Saúde
(SANTA MARIA)

Profile of adherence to pharmacotherapy in elderly people in a pharmaceutical followup in Niterói

Perfil de adesão à farmacoterapia em idosos em acompanhamento farmacêutico em Niterói

Como citar este artigo:
FARIA, A. T. P. N.; FERREIRA, L. R.; CORREA, T. P. S; MORAES, J.R.; CAMUZI, Ranieri C. Profile of adherence to pharmacotherapy in elderly people in a pharmaceutical followup in Niterói. Revista Saúde (Sta. Maria). 2024; 50.

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Filiação Institucional:
Universidade Federal Fluminense (UFF)

Data de Submissão:
17/03/2022

Data de aceite:
13/11/2023

Conflito de Interesse: Não há conflito de interesse

DOI: 10.5902/223658369618

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Abstract:

To evaluate the association between sociodemographic and health characteristics and therapeutic adherence in elderly individuals, this cross-sectional study used data from a project that studied the outcomes of pharmaceutical care for elderly individuals treated in a specialized center in Niterói/RJ. To assess the association between the characteristics of the elderly individuals and adherence, Fisher's exact test was used, and crude and adjusted odds ratios of adherence in elderly individuals were obtained using a logistic model. The 95% confidence intervals were calculated for the odds ratio. There was a significant difference in the percentage of adherence according to income, marital status, self-rated health and difficulty in remembering to take the medication. In the multivariate analysis, the chance of adherence in elderly individuals with a steady partner was 91.6% lower than the chance of adherence in elderly individuals without a steady partner (OR=0.084; p-value=0.012). Elderly people who reported having difficulty remembering to take the medication had a 91.6% lower chance of adherence than elderly people without this difficulty (OR=0.084; p-value=0.005). The marital situation of elderly individuals, such as living with a steady partner, and difficulty remembering to take the medication were factors associated with lower therapeutic adherence.

Keywords: Treatment adherence and compliance; Health of elderly people; Cross-sectional studies; Logistic models.

Resumo:

Para avaliar a associação entre características sociodemográficas e de saúde e a adesão terapêutica em indivíduos idosos, este estudo transversal utilizou dados de um projeto que estudou os resultados da atenção farmacêutica para idosos atendidos em um centro especializado em Niterói/RJ. Para avaliar a associação entre as características dos idosos e a adesão, foi utilizado o teste exato de Fisher, e as razões de chances brutas e ajustadas de adesão em idosos foram obtidas por meio de um modelo logístico. Os intervalos de confiança de 95% foram calculados para as razões de chance. Houve uma diferença significativa no percentual de adesão de acordo com a renda, estado civil, autoavaliação da saúde e dificuldade em lembrar-se de tomar a medicação. Na análise multivariada, a chance de adesão em idosos com parceiro fixo foi 91,6% menor do que a chance de adesão em idosos sem parceiro fixo (OR=0,084; valor-p=0,012). Idosos que relataram ter dificuldade em lembrar-se de tomar a medicação apresentaram uma chance 91,6% menor de adesão do que idosos sem essa dificuldade (OR=0,084; valor-p=0,005). A situação conjugal dos idosos, como viver com um parceiro fixo, e a dificuldade em lembrar-se de tomar a medicação foram fatores associados à menor adesão terapêutica.

Palavras-chave: Adesão e cumprimento do tratamento; Saúde do idoso; Estudos transversais; Modelos logísticos.

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INTRODUCTION

The rapid change in the demographic profile of Brazil, characterized by a reduction in mortality and birth rates, is something that must be analyzed in an objective way so that society can adapt to the new population profile of the country, which is composed of an increasing number of elderly people (Rodrigues et al., 2021). Population aging, despite being a great achievement for humanity, is also considered a challenge since the additional years must have quality of life for them to be enjoyed (Bezerra de Souza et al., 2021).

