were drawn to select the individual when there were two or more individuals fulfilling the criteria in the same residence. Data, including a questionnaire and height and weight measurements, was collected by two interviewers in the individuals' homes.

Participants were questioned about what medication they had taken on the day of the interview. The interviewers asked to see prescriptions and packets to ensure the names of the medications were recorded accurately and to avoid any medications being forgotten and thus omitted. The name and dose of the medication was used in the identification. The active ingredients were classified according to the Anatomical-Therapeutical-Chemical Classification System (ATC).[d]

The dependent variable was the number of medications taken on the day of the interview. This variable was categorized into two groups: taking fewer than five medications; taking five or more medications (classified as polypharmacy).[12]

Medications taken were classified as: prescribed (prescribed by a doctor, including repeat prescriptions authorized by a nurse); non-prescribed (taken on the individual's own initiative, or recommended by a third party, not of the medical profession); medications unsafe for use by the elderly (should be avoided irrespective of

[a] Instituto Brasileiro de Geografia e Estatística. Censo demográfico 2010: resultados preliminares. Rio de Janeiro; 2010.
[b] Veras RP, Lourenço R, Martins CSF, Sanchez MA, Chaves PH. Novos paradigmas do modelo assistencial no setor saúde: consequência da explosão populacional dos idosos no Brasil. In: Veras RP, organizador. Terceira idade: gestão contemporânea em saúde. Rio de Janeiro: Relume Dumará; 2002. p.11-79.
[c] Secretaria Municipal de Saúde do Recife. Sistema de Informação da Atenção Básica. Recife; 2009.
[d] WHO Collaborating Centre for Drug Statistics Methodology. ATC/DDD Index 2010. Oslo; 2010 [cited 20 May 2010] Available from: http://www.whocc.no/atc_ddd_index/

dose, duration of treatment or clinical circumstances, either because ineffective or because they present an unacceptably high risk for the elderly – risk exceeds benefit – according to the Beers-Fick criteria).[6]

Independent variables included: socio-demographic characteristics (age, sex, schooling – in completed years, marital status, family arrangements and monthly income – in national minimum wage at time of writing); health (perception of own health; self-reported chronic illness);[11] health related behavior (doing physical activity); use of health care services (number of doctor's appointments in the last 12 months); nutritional state (Body Mass Index, classified according to the cutoff points adopted by Lipschitz).[13]

Height and weight were measured according to recommendations by Lohman et al.[14] Weight was measured using a Marte scale, capacity of 150 kg, and height was measured using an Alturaexata portable stadiometer, with a maximum extension of 2.00 m, divided into centimeters.

Data were entered twice and checked using the "validate" module of the EpiInfo program, version 6.04 (WHO/CDC; Atlanta, GE, USA), in order to identify any inconsistencies. Statistical Package for Social Sciences (SPSS) for Windows software, version 12.0 was used to analyze the data.

Uni-variate analysis was conducted in order to verify the link between characteristics of the study population and polypharmacy. The following tests were used: Kolmogorov-Sminorv to estimate the normal range for continuous variables, Pearson's Chi-squared test for categorical variables; and the Kruskal-Walis H test for the continuous variables. Multiple analysis (logistical regression) was used to identify factors associated with polypharmacy. The Wald test for trend and heterogeneity was used in the unadjusted analysis. Variables which had significance ≤ 0.20 in the unadjusted uni-variate analysis were considered when building the model. The stepwise method (variables selected in steps) with retrograde elimination was used in the adjusted analysis. Variable linked to $p < 0.05$ remained in the final model. The level of significance used was defined as $\alpha = 0.05$ bi-caudal.

The research protocol was approved by the research ethics committee of the *Universidade Federal de Pernambuco* (Process No. 0388.0.172.000-08 and Protocol No. 396/08). Participants signed a consent form.

RESULTS

The majority of the elderly individuals (75.5%, 95%CI 70.9;79.6) were female. Age varied between 60 and 101 years old, with a mean age of 69 (64.00:75.75);

Table 1. Demographic, socio-economic, lifestyle and health characteristics of elderly individuals living in the community. Recife, PE, Northeastern Brazil, 2009.

