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RESEARCH

DETERMINANTS OF ADHERENCE TO TREATMENT OF HYPERTENSION PATIENTS REGISTERED IN THE HIPERDIA PROGRAM OF THE PRIMARY HEALTH CARE

DETERMINANTES DA ADESÃO AO TRATAMENTO DE USUÁRIOS COM HIPERTENSÃO CADASTRADOS NO PROGRAMA HIPERDIA DA ATENÇÃO PRIMÁRIA À SAÚDE

FACTORES DETERMINANTES DE ADHESIÓN AL TRATAMIENTO DE USUARIOS CON HIPERTENSIÓN INSCRITOS EN EL PROGRAMA HIPERDIA DE LA ATENCIÓN PRIMARIA DE LA SALUD

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ABSTRACT

This study aimed to describe the determinants of adherence to drug treatment of hypertensive users of Primary Health Care. This is an analytical cross-sectional study with participation of 150 hypertensive patients registered in the Hiperdia Program of 29 Family Health Strategy (FHS), the city of Uberaba – MG. Data collection took place from March to July 2014 and the instruments used were: instrument for sociodemographic and clinical characterization, the Treatment Adherence Measure (TAM). Data were submitted to descriptive analysis, chi-square test and logistic regression models. Adherence to drug treatment was 90.7%, according to TAM. Having personal income was a predictor of treatment adherence according to the logistic regression. The data presented show the interference of economic factors on adherence, as well as to the development and improvement of Primary Health Care in the prevention, treatment and control of hypertension.
Keywords: Hypertension; Medication Adherence; Nursing; Primary Health Care.

RESUMO

Objetivou-se descrever os determinantes da adesão ao tratamento medicamentoso de hipertensos usuários da atenção primária à saúde. Trata-se de estudo transversal analítico, realizado com 150 hipertensos cadastrados no Programa Hiperdia de 29 equipes da Estratégia de Saúde da Família (ESF), do município de Uberaba – MG. Os dados foram coletados no período de março a julho de 2014, e os instrumentos utilizados foram de caracterização sociodemográfica e clínica assim como a medida de adesão ao tratamento (MAT). Os dados foram submetidos à análise descritiva, ao teste qui-quadrado e à regressão logística. A adesão ao tratamento medicamentoso foi de 90,7%, segundo a MAT. Ter renda própria foi preditor da adesão ao tratamento, segundo a regressão logística. Os dados apresentados evidenciaram a interferência de fatores econômicos na adesão ao tratamento bem como a valorização e o aprimoramento da atenção básica em saúde na prevenção, no tratamento e controle da HAS.
Palavras-chave: *Hipertensão; Adesão à Medicação; Enfermagem; Atenção Primária à Saúde.*

RESUMEN

Este estudio tuvo como objetivo describir los factores determinantes de la adhesión al tratamiento farmacológico de hipertensos. Se trata de un estudio analítico transversal del cual participaron 150 hipertensos inscritos en el Programa Hiperdia de 29 equipos de la Estrategia de Salud de la Familia (ESF), del municipio de Uberaba – MG. Los datos fueron recogidos entre marzo y julio de 2014 y los instrumentos utilizados fueron de caracterización sociodemográfica y clínico así como la medida de adhesión al tratamiento (MAT). Los datos fueron sometidos al análisis descriptivo, a la prueba chi-cuadrado y a la regresión logística, La adhesión al tratamiento medicamentoso fue de 90,7%, según la MAT. El factor del ingreso propio fue predictor de la adhesión al tratamiento según la regresión logística. Los datos presentados muestran la interferencia de los factores económicos en la adhesión al tratamiento y para la importancia y mejora de la atención primaria de la salud en la prevención, tratamiento y control de la hipertensión.
Palabras clave*: Hipertensión; Cumplimiento de la Medicación; Enfermería; Atención Primaria a la Salud.*

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INTRODUCTION

It is estimated that, in 2030, Brazil will have the typical demographic profile of aging societies, which will affect the relative increase of chronic conditions, among the main of them, systemic arterial hypertension (SAH). The World Health Organization (WHO) describes SAH as one of the major public health problems in the world with approximately 9.4 million deaths caused by its complications.[2]