Regarding the health system, the increase in elderly patients brings numerous obstacles related to the presence of comorbidities, disabilities and sequelae (Bezerra de Souza et al., 2021). The strategy of the current health system is not efficient in caring for elderly people. The decentralized methodology where the patient must consult with several specialists, generates a large amount of unshared information, several prescribed drugs and repeated exams (de Oliviera et al., 2021).

For this reason, the global trend is that there is a greater investment in preventive actions, with the goal of avoiding an accumulation of health problems throughout life. For the health system to meet the needs of the new Brazilian population profile, there needs to be a continuous and multidisciplinary care organization, especially in primary health care units, involving health actions and services that permanently promote the health and well-being of the elderly population, in addition to preventing diseases (Rodrigues et al., 2021).

Adherence to the medication refers to when the patient uses his medication correctly at the specified dose, time and conditions according to the recommendations of a health professional (Abreu et al., 2019). It is known to have a fundamental role in any type of treatment since in the case of nonadherence, the result expected by the prescription will not be achieved. (Santos et al., 2022). When the treatment of the patient involves a chronic illness or lifestyle change, adherence becomes something more difficult to achieve since adherence must become a habit of the individual (Ferigato et al., 2023)

In elderly patients, adherence is extremely important due to several factors that can influence their nonadherence. It is necessary to evaluate conditions such as the vulnerability of elderly people to the adverse effects of drugs due to their impaired pharmacokineti-

cs and pharmacodynamics; the high prevalence of comorbidities that end up generating polypharmacy and, as a consequence, the high risk of drug interactions that can cause additional adverse effects; and the ability of each individual to follow the guidelines indicated (da Silva et al., 2022).

The Health Care Center for the Elderly and their Caregivers (CASIC-UFF) is a specialized center in outpatient care for the health of elderly people and that of their caregivers located in the city of Niterói. The evaluation of the factors that interfere with the adherence to the pharmacotherapeutic treatment of patients treated at CASIC-UFF, composed of residents of Niterói and nearby municipalities, can assist in the future pharmaceutical care of elderly patients.

The present article aims to evaluate the association between sociodemographic and health characteristics and the outcome of therapeutic adherence in elderly people aged 60 years or older treated at CASIC-UFF.

MATERIALS AND METHODS

This is an observational study with a cross-sectional nature that used data provided by the research project entitled "Evaluation of the results of a pharmaceutical care service for elderly people in outpatient care" that studies the outcomes of pharmaceutical care performed through the extension project "Pharmaceutical Services to the Elderly" to patients treated at CASIC in the period from March 1, 2018, to October 31, 2019.

The patients of the extension project implemented at CASIC-UFF, located on the Mequinho campus of Universidade Federal Fluminense, in the city of Niterói/RJ, have access to followup carried out by the pharmacy team, which is composed of residents of the Multiprofessional Residency Course in Health of the Elderly at Hospital Universitário Antônio Pedro-UFF and undergraduate students of the UFF Pharmacy course, among other volunteers, under the supervision of professors. This monitoring performs the registration of various information related to patients using specific instruments. Pharmaceutical care is carried out according to a semistructured script that is presented in the shape of a form for recording information, structured in 3 large blocks. The first block consists of the initial assessment of the patient; the second has questions about adherence and self-assess-

ment of health; and the third block comprises the pharmaceutical analysis of the situation of the patient.

The study population is composed of elderly people aged 60 years or over who had consultations at CASIC-UFF and were referred by the nursing team for pharmaceutical care. These elderly are patients who use polymedication (use of 5 medications or more simultaneously) and/or patients who show uncertainty in the use of medications. Patients who reported being younger than 60 years old and who did not answer the "Adherence and Self-Assessment of Health" block and/or "Initial Patient Assessment" block were excluded from the present study.

The outcome of treatment adherence was calculated using the four questions originally proposed for the creation of the Morisky-Green Test (TMG), which, due to the validation of its safety, is a well-accepted instrument among researchers, especially in the case of chronic conditions (Yesilbalkan et al., 2019).

