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Access and rational use of hypertension medications in primary health care

Acesso e uso racional de medicamentos para hipertensão na atenção primária à saúde

Acceso y utilización racional de medicamentos para la hipertensión en la atención primaria de salud

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ABSTRACT

Objective: To analyze access to drugs and factors associated with their use by hypertensive users in Primary Health Care. **Methods:** Observational, descriptive, and cross-sectional study, using a validated questionnaire as a tool for collecting access to drugs and the factors that influence their use. The variables used were: sex, age, education, length of treatment, and quantity of antihypertensive drugs used. The use of drugs by 250 hypertensive patients, over 18 years of age, monitored by the Family Health Support Center in Manhuaçu, Minas Gerais, Brazil, were evaluated. Data collection took place in April and May 2018. The STATA program, version 15.1, was used for statistical analysis. The variables were presented in absolute and relative frequency, and the chi-square test was performed. **Results:** A statistical association was identified between the time of treatment and age (p=0.006), between the use of drugs on the previous day and age (p=0.030), and between forgetting the drug while traveling and sex (p=0.007). Regarding rational habits, 91.2% (n=228) of the patients did not stop taking their drugs, even though they felt the pressure was under control. 84.4% (n=211) of the participants did not feel uncomfortable for following the treatment correctly and 80.8% (n=202) did not neglect adherence to pharmacological treatment. **Conclusion:** Users have access to drugs and make rational use of it, following the treatment properly, with good habits. The number of drugs used did not influence the continuity of treatment and the level of education did not show a statistical association in the use of antihypertensive drugs.

Descriptors: Pharmaceutical Services; Drug Utilization; Hypertension.

RESUMO

Objetivo: *Analisar o acesso aos medicamentos e fatores associados ao seu uso por usuários hipertensos na Atenção Primária em Saúde.* ***Métodos:*** *Estudo observacional, descritivo e de corte transversal, tendo como instrumento para coleta um questionário validado que abordou o acesso aos medicamentos e os fatores que influenciam seu uso. Utilizaram-se as variáveis: sexo, idade, escolaridade, tempo de tratamento e quantidade de medicamentos anti-hipertensivos utilizada. Avaliou-se o uso dos medicamentos por 250 pacientes hipertensos, maiores de 18 anos, acompanhados pelo Núcleo de Apoio à Saúde da Família em Manhuaçu, Minas Gerais, Brasil. A coleta dos dados ocorreu em abril e maio de 2018. Utilizou-se o programa STATA, versão 15.1, para análise estatística. Apresentaram-se as variáveis em frequência absoluta e relativa, sendo realizado o teste qui-quadrado.* ***Resultados:*** *Identificou-se associação estatística entre o tempo de tratamento e a idade (p=0,006), entre o uso de medicamento no dia anterior e a idade (p=0,030) e entre o esquecimento do medicamento em viagens e o sexo (p=0,007). Em relação aos hábitos racionais, 91,2% (n=228) dos pacientes não pararam de tomar os medicamentos, mesmo sentindo a*

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pressão controlada. Já 84,4% (n=211) dos participantes não sentiram incômodo por seguir corretamente o tratamento e 80,8% (n=202) não apresentaram descuidos na adesão ao tratamento farmacológico. ***Conclusão:*** *Os usuários apresentaram acesso aos medicamentos e fazem o uso racional do mesmo, seguindo o tratamento apropriadamente, com bons hábitos. O número de fármacos utilizados não influenciou a continuidade do tratamento e o nível de escolaridade não apresentou associação estatística na utilização dos anti-hipertensivos.*