The study "Surveillance of risk and protection factors for chronic diseases by telephone survey (VIGITEL)" interviewed 54,353 people in the 26 capitals and in the Federal District in Brazil, and found a prevalence of SAH of 23.1%, ranging from 14.7% in Palmas to 29.5% in Rio de Janeiro.[3]

The prevalence of hypertension has increased as a probable result of inadequate life habits. For example, increasing rates of overweight, obesity and alcohol consumption potentiate the morbidity and mortality of this disease.[4] There is a low control of pressure levels and maintenance of avoidable risk factors in hypertensive patients,[3,5] mainly because of poor adherence or noncompliance with treatment of the disease.

Thus, the objective of this research was to describe the determinants of treatment adherence of hypertensive users enrolled in the Hiperdia Program of the Primary Health Care (PHC). This will aid in the creation or directing of strategies to increase treatment adherence and achieve effective therapeutic control, reducing the occurrence of comorbidities and increased mortality in hypertensive individuals.

MATERIAL AND METHODS

The study included 150 SAH patients enrolled in the Hiperdia Program of the Ministry of Health of 29 Family Health Strategies (FHS) of the city of Uberaba-MG, selected through convenience sampling. Hypertensive patients with diabetes, those who were only on non-pharmacological treatment according to medical prescription, and those with difficulty in verbal communication were excluded from the study.

A pilot study was performed with 10 users chosen for convenience. Adjustments were required in the sequence of questions in the instrument. The subjects interviewed in the pilot study were not part of the sample of this study.

The data collection instruments used were: a questionnaire for characterization of the users, elaborated by the authors, an assessment of adherence to treatment of hypertension, and the Treatment Adherence Measure (TAM). The data source was an interview with the users and the registration and monitoring files of the Hiperdia Program.

The ***Statistical Package for Social Sciences*** (SPSS) version 20.0 was used to analyze the data. In the descriptive analysis of the data, the distribution of absolute and relative frequencies was used for categorical variables. To compare categorical variables with treatment adherence, a bivariate analysis was performed using chi-square test $(X)^2$, prevalence ratios and odds ratios. A significance level of $p < 0.05$ and a confidence interval (CI) of 95% were adopted. To analyze the predictive variables of drug adherence, a logistic regression model was used. The tests were considered significant when $p < 0.05$.

This project was approved in the Brazil Platform by the Research Ethics Committee of the Federal University of the Triângulo Mineiro (UFTM), under Opinion nº 567124. Authorization of the Municipal Secretary of Uberaba to collect data at the FHS was obtained. The subjects were invited to participate after presenting all the information about the nature and objectives of the study. The research was initiated only after consent of the interviewees and their signing of the Informed Consent Term.

RESULTS

Among the participants of this study, the female sex (66.7%), age group of 60 years or more (64.7%), Caucasian race (58.7%), people with a partner (64%) and living accompanied (82.7%), with schooling of 4-8 years (45.3%), with individual income (86%), and those who reported a family income of < 1 minimum wage (42.7%) prevailed.

The highest proportion of hypertensive patients who adhered to the treatment had their own income ($p = 0.014$) and lived accompanied ($p = 0.056$). The later variable was borderline significant; the other variables were not significant (Table 1).

Among patients enrolled in Hiperdia, 66% used two to four antihypertensive drugs per day (Table 2). The mean number of tablets prescribed for SAH therapy was 0.5 ± 1.67, ranging from 0.5 to 9 tablets/day. Of these, 73.3% used diuretics, 42.7% angiotensin receptor blockers, 26.7% angiotensin converting enzyme inhibitors (ACE inhibitors), 26% beta-blockers, 17.3% calcium channel blockers and 2.7% drugs of central action (Table 2).

It was found that 46 (30.7%) participants were not aware of the treatment they were using and were unable to report data such as drug name and/or posology. Sixty three (42.0%) individuals had been users of the Hiperdia service for more than five years, 22 (14.7%) for at most one year, 57 (38%) for 2 to 5 years, and in the case of eight (5.3%) people, enrollment time was unknown.

There were no significant differences between the variables related to treatment and adherence to treatment (Table 2).

