ORIGINAL ARTICLE

REVISTA ENFERMAGEM ATUAL IN DERME

MEDICATION ADHERENCE FOR HYPERTENSIVE PEOPLE IN PRIMARY HEALTH CARE: INFLUENCE OF LIFESTYLE HABITS

ADHERENCIA A LA MEDICACIÓN DE PACIENTES HIPERTENSOS EN ATENCIÓN PRIMARIA DE SALUD: INFLUENCIA DE LOS HÁBITOS DE VIDA

ADESÃO MEDICAMENTOSA DE HIPERTENSOS NA ATENÇÃO PRIMÁRIA À SAÚDE: INFLUÊNCIA DOS HÁBITOS DE VIDA

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ABSTRACT
INTRODUCTION: Therapy for Systemic Arterial Hypertension consists of medication control and the adoption of healthy lifestyle habits to maintain acceptable blood pressure standards. OBJECTIVE: to analyze medication adherence of hypertensive patients treated in primary care based on the influence of lifestyle habits. METHOD: This is a cross-sectional, descriptive and analytical study, carried out with hypertensive users, in a city in Ceará, Brazil. Data collection took place using a specific questionnaire and the Morisky-Green Test. RESULTS: In total, 91 individuals were interviewed, the majority of whom did not adhere to hypertension treatment adequately (n=79; 86.8%), were female (n=47; 51.6%), with a partner (n=65; 71.4%), completed primary education (n=66; 72.5%), and had an income lower than the minimum wage (n=69; 75.8%). Significant associations were found, in the unadjusted model with p<0.02, for the characteristics gender (p=0.173), education (p=0.143) and smoking history (p=0.014). CONCLUSION: It was not possible to verify an association between medication adherence and lifestyle habits, however, adequate monitoring of these individuals is essential in order to assist health professionals in developing control actions that encourage hypertensive patients to understand and know about the disease and the therapy adopted.
Keywords: Arterial Hypertension; Drug Therapy; Lifestyle.

RESUMEN
INTRODUCCIÓN: La terapia de la Hipertensión Arterial Sistémica consiste en el control de la medicación y la adopción de hábitos de vida saludables para mantener estándares aceptables de presión arterial. OBJETIVO: analizar la adherencia a la medicación de pacientes hipertensos atendidos en atención primaria en función de la influencia de los hábitos de vida. MÉTODO: Se trata de un estudio transversal, descriptivo y analítico, realizado con usuarios hipertensos, en una ciudad de Ceará, Brasil. La recogida de datos se realizó mediante un cuestionario específico y el test de Morisky-Green. RESULTADOS: En total, fueron entrevistados 91 individuos, la mayoría de los cuales no adhirieron adecuadamente al tratamiento de la hipertensión (n=79; 86,8%), eran mujeres (n=47; 51,6%), con pareja (n= 65; 71,4%), educación primaria completa (n=66; 72,5%) y ingresos inferiores al salario mínimo (n=69; 75,8%). Se encontraron asociaciones significativas, en el modelo no ajustado con p<0,02, para las características género (p=0,173), educación (p=0,143) e historial de tabaquismo (p=0,014). CONCLUSIÓN: No fue posible verificar asociación entre adherencia a la medicación y hábitos de vida, sin embargo, el seguimiento adecuado de estos individuos es fundamental para ayudar a los profesionales de la salud a desarrollar acciones de control que alienten al paciente hipertenso a comprender y conocer la enfermedad y la terapia adoptada
Palabras clave: Hipertensión Arterial; Terapia Farmacológica; Estilo de Vida.