Descritores: *Assistência Farmacêutica; Uso de Medicamentos; Hipertensão.*

RESUMEN

Objetivo: *Analizar el acceso de medicamentos y los factores asociados con su utilización por usuarios de la Atención Primaria de Salud con hipertensión.* ***Métodos:*** *Estudio observacional, descriptivo y de corte transversal. El instrumento de recogida de datos ha sido un cuestionario validado sobre el acceso de medicamentos y los factores que influyen en su utilización. Se ha utilizado las variables sexo, edad, escolaridad, tempo de tratamiento y cantidad de medicamentos utilizados para la hipertensión. Se evaluó la utilización de los medicamentos a través de 250 pacientes con hipertensión, mayores de 18 años en seguimiento en el Núcleo de Apoyo para la Salud de la Familia de Manhuaçu, Minas Gerais, Brasil. La recogida de datos se dio entre abril y mayo de 2018. Para el análisis estadístico se utilizó la versión 15.1 del programa STATA. Las variables han sido presentadas en frecuencia absoluta y relativa y se ha utilizado la prueba chi-cuadrado.* ***Resultados:*** *Se ha identificado asociación estadística entre el tiempo de tratamiento y la edad (p=0,006), entre el uso de medicamento en el día antes y la edad (p=0,030) y entre el olvido de la medicación en viajes y el sexo (p=0,007). Respecto los hábitos racionales, el 91,2% (n=228) de los pacientes no pararon de tomar la medicación aunque sentían la tensión controlada. El 84,4% (n=211) de los participantes no han sentido incómodo por seguir correctamente el tratamiento y el 80,8% (n=202) no presentaron despreocupación para la adhesión al tratamiento farmacológico.* ***Conclusión:*** *Los usuarios presentaron acceso a los medicamentos y los utilizan de manera racional siguiendo el tratamiento de modo apropiado y con buenos hábitos. El número de fármacos utilizados no ha influenciado en el seguimiento del tratamiento y el nivel de escolaridad no presentó asociación estadística con la utilización de antihipertensivos.*

Descriptores: *Servicios Farmacéuticos; Utilización de Medicamentos; Hipertensión.*

INTRODUCTION

With the promulgation of the 1988 Federal Constitution, it became the responsibility of the State to promote social well-being and full citizenship, establishing some social rights, such as the right to health and education. Thus, pharmaceutical assistance (PA) has become essential within the field of health care services. Thus, the medication assumed an important role, being fundamental to reduce the risks of the disease and promote the recovery of the patient's health[1].

In 1998, the National Medicines Policy (*Política Nacional de Medicamentos - PNM*) was implemented to guarantee the population's access to essential medicines. Its publication occurred due to the great number of forgeries and the precarious sanitary control of the medicines[2]. PNM is part of the National Health Policy and it is essential for actions to be taken that seek to improve the health care conditions of the population[3]. In this bias, the PNM's main point is to guarantee the quality, efficacy and safety of medicines, in addition to promoting the correct use and access of the population to those that are classified as essential[3]. PNM brought the reorientation of PA, going beyond the acquisition and distribution of medicines[3]. From the PNM, there was a notable advance in Brazil in public policies and access to essential medicines[4].

In the context of Primary Health Care (*Atenção Primária à Saúde - APS*), it is important that the population has access to medicines, since this level of care is paramount in actions to promote, recover, and prevent people's health problems[2]. APS is the user's gateway to access the health services of the Unified Health System (*Sistema Único de Saúde - SUS*), in which the needs of the patient must be identified, seeking to improve their health conditions[5].

The lack of knowledge about the health promotion activities practiced in APS and the role of the multidisciplinary team in the process of patient involvement with the health service must be verified in the care. It is essential that the health professional promotes the bond with the individual to achieve success in the actions developed in primary care[6].

Health conditions can be understood as determinants in the health of individuals, appearing persistently or not, implying permanent or fractional solutions of health care systems. In terms of health promotion, the care given to these health conditions occurs based on how professionals, users and levels of care are constituted to meet the requested processes, whether in a discontinuous or permanent way[7].

Among chronic non-communicable diseases, arterial hypertension (AH) stands out due to its high prevalence, causing 13.5% of all deaths. It is a pathology that increases cardiovascular risk and has high blood pressure levels[5]. Therefore, the control of AH at the primary care level is challenging, as its approach must consider the individual and his insertion in the community. In this bias, it is important to keep in mind that success in the treatment of AH goes beyond the use of the medication and involvement with the multidisciplinary health team, also considering the patient as a whole[8].

It is essential that the patient is aware of his clinical condition, following the care plan proposed by health professionals, also finding support in his family. Thus, it is essential to execute the population's access to medicines and promote their rational use[9]. The World Health Organization (WHO) defines that there is a rational use of medicines when patients receive medicines appropriate to their clinical situation, with appropriate doses for their specific demands, for a convenient time and without high cost for themselves and society[10].