Variable	Elderly	
	n	%
Sex		
Female	302	75.5
Male	98	24.5
Age group (years)		
60 to 69	205	51.3
70 to 79	134	33.5
80 and over	61	15.4
Schooling (years of study)		
Illiterate	146	36.6
1 to 4	87	21.9
5 to 9	62	15.5
10 or more	104	26.1
Marital status		
Living with a partner	147	36.8
Not living with a partner	252	63.2
Individuals per residence		
Up to 3	228	57.0
4 or more	142	43.0
Income (MW)		
< 1	60	15.1
1 to 2	310	78.1
> 2	27	6.8
Health		
Excellent. very good and good	24	6.0
Regular or very bad	376	94.0
Reported illness		
None	48	12.0
One chronic illness	137	34.2
Two or more chronic illnesses	215	53.8
Physical activity		
No	98	24.5
Yes	302	75.5
Nutritional status (BMI)		
< 22 kg/m²	50	13.7
22 to 27 kg/m²	140	38.5
> 27 kg/m²	174	47.8
Doctor's appointments per year		
Up to 4	257	64.3
5 or more	143	35.8

MV: minimum wage; BMI: body mass index

the 60 to 69 years old age group was the most frequent (51.3%) (Table 1).

Low levels of schooling were common, and the sample was predominantly illiterate (36.6%). The highest percentage of the elderly individuals had a monthly income of two minimum wages (78.1%); 63.2% lived alone and the median number of individuals per family was 3.0 (2.00:5.00).

The majority of elderly individuals classified their own health as very bad. Most of those interviewed (88%) reported having one or more chronic disease; of these 53.8% reported having two or more. The most commonly reported diseases were high blood pressure (47.6%), arthritis/rheumatism (21.3%), diabetes (13.3%), heart disease (6.3%), stroke (5.7%), chronic pulmonary disease (3.8%) and cancer (2.0%). Mean BMI was 27.9 kg/m^2 (SD = 5.4) and the predominant nutritional state was overweight (47.5%).

There were 83.5% of the elderly individuals who reported making use of the Brazilian Unified Health System (SUS); of these, 64.5% had used the ESF exclusively in the last 12 months. The median number of appointments was 4 (2.00: 6.00) for the same period. Hospitalization in the four months preceding the interview was reported by 24.5% of the elderly individuals (Table 1).

The prevalence of taking medication was 85.5%. Of these, the proportion of elderly individuals who took at least one prescribed medication was 98.2%, and the proportion taking at least one non-prescribed medication was 6.7%. Polypharmacy occurred in 11.0% of cases. The use of at least one medication judged unsafe for use by the elderly occurred in 21.6% of cases. The most commonly used were: diazepan, digoxin, and mineral oil.

At the time of the interview, 951 medications, made up of 739 different drugs were being taken. The mean number of medications being taken by the elderly individuals at the time of the interview was 2.4 (SD = 1.78) and the median was 2.0 (1.00: 3.00), varying between zero and ten medications. The median was 2.0 (1.00: 3.00) in prescribed medication, varying between zero and ten, and 0 (0.00: 0.00), varying between 0 and 3 medications for non-prescribed medications. Men had a median of 2.0 (0.75: 3.00), whereas for women it was 2.0 (1.00: 3.00) (p = 0.001).

The medications most commonly taken by the elderly individuals were cardiovascular drugs, followed by medicine used for the central nervous system (Table 2).

Of the most commonly taken medications, hydrochlorothiazide 25 mg, Captopril 25 mg and AAS 100 mg stand out (Table 3).

Table 2. Medications taken by the elderly individuals living in the community according to therapeutic group and pharmacological group. Recife, PE, Northeastern Brazil, 2009. (N = 951)

Group and subgroup	n	%
Cardiovascular drugs	408	42.9
Diuretics	124	13.0
Drugs active in the renin angiotensin system	107	11.2
Calcium channel blockers	37	3.9
β-blockers	19	2.0
Cardiac therapy	14	1.5
Hipolipermiantes	4	0.4
Other	103	10.9
Medicines for central nervous	192	20.2
Analgesics	80	8.4
Psycholeptics	26	2.7
Psychoanaleptics	20	2.1
Antiparkinsonian	6	0.6
Antiepileptic	4	0.4
Other	6	0.6
Medicines for the alimentary tract and metabolism	165	17.3
Antidiabetic	65	6.8
Mineral supplements	18	1.9
Antacids, anti-ulcer and antiflatulents	14	1.5
Vitamins	5	0.5
Other	3	0.3
Other	186	19.6

Polypharmacy proved to be linked to lower levels of schooling (p = 0.008), to poor self-reported health (p = 0.012), to two or more self-reported chronic diseases (p = 0.000) and to the number of doctor's appointments per year (0.000). The other variables were not linked to polypharmacy (Table 4).