RESUMO
INTRODUÇÃO: A terapia para a Hipertensão Arterial Sistêmica consiste no controle medicamentoso e na adoção de hábitos de vida saudáveis para a manutenção de padrões aceitáveis de pressão arterial. OBJETIVO: analisar a adesão medicamentosa de hipertensos atendidos na atenção primária a partir da influência dos hábitos de vida. MÉTODO: Trata-se de um estudo transversal, descritivo e analítico, realizado com usuários hipertensos, em uma cidade do Ceará, Brasil. A coleta de dados deu-se por questionário próprio e pelo Teste de Morisky-Green. RESULTADOS: Ao todo, foram entrevistados 91 indivíduos, onde a maioria não aderiu ao tratamento para hipertensão adequadamente (n=79; 86,8%), é do sexo feminino (n=47; 51,6%), com companheiro(a) (n=65; 71,4%), ensino fundamental completo (n=66; 72,5%), e possuía renda menor que um salário mínimo (n=69; 75,8%). Foram encontradas associações significativas, no modelo não ajustado com p<0,02, para as características sexo (p=0,173), escolaridade (p=0,143) e histórico de tabagismo (p=0,014). CONCLUSÃO: Não foi possível constatar associação entre adesão medicamentosa e hábitos de vida, entretanto, é fundamental o acompanhamento adequado desses indivíduos, a fim de auxiliar os profissionais de saúde na elaboração de ações de controle, que estimulem os hipertensos na compreensão e conhecimento sobre a doença e a terapêutica adotada.
Palavras-chave: Hipertensão Arterial; Terapia Medicamentosa; Estilo de Vida.

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INTRODUCTION

Systemic Arterial Hypertension (SAH) is considered a public health problem in Brazil and worldwide due to the burden of complications arising from its chronicity: strokes, heart failure, acute myocardial infarction, renal failure, among others. Clinically, it is identified by chronic elevation of blood pressure levels (systolic ≥140 mmHg and diastolic ≥90 mmHg)[1, 2, 3].

In Brazil, the National Health Survey conducted in 2019 estimated that approximately one quarter of the Brazilian adult population would have arterial hypertension, with a self-reported prevalence of 23.9%, with a higher prevalence in women, associated with older age groups, black and brown race/skin color, low education, high salt consumption, and former smokers[4]. Furthermore, this problem is associated with low adherence to disease therapy, which consists of drug control combined with the adoption of healthy lifestyle habits[3].

The treatment is provided free of charge by the Unified Health System (SUS) through Primary Health Care (PHC), where medications (Basic Pharmacy), consultations and guidance are provided[4,5]. In addition, to address low adherence to hypertension treatment, the PHC works with programmed actions for groups of hypertensive and diabetic individuals (HIPERDIA), whose objective is to monitor patients with hypertension and/or diabetes enrolled in a Basic Health Unit (UBS). The intention is to generate information about the disease and its treatment, through health education actions that focus on the so-called modifiable risk factors, to prevent complications of the disease, such as alcoholism, smoking, dyslipidemia and obesity[6,7].

There is no cure for hypertension, but it can be treated and controlled, and this is the factor that reduces complications, and consequently mortality, associated with the disease[5]. Furthermore, it reduces the costs of hospitalizations and improves the quality of life of those affected[3,8].

However, medication adherence to the treatment of hypertension is still quite irregular, so we seek to identify factors that influence this low adherence. Furthermore, considering the interference of lifestyle habits in both the prevention of the disease and its complications, we seek to elucidate their influence on adherence to medication treatment, in order to promote more effective health strategies in the management of this common health problem today[9,10].

Therefore, the objective of this research was to analyze the medication adherence of hypertensive patients treated in PHC based on the influence of lifestyle habits.

METHODS

This is a cross-sectional, descriptive and analytical study carried out in the municipality of São Benedito-CE, Brazil, in 2023.

The municipality of São Benedito is located in the Serra da Ibiapaba, with a registered population of 47,640 people, in the

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last census. It is part of the Decentralized Health Area (ADS) of Tianguá-CE, being the second largest municipality in this region, in number of inhabitants and number of professionals with higher education in health care. Among these, it has the second largest presence of family doctors in the PHC, which justified the choice of this location for the research[11,12].

The UBS researched was chosen for convenience, and includes n=1886 (100%) enrolled inhabitants, of which n=211 (11.2%) are hypertensive, with n=172 (81.5%) routinely monitored at the Unit that constituted the population of this study.