The irrational use of medicines occurs when the medicine is used without any technical basis or indiscriminately[1]. Poor adherence to the use of antihypertensive drugs affects success in therapy, since not adhering to pharmacological treatment implies a lack of blood pressure control, increasing the complications associated with uncontrolled hypertension[11].

Furthermore, the lack of adherence to the use of medications worsens the clinical condition of hypertensive patients[12]. In a previous study, it was found that patients who did not adhere to the use of medications for the management of hypertension were nine times more likely to have uncontrolled blood pressure[13].

The indiscriminate use of medications, inappropriately and without control, can cause damage to health[14]. User education can promote understanding of their clinical condition and the importance of using medications correctly[14]. Thus, it is worth highlighting the role of the pharmaceutical professional and their inclusion in health teams, seeking to ensure the best use of medicines[1].

The pharmacist has an indispensable role in promoting the rational use of medicines[1], providing information to patients about the benefits that can be achieved by using the drugs correctly, and it is possible to encourage the appropriate use of medicines[1]. According to a study carried out in Brazil in health units with the presence of a full-time pharmacist, workers pointed out a greater possibility of orienting patients[15].

The National Policy for Primary Care brings responsibility for all levels of government to pharmaceutical assistance activities and the rational use of medicines, promoting availability and access to medicines, aiming at comprehensive care. Therefore, the pharmacist is part of the occupations of health professionals who are part of the team of the Family Health Support Center (*Núcleo de Apoio à Saúde da Família - NASF*). As an attribution of primary care professionals, health promotion is implemented as an action for health care, in view of the social determinants of the health-disease course, with the purpose of adapting the team's actions, qualifying and optimizing care[16].

In this context, this research becomes relevant because it is necessary that the hypertensive patient has knowledge of his pathology and how the use of the medicine in a rational way can contribute to the success of the treatment[9]. Given the above, the study aims to analyze access to medicines and factors associated with their use by hypertensive users in Primary Health Care.

METHODS

Observational, descriptive and cross-sectional study[17], conducted in the municipality of Manhuaçu, located in the forest area of the state of Minas Gerais, Brazil. The city has an estimated population, in 2017, of about 88,580 inhabitants[18] and, according to information passed on by the Primary Care Coordination of the Municipal Health Secretariat, it has 22 Family Health Strategy teams and three NASF teams.

The study included hypertensive patients, over 18 years old, who were part of the monitoring groups promoted by the three NASF teams. Patients with mental disorders did not participate in the research.

The Coordination of Primary Care of the Municipal Health Department of Manhuaçu informed a total of 726 hypertensive patients participating in the NASF follow-up groups (data from 12/2017). The sample was determined through the sample calculation for finite population, obtaining a final value of 250 patients, considering the population of urban and rural areas. For the calculation of the finite population, the population number (N), the sample (n) was used and the standard error ± 5% of the proportion of cases (absolute precision) or ± 5% of the mean (1, 05 x average). Thus, there is the "N", which is the size of the finite population (726); the "p", is the proportion of favorable results of the variable in the population (50%), and the "q", considered the proportion of unfavorable results in the population (q=1-p) (50%)[19].

For data collection, a questionnaire applied to hypertensive patients was used in order to assess adherence to pharmacological treatment, which investigated whether the patient uses the medications, how much and how he takes them. To do this, a questionnaire was adapted from questionnaires validated in the literature[20,21], in addition to Morisky et al questionnaire (1986)[22], from which the question was used: "are you sometimes careless to take your medicine?". The WHO recommends the combined use of methods in order to improve the accuracy of the questionnaire used[23]. Data collection took place between April and May 2018.

In the questionnaire[21] used, therapeutic adherence is defined by the Morisky's therapeutic adherence scale, with eight questions, in the Portuguese version of the Morisky Medication Adherence Scale (MMAS-8), translated and validated[24]. Morisky and Green's instrument is aimed at detecting and evaluating difficulties in adherence, and can be used as a means of measuring the follow-up of therapy by the patient and his behavior on the use of the medication[22]. This can show ways to solve the difficulties presented by patients in complying with the treatment and, thus, favor the control of the disease[25].