Adherence to the specific drug treatment at the time of the interview, according to TAM, was 136 (90.7%).

It was verified that having own income increased the odds ratio of adherence to treatment (OR = 5.59, CI = 1.20-26.01, $p = 0.028$), when compared to those without own income (Table 3).

Table 1 - Distribution of hypertensive patients according to sociodemographic and economic data - Uberaba, MG. 2014

Variables	Treatment adherence			
	Yes N (%)	No N (%)	PR* (IC 95%)**	OR*** (IC 95%)
Sex				
Male	46(92.0)	4(8.0)	1.022(0.92-1.13)	1.278(0.38-4.29)
Female	90(90.0)	14(10.0)		
Age group (years)				
Adults - < 60	50(94.3)	3(5.7)	1.064(0.96-1.17)	2.132(0.56-8.00)
(Elderly) - 60 or more	86(88.7)	11(11.3)		
Marital status				
With companion	88(91.7)	8(8.3)	1.375(0.45-4.19)	1.031(0.92-1.15)
Without companion	48(88.9)	6(11.1)		
Housing arrangement				
Accompanied	115(92.7)	9(7.3)	1.148(0.94-1.39)	3.042(0.92-9.98)
Alone	21(80.8)	5(19.2)		
Schooling (years)				
≥ 9	21(95.5)	1(4.5)	1.064(0.94-1.20)	2.410(0.28-20.75)
4 - 8	61(89.7)	7(10.3)	1.061(0.93-1.20)	2.333(0.26-20.56)
< 4	54(90.0)	6(10.0)		
Own income				
Yes	120(93.0)	9(7.0)	**1.221(0.95-1.55)**	**4.167(1.24-13.99)**
No	16(76.2)	5(23.8)		
Per capita family income				
< 1 minimum salary****	79(91.9)	7(8.1)	1.031(0.92-1.14)	1.386(0.46-4.17)
1 minimum salary or more	57(89.1)	7(10.9)		

*Prevalence ratio; **95% confidence interval; ***Odds ratio; ****Minimum salary in force R$ 724.00.

Table 2 - Distribution of hypertensive patients, according to complications and drug therapy. Uberaba, MG. 2014

Treatment	Treatment adherence			
	Yes N (%)	No N (%)	PR* (IC 95%)**	OR***(IC 95%)
Complications				
Yes	39(95.1)	2(4.9)	1.069 (0.97-1.17)	2.412(0.51-11.28)
No	97(89.0)	12(11.0)		
Enrollment time in Hiperdia				
More than 5 years	58(92.1)	5(7.9)	1.029 (0.91-1.15)	1.365 (0.39-4.74)
2-5 years	51(89.5)	6(10.5)	1.013 (0.87-1.17)	1.16 (0.20-6.45)
1 year or less	20(90.9)	2(9.1)		
Antihipertensive drug class				
Diuretics				
No	38(95.0)	2(5.0)	1.066 (0.96-1.17)	2.327 (0.49-10.88)
Yes	98(89.1)	12(10.9)		
Beta-blockers				
No	37(94.9)	2(5.1)	1.064 (0.96-1.17)	2.242 (0.47-10.50)
Yes	99(89.2)	12(10.8)		

Continue...

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Table 2 - Distribution of hypertensive patients, according to complications and drug therapy. Uberaba, MG. 2014

Treatment	Treatment adherence			
	Yes N (%)	No N (%)	RP* (IC95%)**	OR*** (IC 95%)
Central action				
No	133(91.1)	13(8.9)	1.215 (0.68-2.14)	3.410 (0.33-35.18)
Yes	3(75.0)	1(25.0)		
ACE inhibitors				
No	100(90.9)	10(9.1)	1.010 (0.89-1.13)	1.111 (0.32-3.76)
Yes	36(90.0)	4(10.0)		
Angiotensin receptor blockers				
No	81(94.2)	5(5.8)	1.096 (0.98-1.22)	2.651 (0.84-8.33)
Yes	55(85.9)	9(14.1)		
Calcium channel blockers				
No	113(91.1)	11(8.9)	1.030 (0.88-1.19)	1.340 (0.34-5.18)
Yes	23(88.5)	3(11.5)		
Knowledge on the treatment				
Yes	95(91.3)	9(8.7)	1.025 (0.91-1.15)	1.287 (0.40-4.07)
No	41(89.1)	5(10.9)		

*Prevalence ratio; **Confidence interval; ***Odds ratio.