From the answers to these questions, the outcome of adherence was determined with two mutually exclusive categories: 1) adherence to treatment, and 2) nonadherence to treatment. In the "adherence to treatment" category, elderly individuals who answered "No" to all 4 questions were considered. In the "nonadherence to treatment" category, elderly individuals who answered "Yes" to at least one of the questions described above were considered.

The sociodemographic and health characteristics of the elderly individuals who responded to the TMG performed in the first pharmaceutical consultation were considered to be the explanatory variables of the statistical model: Sex (Male, Female); Age group (60 to 69 years old, 70 to 79 years old, 80 years old or more); Education level (Up to elementary school, At least high school, Not reported); Income (Up to R$1.085, More than R$1.085 to R$7.475, Not reported); Marital status (With steady partner, Without steady partner); Possession of health insurance (Yes, No, Not reported); Autonomy in medication management (Takes medications without assistance, Needs partial support, Unable to take alone); Presence of caregiver (Yes, No); Polypharmacy (Yes, No); General health self-assessment (Good (Excellent/Very good/Good), Not good (Poor/Very bad); Level of knowledge of the prescription (Insufficient: <8 points, Regular (safe in the absence of complications): 8-10 points, Good (safe under any circumstances):> 10 points); Problem of access to the

medication (Yes (A lot/a little), No (None), Not reported); Difficulty remembering to take the medication (Yes (A lot/a little), No (None), Not reported); Difficulty reading the package (Yes (A lot/a little), No (None), Not reported).

With regard to the descriptive analysis, tables of simple frequency distributions were constructed for the sociodemographic and health variables of the elderly individuals, in addition to contingency tables crossing the categories of each variable with the outcome of adherence. As for the inferential analysis, to compare the percentages of adherence between two or more independent groups, Fisher's exact test was used.

Additionally, the binary logistic regression model was used to assess the association between the sociodemographic and health characteristics of the elderly patients and the outcome of treatment adherence. Crude (ORb) and adjusted (ORaj) odds ratio measures were estimated, with the respective 95% confidence intervals and p-values of the individual and general Wald tests.

With regard to the modeling strategy, univariate logistic models were adjusted to explain the outcome of adherence. Then, a multivariate logistic model was adjusted including the explanatory variables that in the crude analysis showed a significant association with the outcome considering a significance level of 20% (p-value ≤0.20). Only the variables that showed a statistically significant association with the outcome at a significance level of 5% (p-value≤0.05) were kept in the multivariate model.

All statistical analyses were performed using the program R, version 3.5.1, and the univariate and multivariate logistic models were adjusted using the "glm" (generalized linear models) function of R (R CORE TEAM, 2019).

The research was approved by the Research Ethics Committee of the Faculty of Medicine of Universidade Federal Fluminense, opinion no. 3,632,726 of 10/09/2019 CAAE: 12131019.1.0000.524.

RESULTS

From a total of 43 elderly patients included in the study, there was a higher frequency of women (81.4%), aged from 60 to 69 years or older (48.8%), with low adherence to pharmacotherapy (60.5%). There were also a greater number of elderly people with schooling up to complete elementary school (46.5%) who did not have a spouse or steady partner

(65.1%) or a health plan (60.5%). For pharmacotherapy, most were in polypharmacy (88.4%) but took their medications without the need for assistance from another person (79.1%) and without a caregiver (81.4%). Regarding self-perceived health, the majority reported good health (74.4%) (Table I).