The following inclusion criteria were considered: patients with hypertension registered at the UBS; with a medical diagnosis for more than one year; using medication to treat hypertension; age 18 or older; of both sexes. Individuals with cognitive deficits, bedridden or still dependent on caregivers, and those diagnosed with secondary hypertension were excluded.

Data collection took place at the pharmacy of the UBS in question, at the time of dispensing medication to the patients. Initially, the objectives of the research were presented, in which the Informed Consent Form (ICF) was presented to the participants, in a quiet and private environment, asking them to sign if they agreed, and guaranteeing their anonymity. After this, a structured interview was conducted according to an instrument adapted from the elderly person's handbook of the Ministry of Health (MS), which addressed the social, demographic and clinical characteristics of the participants. The Morisky-Green Test (MGT) was then applied to qualify medication adherence to the treatment of hypertension.

The MGT consists of four questions to identify attitudes and behaviors regarding medication intake, and has proven useful for identifying patients who are adherent or not to medication treatment. According to the MGT protocol, patients who obtain a maximum score of four points are considered adherent to treatment, and those who obtain three points or less on the test are considered non-adherent[13]. Therefore, the sample was divided into two groups: adherent and non-adherent to medication therapy for hypertension.

The variables used in this study were: medication adherence in the treatment of hypertension (categorized as inadequate and adequate, based on the MGT); sociodemographic characteristics (sex, education, ability to read/write, race/color, income and marital status); existence of comorbidities (diabetes mellitus, coronary artery disease, chronic kidney disease); amount of medications taken daily (more than two medications daily; up to two medications daily); lifestyle habits (regular physical activity, adoption of a balanced diet, alcohol consumption and smoking).

The data from the questionnaires were tabulated in Microsoft Excel v.13.0 and processed in the Statistical Package for the Social Sciences (SPSS) version 23.0. The descriptive analysis was performed using absolute frequencies and percentages. For the

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inferential analysis, medication adherence and non-adherence were used as outcomes. For this, the chi-square test or likelihood ratio test, unadjusted model, was used. The variables analyzed in the adjusted model were those with p⩽0.2. Poisson regression with a robust estimator and Wald statistics were used to determine the adjusted model. The Omnibus test was used to test the significance of the final adjusted model, considering p<0.05 to be significant.

The research was previously approved by the Ethics Committee of the Inta University Center - UNINTA under opinion 6.058.599. In addition, the ethical principles of Resolution 466/2012 of the National Health Council and the Declaration of Helsinki, 2008 were respected.

RESULT S

The research was conducted with 91 individuals undergoing treatment for hypertension in the city of São Benedito-CE, where the majority of them: did not adhere to the treatment for hypertension adequately (n=79; 86.8%), were female (n=47; 51.6%), had a partner (n=65; 71.4%), completed elementary school (n=66; 72.5%), knew how to read and write (n=77; 84.6%) and had an income lower than the minimum wage (n=69; 75.8%). In addition, most of them were of mixed race/skin color (n=25; 27.5%) (Table 1).

Table 1 - Number and percentage of hypertensive individuals registered at the UBS of São Benedito-CE, by type of medication adherence and predictor variables, in 2023.

Variable	n	%
Adhere to treatment		
Inadequate	79	86,8
Adequate	12	13,2
Gender		
Male	44	48,4
Female	47	51,6
Race/Color		
Black	24	26,4
Brown	25	27,5
White	24	26,4
Not declared	18	19,8
Marital status		
Single	26	28,6
In relationship	65	71,4
Education		
Illiterate	8	8,8
Elementary	66	72,5
High school	17	18,7
Literate		
No	14	15,4
Yes	77	84,6
Income (s.m.)		

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< 1	69	75,8
> 1	22	24,2

Sonrce: Own.

From the analysis of clinical variables and lifestyle habits observed, most of the hypertensive patients surveyed took up to two medications per day (n=88; 96.7%), did not practice physical activity (n=71; 78.0%), did not adopt a balanced diet (n=80; 87.9%), had no history of smoking (n=72; 79.1%) and no history of alcoholism (n=79; 86.8%), with the absence of comorbidities predominating (n=45; 49.5%) (Table 2).