Thus, from the collection instrument, the following study variables were considered: sex, age, education, length of treatment and amount of antihypertensive drugs used, besides elements related to forgetfulness, carelessness and interruption of medication use.

Participants with low education received help from community health workers and researchers to answer the questionnaire. The researchers who applied the instrument underwent training and there was no pilot test. The questionnaire was applied to patients during group meetings for hypertensive patients, which are promoted by the NASF, and the meetings took place once a month in each health unit, according to the unit's own schedule. Patients were approached about the participation of the research as they arrived at the meeting, explaining the scope of the study in simple and clear language. It was explained about the consent of the Municipal Health Department in carrying out the research and the approval by the Research Ethics Committee (CEP).

The Free and Informed Consent Term (ICF) was distributed to the participants, leaving one copy with the volunteer and one with the researcher, both signed. Prior to the application of the questionnaire, patients' written authorization was requested through the informed consent form, proving participation and ensuring their autonomy. In the use of the material collected for the research, the informants' identity was preserved, guaranteeing the freedom to give up their participation in the group when they wish.

For statistical analysis and data description, the variables were presented in absolute and relative frequency and, for possible identification of factors associated with the responses to the questionnaires, a chi-square test was performed. Data were presented as absolute values and percentages. Differences were considered statistically significant when "p" is less than 0.05. The STATA program, version 15.1, was used to perform the analysis.

The project for this investigation was submitted for approval by the CEP, complying with the formal requirements set out in Resolution No. 466/12, of the National Health Council / Ministry of Health, which provides for research involving human beings, being approved by the Opinion substantiating n 2,577,223 of the CEP of the Faculty of Management Sciences of Manhuaçu[26].

RESULTS

The study shows that, of the 250 users, 67.2% of the sample was female, 67.8% aged above 60 years and 58.4% with elementary schooling. Regarding the time of treatment, 82.8% are five years or more, and 42.8% use two medications per day, as shown in Table I.

The female gender was more prevalent in the sample, following this pattern in all studied age groups.

Regarding rational habits, 84.4% of the participants did not stop taking the drugs even though they felt worse and 91.2% did not stop using the drugs even though they felt the pressure was under control. Furthermore, 84.4% of the patients reported not feeling uncomfortable for following the treatment correctly and 80.8% cited not showing carelessness in the adherence to the pharmacological treatment, with 74% taking the medications correctly. There is also 93.2% of the sample that reports have taking the medication properly the day before the questionnaire was applied, as shown in Table II.

Although 60.8% stated that they did not have difficulty remembering to take their medication, a representative total of 39.2% reported that this happened at some point. In general (72%), in the last two weeks (78%) and on trips (80.4%), the participants declared that they did not forget to take their medications, as shown in Table III.

Table I - General sample characterization. Manhuaçu, Minas Gerais, Brazil, 2019.

Variables	n	%
Gender		
Female	168	67.2
Male	82	32.8
Total	250	100.0
Age		
NI	01	0.4
30-39 years	02	0.8
40-49 years	19	7.6
50-59 years	59	23.6
60-69 years	89	35.6
Older than or equal to 70 years	80	32.0
Total	250	100.0
Education		
Illiterate	67	26.8
Elementary School	146	58.4
High school	28	11.2
higher education	09	3.6
Total	250	100.0
Treatment time		
Less than one year	9	3.6
1 to 2 years	13	5.2
2 to 4 years	21	8.4
5 years or over	207	82.8
Total	250	100.0
Quantity of antihypertensive drugs you use		
One	67	26.8
Two	107	42.8
Three	47	18.8
Four or more	29	11.6
Total	250	100.0

n: Absolute frequency; %: Relative frequency; NI: Not informed by the participant

When analyzing the association of the variables gender, age and education, it was identified that age showed a statistical association with the time of treatment (p = 0.006) and with the use of the medication on the day before the application of the questionnaire (p = 0.030).

Gender is related to not forgetting medications when traveling (p = 0.007), with a greater predominance of females. Education did not present a statistically significant association with any of the variables, according to Table IV.

Table II - Rational habits regarding antihypertensive treatment by patients. Manhuaçu, Minas Gerais, Brasil, 2019.