TABLE I - Distribution (absolute and percentage) of elderly patients according to socio-demographic and health variables

Variables	N° of patients (n=43)	% of patients (n=43)
Adhesion		
Yes	17	39,5
No	26	60,5
Sex		
Female	35	81,4
Male	8	18,6
Age group		
60 to 69 years	21	48,8
70 to 79 years	14	32,6
80 years or more	8	18,6
Scholarity		
Not reported	6	14,0
Up to elementary school	20	46,5
At least high school	17	39,5
Income		
Not reported	23	53,5
Up to R$1,085,00	7	16,3
More than R$1,085 to R$7,475	13	30,2
Marital situation		
With steady partner	15	34,9
Without steady partner	28	65,1
Possession of health insurance		
Not reported	4	9,3
Yes	13	30,2
No	26	60,5
Autonomy in medication management		
Needs partial support	3	7,0
Unable to take it alone	6	14,0
Takes medications without assistance	34	79,1
Presence of caregiver		
Yes	8	18,6
No	35	81,4
Polypharmacy		
Yes	38	88,4
No	5	11,6
Self-rated health		
Good	32	74,4
Not good	11	25,6
Prescription knowledge level		
Insufficient (< 8 points)	19	44,2
Regular (8-10 points)	18	41,9
Good (>10 points)	6	14,0
Problem of access to medication		
Not reported	3	7,0
Yes	11	25,6
No	29	67,4
Difficulty remembering to take the medication		
Not reported	3	7,0
Yes	19	44,2
No	21	48,8
Difficulty reading the packaging		
Not reported	3	7,0
Yes	23	53,5
No	17	39,5

There was a higher frequency of elderly people with a level of knowledge of the prescription considered insufficient (44.2%), stating that they did not have difficulties accessing medications (67.4%) and remembering to take the medication (48.8%). However, the majority reported difficulty reading the medication packaging (53.5%).

Using Fisher's exact test, a significant difference was observed in the percentage of adherence to treatment according to income, marital status, self-rated health and difficulty remembering to take the medication (p-value≤0.10), as shown in Table II. For the other variables, no statistically significant difference was observed in the percentage of adherence to treatment (p-value>0.10).

TABLE II - Percentage distribution (%) of patients by sociodemographic and health variables according to adherence to pharmacotherapy

Variables	Adhesion (n=43)		p-value (Fisher's exact)
	Yes (n=17)	No (n=26)	
Sex			
Female	40,0	60,0	1,000
Male	37,5	62,5	
Age group			
60 to 69 years	28,6	71,4	
70 to 79 years	50,0	50,0	0,414
80 years or more	50,0	50,0	
Scholarity			
Not reported	50,0	50,0	
Up to elementary school	35,0	65,0	0,765
At least high school	41,2	58,8	
Income			
Not reported	47,8	52,2	
Up to R$1,085,00	57,1	42,9	0,094*
More than R$1,085 to R$7,475	15,4	84,6	
Marital status			
With steady partner	13,3	86,7	0,020**
Without steady partner	53,6	46,4	
Possession on health insurance			
Not reported	50,0	50,0	
Yes	38,5	61,5	1,000
No	38,5	61,5	

Autonomy in medication management			
Needs partial support	33,3	66,7	0,851
Unable to take it alone	50,0	50,0	
Takes medications without assistance	38,2	61,8	
Presence of caregiver			
Yes	50,0	50,0	0,692
No	37,1	62,9	
Polypharmacy			
Yes	36,8	63,2	0,369
No	60,0	40,0	
Self-rated health			
Good	31,2	68,8	0,080*
Not good	63,6	36,4	
Prescription knowledge level			
Insufficient (< 8 points)	36,8	63,2	0,914
Regular (8-10 points)	44,4	55,6	
Good (>10 points)	33,3	66,7	
Problem of access to medication			
Not reported	33,3	66,7	0,878
Yes	45,5	54,5	
No	37,9	62,1	
Difficulty remembering to take the medication			
Not reported	33,3	66,7	0,006***
Yes	15,8	84,2	
No	61,9	38,1	
Difficulty reading the packaging			
Not reported	33,3	66,7	0,786
Yes	34,8	65,2	
No	47,1	52,9	

***p-value<0.01; ** p-value<0.05; *p-value<0.10

Thus, there was a higher percentage of adherence among elderly individuals with an income of up to R$1.085 (57.1%) and who live without a steady partner (53.6%). In addition, the percentage of adherence to treatment was higher among elderly individuals who reported not good (poor) health (63.6%) and who reported not having difficulty remembering to take the medication (61.9%).