Table 2 - Number and percentage of inhabitants surveyed, registered at the UBS of São Benedito-CE, by clinical variables and lifestyle habits, in 2023.

Variables	n	%
Presence of comorbidities		
Diabetes mellitus	39	42,9
DAC/ Chronic kidney disease	7	7,7
Does not have	45	49,5
Amount of medication (per day)		
More than two	3	3,3
Up to two	88	96,7
Practice of physical activity		
No	71	78,0
Yes	20	22,0
Adopt a balanced diet		
No	80	87,9
Yes	11	12,1
Smoking history		
Yes	19	20,9
No	72	79,1
Histórico de etilismo		
Yes	12	13,2
No	79	86,8

Source: Own.

When verifying the existence of a significant association between adherence to treatment and sociodemographic variables, with p≤0.2, unadjusted model, the characteristics of sex (p=0.173) and education (p=0.143) were significant (Table 3).

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Table 3 - Number and percentage of hypertensive patients registered at the UBS in São Benedito-CE, analysis by model unadjusted for sociodemographic variables and adherence to treatment, in 2023.

	Adherence to treatment								
	Inadequate		Adequate						
	n	%	n	%	RP	IC 95%		p	
Gender								**0,173**	a
Male	36	81,8	8	18,2	0,9	0,8	1,1		
Female	43	91,5	4	8,5	1,0				
Education								**0,143**	b
Iliterate	8	100,0	0	0,0	1,1	0,9	1,2		
Elementary	55	83,3	11	16,7	0,9	0,8	1,0		
High school	16	94,1	1	5,9	1,0				
Literate								0,437	b
No	13	92,9	1	7,1	1,1	0,9	1,3		
Yes	66	85,7	11	14,3	1,0				
Race/Color								0,295	b
Black	18	75,0	6	25,0	0,8	0,6	1,1		
Brown	23	92,0	2	8,0	1,0	0,8	1,3		
White	22	91,7	2	8,3	1,0	0,8	1,3		
Not declared	16	88,9	2	11,1	1,0				
Income(s.m.)								0,943	b
< 1	60	87,0	9	13,0	1,0	0,8	1,2		
> 1	19	86,4	3	13,6	1,0				

a - Chi-square b – Likelihood ratio

Source: Own.

In the unadjusted model of treatment adherence with clinical variables, no significant variables were identified (p≤0.2). When analyzing treatment adherence with lifestyle habits, in the unadjusted model, a significant association was observed only for the variable smoking history (p=0.014) (Table 4).

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Table 4 - Number and percentage of inhabitants surveyed, registered at the UBS of São Benedito-CE, by lifestyle variables and treatment adherence, in 2023.

	Adherence to treatment								
	Inadequate		Adequate						
	n	%	n	%	RP	IC 95%		p	
Practice of physical activity								0,328	b
No	63	88,7	8	11,3	1,1	0,9	1,4		
Yes	16	80,0	4	20,0	1,0				
Adopt a balanced diet								0,616	b
No	70	87,5	10	12,5	1,1	0,8	1,4		
Yes	9	81,8	2	18,2	1,0				
Histórico de tabagismo								**0,014**	b
Yes	19	100,0	0	0,0	1,2	1,1	1,3		
No	60	83,3	12	16,7	1,0				
History of alcoholism								0,574	b
Yes	11	91,7	1	8,3	1,1	0,9	1,3		
No	68	86,1	11	13,9	1,0				

b – Likelihood ratio
Source: Own.

In the adjusted model, the Omnibus test was not significant, p=0.496, for variables with p<0.2 in the previous stages.