Table 3 - Distribution of Hiperdia users according to the final logistic regression model associated with adherence to drug treatment. Uberaba, MG. 2014

Variables	Treatment adherence	
	OR*	IC 95%**
Sex		
Male	1.12	0.26-4.80
Female		
Age group (years)		
< 60	2.88	0.62-13.45
60 or more		
Schooling (years)		
< 4 years	1.43	0.15-13.96
4-8 years	1.28	0.36- 4.55
>8 years		
Living accompanied		
No	3.66	0.90-14.77
Yes		
Number of morbidities	**0.37**	**0.07-1.97**
Number of tablets	**0.86**	**0.62-1.18**
Own income		
No	**5.59**	**1.20-26.01**
Yes		

*Adjusted odds ratio; **Confidence interval.

DISCUSSION

Investigations carried out with PHC users in different regions of the country have identified adherence rates ranging from 19.7% in Maceió-AL to 65.7% in Antônio Prado-RS,[6-10] which are lower than those found in the current research. However, a study conducted in São Paulo with hypertensive patients attended at an outpatient clinic, which used the TAM questionnaire, found an adherence to the antihypertensive treatment of 87%,[11] similar to that presented here.

Women prevailed in the study group. SAH is currently more prevalent among women than men.[3] Men have more difficulties in adhering to medications.[12] Other studies, however, do not show a difference in adherence with respect to sex.[6,13]

Elderly participants prevailed in the present study. The prevalence of hypertension is higher in the elderly, with a trend towards greater chance of diagnosis of SAH as the age increases.[3] In this group, studies indicate that adherence is greater among older individuals.[13,14]

Family support in the control of chronic non-communicable diseases (CNCDs) is fundamental. It is essential to provide assistance and support for home treatment, and professionals must act as guides and follow up the patients' adherence. Among 77 hypertensive users of a Hypertension and Metabolism Center, the majority (59.7%) of those who adhered to the treatment reported receiving family motivation to take medications, [11] which corroborates the data presented here, since users who lived accompanied had better adherence.

Consistent with the present study, other studies also showed a lack of relationship between schooling and adherence.[7,8,11,15] A cross-sectional study surveying demographic, socioeconomic and knowledge variables and found, though the Morisky-Green Test (MGT), a significant association between income and adherence, as indicated by multiple logistic regression.[8] This was also observed in the present study; people who had their own income showed a greater chance to adhere to treatment when compared to those without own income.

However, health status may also interfere with the acquisition of income. The group studied here is vulnerable SAH is a chronic health condition that may predispose, in some cases, to complications that interfere with the work. A study carried out in the city of Campina Verde - PR showed that circulatory diseases (sequelae of cerebrovascular diseases, hypertensive heart diseases and heart failure and cardiac ischemia) accounted for 25.3% of the prevalence of causes of disability in Paraíba, which illustrates the impact of chronic CNCDs.[17]

The Brazilian government provides the main antihypertensive drugs through the Popular Pharmacy Program, and the states act in a way that complements local actions, such as the Pharmacy of Minas Program. However, users of the Unified Health System (SUS) report problems at the delivery of their medicines. In a research on the profile of drug use by individuals with hypertension and diabetes ***mellitus*** in municipalities of the Pharmacy Network of Minas Gerais, 22.8% reported problems to obtain the drug, and the greatest problem reported (75.4%) was the lack of medication at the SUS pharmacy. Furthermore, participants informed an average monthly expenditure of up to 20% of the minimum salary in force at the time.[15]

Income interferes in some factors related to treatment adherence. Income has been associated with the reasons for abandonment or inadequate adherence to treatment because medicines not made available by the SUS, or medicines not included in the system, have to be purchased; treatment is often performed in private health services. This was also found in a Brazilian study in which the need to buy medicines and not having health insurance were associated with low adherence to treatment.[18]

Regarding complications, 27.3% of hypertensive patients in the present study reported having suffered complications, with coronariopathies being the most reported (30 - 20.0%). People with complications were more frequent in the group of those who adhered to treatment. In another study, coronary artery disease, acute myocardial infarction, renal disease and stroke were associated with hypertension, being stroke the most frequent complication.[19] These data differ from the present, but both point to the need and importance of monitoring and prevention of complications in vulnerable groups such as those with hypertension.