Adjusting univariate logistic models (crude analysis), the variables income, marital status, self-rated health and difficulty remembering to take the medication were observed

to show a significant association with the chance of adherence to treatment, considering the level of significance of 20% (p-value≤0.20) (Table III).

TABLE III - Univariate logistical models explaining the chance of adherence to drug treatment in elderly people (crude analysis)

Variables	Crude analysis		
	OR_b	IC (OR_b, 95%)	p-value (Wald)
Sex			
Female	1,111	(0,228-5,411)	0,896
Male	1	-	-
Age group			**0,364**
60 to 69 years	0,400	(0,075-2.143)	0,285
70 to 79 years	1,000	(0,176-5,682)	1,000
80 years or more	1	-	-
Scholarity			**0,794**
Not reported	1,429	(0,220-9,262)	0,708
Up to elementary school	0,769	(0,203-2,918)	0,700
At least high school	1	-	-
Income			**0,123•**
Not reported	5,042	(0,908-27,997)	0,064
Up to R$1,085,00	7,333	(0,877-61,327)	0,066
More than R$1,085 to R$7,475	1,000	-	-
Marital status			
With steady partner	0,133	(0,025-0,704)	0,018•
Without steady partner	1	-	-
Possession on health insurance			**0,905**
Not reported	1,600	(0,193-13,240)	0,663
Yes	1,000	(0.254-3,929)	1,000
No	1	-	-
Autonomy in medication management			**0,843**
Needs partial support	0,808	(0,066-9,821)	0,867
Unable to take it alone	1,615	(0,283-9,235)	0,590
Takes medications without assistance	1	-	-
Presence of caregiver			
Yes	1,692	(0,361-7,943)	0,505
No	1	-	-
Polypharmacy			
Yes	0,389	(0,058-2,618)	0,332
No	1	-	-
Self-rated health			
Good	0,260	(0,062-1,094)	0,066•
Not good	1	-	-
Prescription knowledge level			**0,846**
Insufficient (< 8 points)	1,167	(0,168-8,090)	0,876
Regular (8-10 points)	1,600	(0,231-11,082)	0,634
Good (>10 points)	1	-	-
Problem of access to medication			**0,887**
Not reported	0,818	(0,066-10,117)	0,876
Yes	1,364	(0,335-5,552)	0,665
No	1	-	-
Difficulty remembering to take the medication			**0,019•**
Not reported	0,308	(0,024-3,968)	0,366
Yes	0,115	(0,025-0,525)	0,005
No	1	-	-
Difficulty reading the packaging			**0,718**
Not reported	0,563	(0,043-7,442)	0,662
Yes	0,600	(0,167-2,162)	0,435
No	1	-	-

OR_b = Crude odds ratio; •p-value≤0. 20

In the crude analysis, it was found that elderly individuals with an income of up to R$1,085 had a 7.3 times greater chance of adherence than elderly individuals with an income of more than R$1,085 to R$7,475 (OR = 7.333; p -value = 0.066). Elderly people with a steady partner had an 86.7% lower chance of adherence than elderly people without a steady partner (OR = 0.133; p-value = 0.018).

With regard to general self-rated health, elderly people who reported good health had a 74.0% lower chance of adherence than those who reported not good health (OR = 0.260; p-value = 0.066). In addition, the chance of adherence among elderly people who reported having difficulty remembering to take the medication was 88.5% lower than that among elderly people without this difficulty (OR = 0.115; p-value = 0.005).

In the multivariate analysis, the variables income and self-rated health of elderly individuals did not show a statistically significant association with the chance of adherence to treatment, considering the significance level of 5% (p-value ≤0.05). The variables marital status and difficulty in remembering to take the medication remained statistically significant, with the outcome of adherence at a level of 5%, as shown in Table IV.