Variables	n	%
Stopped taking it because you feel worse without telling the doctor		
NI	2	0.8
Yes	37	14.8
No	211	84.4
Total	250	100.0
Stopped taking it because you feel the pressure controlled		
Yes	22	8.8
No	228	91.2
Total	250	100.0
Annoyance for following the treatment correctly		
Yes	39	15.6
No	211	84.4
Total	250	100.0
Carelessness to take medicine		
Yes	48	19.2
No	202	80.8
Total	250	100.0
Hábitos para tomar o medicamento		
Did not take in the last seven days	4	1.6
Did not take on holiday days	1	0.4
Did not take on different days and times	45	18.0
You took one correctly and the other incorrectly	15	6.0
Took correctly	185	74.0
Total	250	100.0
Took the day before		
Yes	233	93.2
No	17	6.8
Total	250	100.0

n: Absolute frequency; %: Relative frequency; NI: Not informed by the participant

Table III - Patients' forgetfulness regarding antihypertensive treatment. Manhuaçu. Minas Gerais. Brasil. 2019.

Variables	n	%
Difficulty remembering to take medication		
Never	152	60.8
Almost never	39	15.6
Sometimes	48	19.2
Often	02	0.8
Always	09	3.6
Total	250	100.0
Forget taking medication		
Yes	70	28.0
No	180	72.0
Total	250	100.0
Forgetfulness in the last two weeks		
Yes	55	22.0
No	195	78.0
Total	250	100.0
Forgetfulness in travel		
Sim	49	19.6
No	201	80.4
Total	250	100.0

n: Absolute frequency; %: Relative frequency

Table IV - Association of gender variables. age and education with treatment. rational use and forgetfulness in antihypertensive treatment. Manhuaçu. Minas Gerais. Brasil. 2019.

Variables	General features		
	Sex	Age	Education
	p (chi-square)		
Treatment			
Number of medicines	0.51	0.170	0.383
Treatment time	0.435	**0.006**	0.97
Rational use			
Stopped taking it because you feel worse without telling the doctor	0.467	0.439	0.533
Stopped taking it because you feel the pressure controlled	0.918	0.106	0.604
Annoyance for following the treatment correctly	0.412	0.194	0.139
Took medications the day before	0.821	**0.030**	0.31
Carelessness to take medicine	0.440	0.101	0.164
Habits to take the medicine	0.137	0.868	0.079
Forgetfulness			
Forget taking medication	0.070	0.062	0.135
Forgetfulness in the last two weeks	0.524	0.043	0.745
Forgetfulness in travel	**0.007**	0.746	0.278
Difficulty remembering to take medication	0.556	0.098	0.543

DISCUSSION

Success in antihypertensive therapy includes patient participation, access to medicines, changes in lifestyle and the involvement of the multidisciplinary team[8].

As reported by health team professionals, the participants of the present study have access to medical consultation, assistance from the professional team and medicines. Besides, the team reported that the research subjects are already diagnosed with AH, all of whom are accompanied by the NASF. Also according to the health team, in relation to access to prescribed drugs, users participating in this research receive the drugs for one month of treatment at meetings promoted by the NASF.

Regarding the access to medicines, despite the increased prevalence of AH in Brazilian adults, there is also an improvement in access to medicines for the treatment of this pathology[27]. Within this context, a study carried out to evaluate access to medicines for chronic non-communicable diseases found that 93% of Brazilians surveyed by the National Survey on Access, Use and Promotion of Rational Use of Medicines in Brazil (PNAUM), with some chronic disease and with prescription of the drug, got full access and used the drugs prescribed[28].

Drug policies and PA actions promoted in Brazil since 1999 are effective in improving access to medicines, as well as the use of medicines, as only 2.6% of users reported not taking the drugs in the last 30 days[28].

With regard to the use of antihypertensive drugs, low adherence to treatment may occur because AH is an asymptomatic pathology[29]. However, the authors[29] did not observe this situation in the investigation carried out, since the patients used the drugs even without the manifestation of symptoms. The same occurred in the present research, because, even with some discomfort or feeling that the BP was controlled, the participants did not stop using the medications. Furthermore, in relation to forgetfulness, 72% of users reported not forgetting to take their medication.