Table 3. Medications taken by elderly individuals in the community. Recife, PE, Northeastern Brazil, 2009.

Medication	n	%
Hydrochlorothiazide 25 mg pill	153	16.1
Captopril 25 mg pill	102	10.8
ASA 100 mg pill	66	6.9
Metformin 850 mg pill	42	4.4
Propranolol 40 mg pill	42	4.4
Glibenclamide 5 mg pill	36	3.8
Simvastatin 40 mg pill	30	3.1
Diazepam 10 mg pill	21	2.2
Atenolol 50 mg pill	15	1.6
Furosemide 40 mg pill	12	1.3
Other	432	45.4
Total	951	100.0

Table 4. Link between taking medication, sociodemograohic characteristics, health related aspects, and use of health care services among elderly individuals in the community. Recife, PE, Northeastern Brazil, 2009.

Variable	Polypharmacy				pᵃ
	Yes		No		
	n	%	n	%	
Sex					0.302
Female	8	8.2	90	91.8	
Male	36	11.9	266	88.1	
Age group (years)					0.097
60 to 69	29	14.15	176	85.9	
70 to 79	9	6.7	125	93.3	
80 and over	6	9.8	55	90.2	
Schooling (years of study)					0.008
Illiterate	20	19.2	84	80.8	
1 to 4	7	11.3	55	88.7	
5 to 9	9	10.3	78	89.7	
10 or more	8	5.5	138	94.5	
Marital status					0.688
Living with a partner	15	10.2	132	89.8	
Not living with a partner	29	11.5	223	88.5	
Individuals per residence					0.535
Up to 3	27	11.8	201	88.2	
4 or more	17	9.9	155	90.1	
Income (MW)					0.416
< 1	3	9.4	29	90.6	
1 to 2	1	3.7	26	96.3	
> 2	40	11.8	300	88.2	
Health					0.012
Excellent, very good and good	6	5.0	114	95.0	
Regular or very bad	38	13.6	242	86.4	
Reported illness					0.000
None	–	–	48	100.0	
One chronic illness	5	3.7	129	96.3	
Two or more chronic illnesses	39	17.9	179	82.1	
Physical activity					0.183
No	30	9.8	275	90.2	
Yes	14	14.7	81	85.3	
Nutritional status (BMI)					0.663
< 22 kg/m2	19	9.9	173	90.1	
22 to 27 kg/m2	16	13.1	106	86.9	
> 27 kg/m2	6	12.2	43	87.8	
Doctor's appointments per year					0.000
Up to 4	16	6.2	241	93.8	
5 or more	28	19.6	115	80.4	

MW: minimum wage; BMI: body mass index
ᵃ Chi-squared

Table 5. Final model of the multivariate analysis for polypharmacy among elderly individuals living in the community. Recife, PE, Northeastern Brazil, 2009.

Variable	OR	95%CI	Standard error	p
Schooling (years of study)				
Illiterate	1			
1 to 4	5.276	2.142;12.989	0.460	0.000
5 to 9	2.426	1.004;5.860	0.450	0.049
10 or more	2.131	0.809;5.616	0.494	0.126
Health				
Excellent, very good and good	1			
Regular or very bad	2.787	1.111;6.995	0.469	0.029
Doctor's appointments per year				
Up to 4	1			
5 or more	3.754	1.899;7.422	0.348	0.000

OR: *odds ratio*

Three variables remained in the model after adjustment for potential risk factors for polypharmacy, showing an independent association with polypharmacy. Having between one and four years of schooling was the factor most strongly linked to polypharmacy (OR = 5.276 95%CI 2.142;12.989) (p = 0.000).

DISCUSSION

The high prevalence of medication use among the elderly individuals (85.5%) concords with the literature and is within the expected range, with values close to those found in Fortaleza, CE, Northeastern Brazil (80.3%),[6] the South Region (82.0%)[7] and Belo Horizonte, MG, Southeastern Brazil (86.2%[15] and 89.6%).[20]

The mean number of medications being taken at the time of the interview was lower than that observed in Rio de Janeiro, RJ,[16] in the South Region[7] and in Belo Horizonte, MG.[15,20] However, it was higher than that found in Fortaleza,[5] the population which is closest to the population of this study, which suggests regional differences in the intensity of medication use.