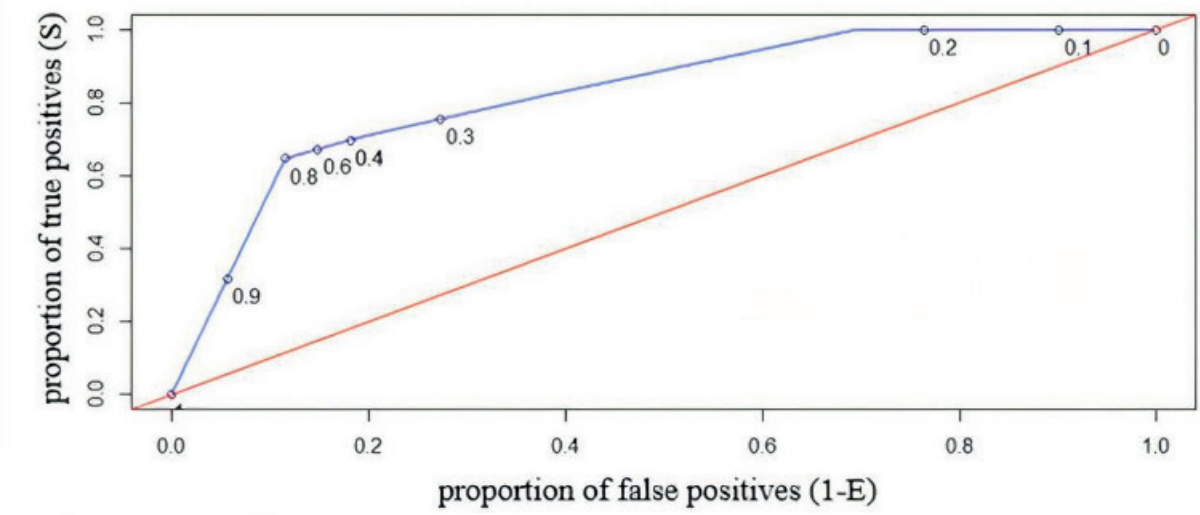
TABLE IV - Multivariate logistical models explaining the chance of adherence to drug treatment in the elderly

Variables	Multivariate model 1			Selected multivariate model 2		
	OR_{aj}	IC (OR_{aj}, 95%)	p-value (Wald)	OR_{aj}	IC (OR_{aj}, 95%)	p-value (Wald)
Income			**0,172**			
Not reported	7,481	(0,820-68,286)	0,075			
Up to R$1,085,00	10,616	(0,508-221,855)	0,128			
More than R$1,085 to R$7,475	1	-	-			
Marital status						
With steady partner	0,076	(0,008-0,687)	0,022	0,084	(0,012-0,584)	0,012
Without steady partner	1	-	-	1	-	-
Self-rated health						
Good	0,542	(0,068-4,299)	0,562			
Not good	1	-	-			
Difficulty remembering to take the medication			**0,036**			**0,016**
Not reported	0,290	(0,013-6,420)	0,434	0,124	(0,008-1,868)	0,131
Yes	0,064	(0,008-0,520)	0,010	0,084	(0,015-0,480)	0,005
No	1	-	-	1	-	-

OR_{aj} = Adjusted odds ratio

Regarding marital status, elderly people with a steady partner had a 91.6% lower chance of adherence than elderly people without a steady partner (OR = 0.084; p-value = 0.012). Elderly people who reported having difficulty remembering to take the medication were reported to have a 91.6% lower chance of adherence than elderly people without this difficulty (OR = 0.084; p-value = 0.005).

Figure 1 shows the ROC curve that represents the proportion of true positives (S) and the proportion of false positives (1-E) for different cutoff points. Considering the optimal cutoff point of c = 0.80 , which is located at the end of the curve closest to the upper left corner of the graph, an overall rate of correct classifications of 79.1% was obtained, as well as measures of sensitivity (S) and specificity (E) of S = 64.7% and E = 88.5%, respectively, indicating that the selected multivariate model has reasonable discriminatory power, which can be corroborated by obtaining a high value for the area under the ROC curve (A = 0.825).