Complications and comorbidities do not always hinder treatment adherence, provided that medical professionals effectively stimulate self-care and family care. In a meta-analysis, greater adherence was associated with higher perceptions of need for treatment.[20] Adherence is also high among people with a high level of dependence who consequently receive more help in activities of daily living.[21] Regarding blood pressure control, most had controlled systolic and diastolic blood pressure. Two studies with adults enrolled in the Hiperdia Program showed 55.2% (Antônio Prado-RS) and 34.1% of the control,[9,10] which are lower than the values presented here.

As for the drug classes used, a study carried out with 261 hypertensive patients attending a chronic disease management program at a private institution in the city of São Paulo found a higher frequency of use of angiotensin receptor blockers followed by diuretics. Other antihypertensives were less frequently used. Similar pattern of use was identified among the subjects of the present study.[22] Thus, a relatively greater use of diuretics was found in the current research, likewise another study with hypertensive FHS user.[10] A review described the class of diuretics as the one with lower adherence,[23] and another study reported angiotensin receptor blockers as the ones with lower adherence.[22]

The amount of antihypertensives used by the participants of the present study is similar to that in populations of another study, which reported a better adherence among participants who used less drugs.[21] Among the possible causes is the increase in the complexity of the treatment, of medicinal products and, therefore, higher risk of adverse reactions due to drug interactions.

Similar to the finding of the present investigation, the majority of the 150 hypertensive patients assisted in a primary health care unit (BHU) in the city of Maringá-PR stated that they had knowledge about the name and posology of the antihypertensive medication prescribed. Most were unaware of the name and posology of the drug; not knowing the name of the antihypertensive used was significantly associated with non-adherence. In turn, in the present study, the participants who showed better adherence to treatment had knowledge about the drug treatment, but no association between knowledge and adherence to treatment was identified.[7]

Quality care for hypertensive patients in the context of PHC has flaws and characteristics that hinder success. A study with 63 FHS nurses identified problems in the assistance related to physical and organizational structure and in the training of human resources.[24] Another qualitative study reported similar results.[25]

Therefore, disease management programs must adapt and keep up with technological advances and changes in the demands of individuals in order to reduce inequalities in the access to health services.

CONCLUSION

This study verified that adherence to drug treatment was high when compared to the national average. The profile of users who adhered to the hypertension treatment was dominated by male users, < 60 years old, with more than eight years of schooling, with a partner, living accompanied, with their own income and with a ***per capita*** family income of less than one salary. They also presented complications, were enrolled in the Hiperdia program for more than five years, used beta-blockers and had knowledge of their treatment. These variables were not statistically significant, being income the only predictor of treatment adherence.

The data reported in this study are positive because they reveal the effectiveness of disease management programs, such as the Hiperdia Program, as only people enrolled and attending in the Hiperdia group at the BHU/FHS were interviewed.

Therefore, the results reinforce the importance of actions focused on the stimulation of self-care, aiming at the insertion of subjects as modifying agents of their living and health conditions, considering hypertensive individuals in all social and cultural aspects and valuing their individualities.

In this way, PHC must be instrumental in working with points of human vulnerability and be able to reduce or alleviate social inequalities through quality assistance, focusing on compliance with SUS guiding principles.

Thus, future studies may compare groups of hypertensive users enrolled and not enrolled in the Hiperdia Program, or groups of hypertensive patients who are assiduous and those non-assiduous in the activities proposed by the Hiperdia Program, in order to evaluate the effectiveness of the program and its potential in improving adherence to hypertension treatment.

Considering the multiple factors that interfere with treatment adherence, it is necessary to emphasize the importance of studies that seek to know and investigate patterns that lead to improved adherence.

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