Sex, age and access to health care services are highlighted as predictive factors for medication use among the elderly.[9,21,22] In this study, women tended to take more medications than men, although the difference in prevalence of polypharmacy was not statistically significant between the sexes. In general, women made more use of health care services and were better at reporting their conditions;[1] thus, they are more likely

to take medication. This trend of taking larger quantities of medications is consistent with the results of other epidemiological investigations.[5,7,15,20] However, this difference was not reflected in the occurrence of polypharmacy. Likewise, there was no link between polypharmacy and age group. Elderly individuals receiving care from an ESF team makes access to medications linked to prescriptions based on standardized lists free, which results in smaller quantities of medications being taken as well as encouraging more rational use. This may mean that polypharmacy in all age groups and both sexes is reduced. The findings here do not agree with those of studies conducted in Belo Horizonte.[15,20] However, these studies were carried out with elderly individuals in the general population, irrespective of registration with the ESF, suggesting that health teams monitoring the elderly tends to reduce polypharmacy in all age groups.

The most frequently used drugs were similar to those found in other research.[5,7,15] Cardiovascular medication were the most commonly used, which agrees with the national epidemiological profile,[e] and hypertension was the most commonly self-reported chronic condition.

A significant proportion of the elderly individuals were taking prescribed medications and this reached a higher proportion than that found in research on elderly individuals in the general population.[5,6,15] On the other hand, the proportion of elderly individuals using non-prescribed medication was lower than that reported in the literature.[5,6,15,16] This may be linked to the fact that this study dealt with a population dependent on the SUS and therefore needing a prescription for any kind of medication. The frequency with which medications judged unsafe for use by the elderly[3] were found was greater than that found in Rio de Janeiro[16] and in Fortaleza,[5] but the values were lower than those obtained for elderly individuals not dependent on the SUS.[19] Even so, it was observed that 2.2% of the elderly individuals took diazepam. This was a higher prevalence than that found by Bushardt et al,[3] although lower than that found in Fortaleza.[5] According to the Beers-Fick[6] criteria and a panel of specialists, diazepam is judged to be not recommendable for use by the elderly, irrespective of diagnosis and clinical condition, as it has a long half-life, producing prolonged sedation and increased risk of falls and fractures.

The current practice of standardization of medicines in the SUS and dispensing drugs linked to prescription may be related to the increased use of prescription medication and the reduction in prescription medication that are unsafe for the elderly and the use of non-prescribed medications. The current ESF practice seems to have

positive effect, given the low prevalence of elderly individuals using unsafe and non-prescribed medication, reducing the risk of iatrogenic effects, adverse reactions and drug interactions.[4,10]

Of the socio-economic variables, only the level of schooling was directly linked to taking medication. Polypharmacy was more prevalent among elderly individuals with lower levels of schooling. Low levels of schooling is a predictive factor for the increase in chronic morbidities,[2] which may, in turn, be linked to increased medication use.

Frequency of doctor's appointments was higher among elderly individuals who practiced polypharmacy, reinforcing the importance of qualifying clinical protocols and the continuous professional development of health care professionals who prescribe medications, as primary care services were reported to be the main type of access to the health care system. Lebrão & Laurenti,[11] researching elderly individuals in the community, irrespective of access to the ESF, found a higher percentage of individuals seeking hospital care. This difference in access to the system shows the importance of establishing the ESF in order to facilitate access to health care services for the elderly, to educate and encourage continuous monitoring.

Negative perception of own health was linked to polypharmacy, as seen in other epidemiological studies.[11,15,20] There was a high prevalence of negative self-evaluated health. In contrast to this study, in the studies by Lebrão & Laurenti[11] and Paskulin & Vianna the elderly individuals tended to rate their own health positively.[18] However, such studies were carried out in the Southeast and South of the country, and regional differences may have influenced this result. More studies in the Northeast are necessary to confirm this trend.