DISCUSSION

Most of the patients treated at CASIC-UFF, being women, showed the expected result, since females, in general, use the basic health system more frequently than males (Araújo et al., 2022). For behavioral and cultural reasons, men are known to seek health services less frequently and have a reduced number of consultations. Other studies have found that women are more perceptive of the signs and symptoms of diseases and, consequently, have a greater demand for medical services, tests, promotion and prevention practices (Malta et al., 2021).

The prevalence of younger elderly people and their ease of access to the study site

may have been determining factors in their greater participation compared to other age groups. The majority of patients who do not have health insurance qualify for the free public service at CASIC, which is a viable and quality option for these elderly people.

In addition, most patients with polypharmacy were expected because the use of polypharmacy is one of two cases in which elderly people are referred for pharmaceutical consultation after a general assessment made by the nursing team at CASIC and because polypharmacy is widely used in the elderly population due to existing comorbidities (de Oliveira et al., 2021). Followup consultations for drug therapy in the elderly population happens due to the complexity of drug regimens, which has been linked to a lack of understanding; forgetfulness; and decreased visual acuity and manual dexterity. The number of different medications to be consumed daily can lead to errors in its administration, particularly among elderly people (Vieira et al., 2023).

In the present study, the majority of respondents reported taking their medications without the need for assistance. However, the need for daily consumption of medications usually emerges with the aging process, resulting in yet another demand for self-care that, from the perception of a new habit to be developed, can provoke resistance on the part of elderly individuals, especially when pharmacotherapy administration is complex and frequent (Oliveira et al., 2020). This reflects the need for multidisciplinary action which favors comprehensive care for elderly individuals, and the importance of the role of the pharmacist in reducing problems related to the use of medications (de Oliveira et al., 2021).

In the present study, income, marital status, self-rated health and difficulty remembering to take the medication were the characteristics of elderly individuals that were associated with adherence to treatment according to the crude analysis.

In terms of the income of the patient, in general, people with a higher purchasing power are expected to have a greater adherence to treatment due to the greater ease of obtaining the medication. However, considering national programs such as Popular Pharmacy and delivery of medicines in Basic Health Units, the patient often does not need to use their money to access the medicine, allowing this situation to be reversed (Drummond et al., 2020). Studies have shown that individuals who needed to buy part or all of their medications had lower adherence than those who did not have to pay for the medications (Drummond et al., 2020) (Chung et al., 2019) (Gomes et al., 2022). The cost of

treatment, therefore, proves to be an important factor in adherence to drug treatment (de Oliveira et al., 2021).

The association between the marital status of the patient and adherence to treatment does not seem to be well established since different results have already been found in relation to the outcome of adherence. One study suggests no association between marital status and treatment adherence, (Guttier et al., 2023) another study states that patients with a steady partner have a greater chance of adherence (da Silva et al., 2022), and another study indicates that patients without a steady partner have greater adherence (Camuzi et al., 2022). The association observed in the present study between living with a steady partner and a lower chance of adherence suggests that elderly individuals who live without a steady partner are more independent and have greater autonomy regarding their self-care (Camuzi et al., 2022).

A self-rated good health can affect treatment adherence due to psychological factors. When defining their health as good or reasonable, the elderly person is not characterized as a disease-free person but as an autonomous subject who is capable of performing a greater care routine in relation to those who define their health as not good (Hermes et al., 2022).

A patient who perceives and has knowledge about a disease, consequently understands the need for treatment and has greater adherence (Abreu et al., 2019). Unlike the variables previously discussed, this type of attitude can be influenced by actions taken by the health professional. It is necessary to inform the patient about the benefits of the treatment and the consequences of nonadherence so that elderly people understand the need to use their medications (Vieira et al., 2023).