With regard to treatment time, information similar to the current study was found in a survey conducted in the city of Rio de Janeiro, in which 96% of the participants were hypertensive and 86.4% had used drugs for the pathology for more than 5 years[30].

Regarding education, the level found in the current research did not influence the habits of taking the drugs, the time of treatment of the disease or forgetting to use the drugs. A similar result appears in a previous study, in which the participants had a good knowledge about hypertension even with a low level of education[9]. Through explanations from the health team, even with low education, patients were guided and they were able to use the drugs properly. The means of guidance and clarification on treatment by the health team are of paramount importance and should be used to better understand the treatment by patients[31].

Regarding the number of female and elderly patients in the current study, coincident results were found in the literature[25-32], in which there was a predominance of hypertensive users over 60 years old and female. It is believed that during the menopause phase there is less estrogen production, changes in the lipid profile, weight gain and physical inactivity, favoring the higher prevalence of hypertension in women[33]. Despite these factors, which make it difficult to manage the pathology, hypertensive women have demonstrated greater control of hypertension compared to men, and it can be said that the female sex has a protective condition for arterial hypertension[33].

Previous study finds that blood pressure levels are more controlled in women than in men[33]. This may occur because women have a greater perception of their own clinical condition, seeking more for health care and presenting better follow-up of prescribed treatments[33].

Regarding the large number of elderly people, due to the demographic transition and the increase in cases of chronic diseases, there is a greater use of medicines, especially in the elderly[34]. In agreement with these statements, a statistical association was found between age and treatment time in the present study, showing that the older the patient, the longer the treatment time for the condition. Older people, with longer treatment time and better socioeconomic and assistance conditions, even consuming more medications, do it with greater adherence, including antihypertensive drugs[35]. There are more cases of chronic diseases in people over 50 years of age, and the aging population in Brazil results in more people in this age group[35].

Relating to the number of drugs used by patients, this study showed an association of drugs for the treatment of hypertension, with a predominance of the use of two drugs. This result converges with studies carried out in England and the United States, which also revealed the use of more than one medication for the treatment of hypertension[27].

In the research in question, the number of medications did not influence the treatment follow-up. A study conducted in Maceió (Alagoas), when investigating the therapeutic adherence of eight Morisky items (MMAS-8) and blood pressure control, also found no association between the number of drugs used and therapeutic adherence[21]. In this sense, not only does the amount of drugs for the control of hypertension influence its use, but also the health care that patients receive[35].

Regarding the habits of using medications and treating hypertension, patients should not only follow drug treatment, but also follow non-pharmacological measures, such as reducing alcohol intake and salt consumption, avoiding smoking, performing physical activities and promoting stress management[36]. In this research, in general, users mentioned not having neglected to take the medication and even though they felt that the pressure was controlled, the participants did not stop using the drugs, showing good habits of use by the patients.

The health team makes a major contribution to improving the care of hypertensive individuals. It is indicated that professionals encourage the creation of a bond with the user and promote health education actions, showing the good results that can be achieved through changes in life habits. These actions seek to manage hypertension, providing good health care to patients[37].

The irrational use of medications can be caused by the dispensing of medications by a professional other than the pharmacist, due to the lack of information about the treatment. The pharmacist allows better management of PA in a health unit, especially with regard to dispensing and guidance on the use of drugs[38]. In a study carried out in a city in the state of Rio Grande do Sul[38], when evaluating the satisfaction of hypertensive patients with the service offered, 80% of the participants considered the associated work of the pharmacist and doctor relevant. The pharmacist is the professional qualified to promote access to quality drugs, making the rational use of drugs for the population. When composing the multiprofessional health team, the pharmacist allows further training and assistance on drug therapy to other professionals[38].

As a limitation of the present study, it is mentioned that blood pressure levels were not measured, adherence to non-pharmacological measures to control hypertension was not ascertained, and health care assessment was not performed.

CONCLUSION

The number of drugs used did not influence the continuity of treatment and the level of education did not show a statistical association in the use of antihypertensive drugs. Generally, investigated users had access to medicines and made rational use of it, following the treatment appropriately.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

CONTRIBUTIONS

All authors contributed to the preparation and design of the study; the acquisition. data analysis and interpretation; and the writing and / or revision of the manuscript.

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