The prevalence of chronic illness was close to that observed by other authors.[11,18] High blood pressure was the most commonly reported disease, as in the Brazilian epidemiological profile and as seen in other studies.[5,7,11,18] The VI Brazilian Hypertension Guidelines[23] highlight how. In spite of the high prevalence of hypertension, there are low levels of control. It is considered one of the principal modifiable risk factors for mortality related to cardiovascular disease, which in turn has been one of the main causes of death in Brazil over the last few years.[f]

Taking medication, albeit necessary, constitutes a risk for elderly individuals, especially polypharmacy or taking medications judged unsafe.[6]

Polypharmacy is linked to worsening physical and mental health among the elderly.[10] Access to medication should be viewed as an achievement by the SUS, as prescription should be based on elderly patients' overall health conditions and not solely on the treatment for a specific disease, adopting standards that minimize polypharmacy and use of unsafe medications.

The low percentage of losses is one of the positive aspects of this study, as it helps to reduce the possibility of selection bias and contributes to the study's internal validity. Limitations inherent to the cross-sectional design stand out: difficulty identifying the chronological relationship of the events, reduced by using a previously validated questionnaire; data on current exposure do not represent data of past exposure, minimized for some variables in which the elderly individual was asked about the chronic nature of their condition; and interpretation complicated by the presence of confounding variables, outlined in the statistical analysis, adjusted to minimize the influence of these variables.

As there are multiple, unknown risk factors linked to polypharmacy, using only the usual indicators may not be the most appropriate way of investigating causality of polypharmacy in the context in question. It is difficult to determine the isolation from the environment, personality and age (memory bias), as it is a phenomenon which includes a complex network of causal determinants. Other risk factors which were not analyzed but should have been, in this investigation, may play a crucial role in the prevalence of medication use. Investigating psychological stress and of the use of specific medications is worth investigating, together with physiological changes due to senescence.

The data in this study indicate a high percentage of medication use among the elderly, including medications judged unsafe, and inequality in medicine use between groups of elderly individuals when schooling, doctor's appointments and self-reported health are taken into account. The proportion of elderly individuals taking prescribed medications was higher than that found in other studies of the elderly with populations not registered with the ESF. The fact that around 11% of the population practice polypharmacy, linked to the ageing population in Brazil, is a cause for concern, considering the potential risks of medication use for the elderly. Broad discussion on the need to adopt measures for encouraging the rational use of medication in this segment of the population is needed, as is the continuous professional development of health care professional prescribing medications, qualifying the health care systems in order to provide

[f] Malta DC, Moura L, Souza FM, Rocha FM, Fernandes RM. Doenças crônicas não transmissíveis: mortalidade e fatores de risco no Brasil, 1990 a 2006. In: Ministério da Saúde. Saúde Brasil 2008. Brasília (DF); 2009. p.337-62.

permanent education and appropriate information at the correct moment, the adoption of measures in the area of pharmaceutical care, drawing up and establishing lists of medications and clinical protocols appropriate to the needs of the elderly population. The high prevalence of taking medication, mainly for

CVD, shows the need to adopt measures to encourage physical activity and healthy eating. Moreover, it is essential that continual guidance is given to the elderly and their carers as to the risks of taking medications and that measures are adopted in the area of pharmaceutical care.

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HIGHLIGHTS

The ageing population is a challenge for the Brazilian Unified Health System (SUS), as a more elderly population means an increase in chronic diseases, a higher rate of hospitalizations, increased use of medications, and other care requirements. This situation leads to increased spending on health care as well as requiring services and health care professionals better qualified to deal with this "new clientele". The increased use of medications by the elderly has other implications, such as: adverse reactions, harmful drug interactions, overdoses or lack of therapeutic efficacy, partly due to aspects specific to metabolism in the elderly and partly due to lack of knowledge of these aspects on the part of the prescriber.

The article presents the results of a cross-sectional study with a probabilistic sample of *Estratégia Saúde da Família* (Family Health Care Strategy) clientele in the city of Recife, CE, Northeastern Brazil. The results are representative of elderly individuals who only make use of services offered by the SUS, preferentially primary care, a population which generally has precarious socio-economic (low levels of income and schooling) and health (high proportion of individuals with regular, bad or very bad health and of individuals with at least one chronic disease) conditions.

A high prevalence of medication use (85%) was observed in this clientele, with a median of two medications per individual, and 11% using more than five medications concurrently. Although 98% of the medications used had been prescribed, 22% of them were unsafe (inappropriate for the elderly, or without proven efficacy). Excessive use of medications has been associated with poorer health, higher number of medical appointments in the period and lower levels of schooling.

The results may guide health care managers and those responsible for the *Estratégia Saúde da Família* aim to prescribe more responsibly, increasing the safety of elderly patients.

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