The difficulty remembering to take the medication is a factor often associated with nonadherence (Abreu et al., 2019). In CASIC, a resource used in pharmaceutical intervention to facilitate this change in behavior is the implantation of a magnet-reminder card made up of a card with a magnet on the back. Through this resource, the pharmacist fills in the guidelines for all medications and the administration times for each of the medications, which can then be put on the refrigerator or on a visible board to assist the patient with medication schedules to minimize forgetfulness. In the study carried out by Camuzi (2017), the “reminder magnet card” presented a result considered to be good in 100% of

the cases and provided the assistance that was most frequently associated with positive results of interventions, according to pharmacist evaluations. Therefore, the "reminder magnet card" is an important resource to help improve adherence.

In addition to these factors, visual impairment can compromise treatment adherence. The expressive number of elderly people who reported having difficulty reading the packaging of medication due to a drop in visual acuity draws attention. Considering the implications of low vision in the fulfillment of drug therapy, the study by Christinelli et al. (2020) suggests that the visual deficit may favor the discontinuity of the treatment, as it makes it difficult to visualize the timing of medication use and identify the appropriate medication and dose. Thus, it is relevant that the vision problem be identified and corrected or mitigated early.

Considering the use of medication as an important instrumental activity of daily living, the following reflection is also identified: following the dynamics of life, it is understandable that elderly people self-adjust the way of managing treatments. In this sense, challenges arise and, in parallel, strategies are developed, which despite being similar for some elderly people, such as administering medications at meals or at bedtime, among others, within the microclinical, social and emotional reality of each individual, the consumption of pharmacotherapy is not identical and can have several outcomes. Therefore, it is essential that elderly individuals be empowered to consolidate practical and effective medication management routinely to guarantee the continuity of pharmacological care, as well as the therapeutic success of the treatment (Oliveria et al., 2020).

Limitations of our study are the use of self-reporting to measure adherence to drug treatment, which is subject to memory bias and may imply a certain degree of inaccuracy in the estimates obtained, and the small sample size. The sample size considered was due to the number of elderly people who were actually treated at CASIC-UFF in the research period set from March 1, 2018, to October 31, 2019, as well as to the exclusion of some elderly people for not providing information necessary for the statistical analyses related to the first (initial patient assessment) and/or second block of the questionnaire (compliance and self-assessment of health). Thus, Fisher's exact test, which is a nonparametric test more suitable for the analysis of small samples and which makes fewer assumptions about the data, was used. In addition, the Wald test was used to assess the significance

of the association between the characteristics of elderly individuals and the outcome of adherence. However, due to the sample size, it was convenient to dichotomize or reduce the number of categories of explanatory variables and to adopt the modeling strategy described in the work, which reduced the number of variables included in the multivariate analysis.

Regarding the potential of the study, we highlight the use of the adherence indicator obtained through the Morisky-Green test (TMG), which is a simple method that is easily implemented even in large population surveys and has the ability to identify possible reasons behind nonadherence behavior. The TMG is a test that has validated safety and efficiency, which is why it is widely used in several studies and in clinical settings (Fernandez-Lazaro et al., 2019).

CONCLUSIONS

The study group had a higher frequency of women, those aged 60 to 69 years or more, those with low adherence and schooling up to elementary school, those living without a spouse and without health insurance, those with polypharmacy, those who did not need help from other people to take their medications, and those who had self-reported good health.

We concluded that marital situations, such as living with a steady partner, and difficulty remembering to take the medication were associated with lower adherence to medication treatment in elderly individuals. Although, in the crude analysis, income and health self-assessment also showed an association with the adherence in elderly people, in multivariate analysis, neither variable remained associated with this outcome.

Finally, it is worth mentioning that difficulty remembering to take the medication is a behavior that can be influenced by health professionals. Thus, the role of the pharmacist when planning and intervening in this behavior is fundamental to achieve greater adherence among elderly patients.

ACKNOWLEDGMENTS

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