DISCUSSION

This study found that there was no adherence to drug treatment for hypertension, a result corroborated by the literature[14-16]. Adherence to medication for hypertension is the result of multiple influences: quantity of medication taken, social support, weak link with the health strategy, level of knowledge about the disease, among others[17]. With all this, the need to empower the diagnosed person is highlighted, with means that ensure their right to access health services in an equitable and universal manner. Because hypertension is a chronic disease, often associated with complications, it requires continuous treatment and requires skills such as punctuality in administration, identification and correct dosage. There is an increasing need to introduce other factors that consider not only individual behavior, but also cultural, social and economic elements that influence lifestyle habits and medication adherence. The presence of a significant association between non-adherence to medication and education is based on studies in which non-adherent individuals also had greater difficulty reading labels and remembering to take their medication correctly. Thus, it is considered that better health literacy was associated with better results in adherence to medication treatment for arterial hypertension[16,18]. Illiteracy and low education are associated with impairing the understanding of the disease and its control

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mechanisms, reducing the patient's independence in this context.

Arterial hypertension is commonly present among women of older age groups, black and brown people, and with low education[4]. These data coincide with the results of this study, where we add that the majority of the sample also has an income below one minimum wage. The relationship between the sociodemographic characteristics of a population and its health conditions is also highlighted, such as: access to and demand for health services, level of information about the disease, and consequent adherence to treatment.

Treatment for hypertension usually consists of medication and the adoption of healthy lifestyle habits such as a low-sodium diet, weight control, physical activity, and stress control, which also help to prevent complications of the disease[3]. Although no association was found between lifestyle habits and medication adherence in this study, some attention is needed to this point, since changes made in daily life interfere with the success of hypertension treatment and influence the patient's decision to remain consistent with the therapy[19]. In our sample, most individuals do not practice physical activity and report not adopting a balanced diet, which leads us to state that there is also no adherence to non-pharmacological treatment for hypertension, and this situation is associated with the other. Therefore, this supports the hypothesis that individuals who maintain healthy lifestyle habits take greater care of their health, correctly adhering to the proposed treatments.

Often, it is the lack of information about hypertension that these individuals have that prevents them from committing to treatment. The FHS needs to go beyond dispensing medication and develop health education strategies that take into account the perspectives and meanings of the user about the disease, since it is known that the individual's beliefs also cause changes in their daily lives[20,21]. In addition, it is common for these people to disbelieve in the power to improve their health situation by changing their lifestyle, which increases the risk of complications due to a lack of understanding of the information.

In addition to this, for some individuals hypertension is an asymptomatic disease, not being diagnosed and treated properly[3,22]. Thus, since the symptoms of the disease are not evident, patients believe that they do not need health care, because they feel healthy. In addition, with awareness of adequate blood pressure control and correct treatment follow-up, complications of hypertension will be avoided, improving the quality and life expectancy of these individuals.

The study contributed to the identification of characteristics and behaviors related to non-adherence to hypertension treatment, making it possible to target actions to this population in order to promote effective adherence to treatment. It is also worth highlighting the need to discuss the importance of adopting healthy habits as a non-

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pharmacological treatment strategy and predictor of a better prognosis.

Among the limitations of this research is that interviews were conducted in a single meeting with the participants, which may not represent the user's real condition. In addition, because it is based on self-reported responses, the results may be affected by memory. Finally, it is believed that the sample size plus the convenience strategy for data collection may have influenced the data obtained when analyzing the variables in the adjusted model.

CONCLUSIONS

The results indicate that most individuals did not adhere to medication treatment for hypertension adequately, did not practice physical activity, and did not adopt a healthy diet, as collaborative measures to control the disease. Even so, no association was found between medication adherence and lifestyle habits. However, it is known that these variables directly influence the management of hypertensive individuals and comprise the non-drug treatment of the disease, and their monitoring is essential.

Therefore, it is recommended that new research be carried out with a larger, stratified sample, in order to obtain participants from different UBS for greater comparability of results. However, we also emphasize that the analysis of the factors intervening in medication adherence of hypertensive patients contributes to understanding and developing strategies to promote adherence, lifestyle habits, and salutogenesis of individuals and communities. Furthermore, our results encourage health professionals to develop actions that promote understanding and correct knowledge about the disease and the therapy adopted, favoring a participatory attitude of hypertensive individuals in their treatment.

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All authors approve the final version of the manuscript and agree to be responsible for all aspects of the work**.**

Declaration of conflict of interest

Nothing to declare.

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