

# Evaluation of Adhesion to Pharmacological Treatment in Elderly with Systemic Arterial Hypertension

Ingrid Mourão Rocha<sup>1</sup>, Vinícius Narciso Santos<sup>1</sup>, Beatriz Rocha Sousa<sup>2</sup>, Iaggo Raphael David<sup>2</sup>, Stenio Fernando Pimentel Duarte<sup>1,2,3,4\*</sup>, Fernanda Santos Portela Sampaio and Rodrigo Santos Damascena

<sup>1</sup>Independent Faculty of the Northeast – Bahia, Brazil.

<sup>2</sup>Public Health Foundation of Vitória da Conquista – Bahia, Brazil.

<sup>3</sup>Faculty of Technologies and Sciences – Bahia, Brazil.

<sup>4</sup>Faculty of Santo Agostinho – Bahia, Brasil.

\*Corresponding Author

**Abstract**— Systemic arterial hypertension (SAH) is a chronic, asymptomatic and multifactorial disease, characterized by elevated and sustained pressure levels. SAH is the main risk factor for serious cardiovascular complications, such as acute myocardial infarction, chronic renal failure, stroke and heart failure. The objective of this study is to evaluate the adherence to the pharmacological treatment of systemic arterial hypertension in a pharmacy network in a city in the interior of Bahia. This is a descriptive and exploratory quantitative study, performed with 40 elderly patients with systemic arterial hypertension (SAH) in a network pharmacy in Vitória da Conquista, the pharmacy network has three establishments located in different locations in the city, thus covering several carrier profiles. As an instrument for evaluation adherence, a structured questionnaire was applied with socioeconomic variables, based on the adherence scales according to the Morisky and Green Test. The prevalence occurred in female representatives, who represented 52.5% of the total sample, the most important age group was among the elderly from 60 to 70 years old, by corresponding to 55% of the 40 hypertensive elderly interviewed, 45% have studied until the current fifth year. In reference to the monthly income of the family group, 65% of the interviewed affirmed that they receive from one to three minimum wages. According to the obtaining of the medicines, 33% of the participants purchase in public pharmacy, 35% in private network and 32% acquires in both parts. The approaching elements demonstrated the importance of implementing health care models that incorporate diverse individual and collective strategies in

order to improve the quality of care and adherence to treatment.

**Keywords**— Chronic diseases. Arterial hypertension. Public health.

## I. INTRODUCTION

Systemic arterial hypertension (SAH) is a chronic no communicable disease (CDN) of multifactorial origin and is considered a serious public health problem, as it affects many people around the world. It is estimated that a part of the population with arterial hypertension is unaware of its pathology because they are asymptomatic, constituting an important group of risk for other diseases (Araújo et al., 2016; Bonadiman et al., 2012; Gomes et al., 2017).

SAH is the most frequent morbidity in Brazil and is considered a risk factor for the development of serious health complications, such as cardiovascular, cerebrovascular and renal diseases. Approximately 250,000 deaths per year are due to CD in Brazil, about 40% of deaths due to stroke are caused by hypertension, and 25% of deaths due to coronary artery disease are also due to this condition (Lade, Lima, 2014).

The main characteristic of SAH is the elevation of pressure and supporting of pressure values. Currently, established values for hypertension is greater than or equal to 140/90 mmHg for the general population and greater than or equal to 130/80 mmHg for patients who have advanced age associated with cardiovascular risk or underlying disease such as diabetes and chronic kidney disease (Jardim, 2017).

In general, hypertension is asymptomatic, and often its carriers are misdiagnosed or only discover when

they have some chronic complication (Miller et al., 2016, Costa et al., 2016).

The elderly are the main carriers of hypertension. This fact can be justified according to the physiological changes of the organism that evidences a decrease in the normal functioning of normal systems, making the patient vulnerable to these chronic diseases (Medeiros et al., 2014; Campolina et al., 2013, Veras, 2011).

Several variables contribute to the development of SAH, such as smoking, alcoholism, stress, family history, obesity, among others (DeVechio et al., 2017). Thus, antihypertensive drugs are used to treat hypertension. The primary objective of this therapy is to reduce the morbidity and mortality of patients who have a high predisposition for CD and other complications resulting from this clinical condition (Corrêa et al., 2005).

Beyond that, no pharmacological treatment should be integral to drug therapy so that the carrier has benefit effects. As a result of this fact, it is of the utmost importance that the patient makes the correct adhesion of the medications to control the blood pressure, in order to avoid possible complications, and the biggest obstacle for health professionals is the lack of blood pressure control (PA) (Freitas, Nielson, Porto, 2015).

The Therapeutic adherence (TA) consists of the commitment and responsibility adopted by the patient in relation to their treatment, established by a qualified health professional. Thus, AT expresses to the carrier the reality and the science of the therapy used to treat its clinical condition. The phenomenon of adhesion comprises several areas that warranty improvements to the health of the patient, such as drug adherence (Rocha et al., 2008).

Therefore, several factors may interfere in TA, among them, the lack acknowledge the patient about the disease and his / her behavior towards drug taking. The difficulty of access to the health system, cost, quantity of drugs and number of daily doses of prescribed medication, besides adverse effects and resistance to treatment, are variables that may impair the course of the treatment established (Freitas; Nielson; Porto 2015).

According to these information, many people carrier with SAH may be resistant to pharmacological treatment and therefore do not adhere to the prescribed therapy. It is estimated that approximately 40 to 60% of patients with this disease do not adhere correctly to therapy. Another essential factor is also important to note that many elderly people are non-adherent, since they have physiological limitations that impede the proper use of the drug (Vancini-Campanharo et al., 2006; Rocha et al., 2008). In this context, the objective of this article is to evaluate adherence to the pharmacological treatment of

systemic arterial hypertension in a pharmacy network in a municipality in the interior of Bahia.

## II. MATERIALS AND METHODS

This is a descriptive and exploratory quantitative study. The scenario of the study was the city of Vitória da Conquista, that is represented as the third largest city in Bahia. It has a population of 320,129 inhabitants and is a distance of 509 km from Salvador, its capital. The economy of the region is mainly focused on agriculture, livestock and health. And the city as a center of reference in health for more than 70 municipalities (Kochergin; Proietti; César, 2014; Cardoso; Melo; Cesar, 2015). Vitória da Conquista has a local Regional Pharmacy Council (CRF) and according to the information collected by the author, approximately 108 pharmacies are registered. The present research was performed in a pharmacy network that has three establishments located in different locations in the city, thus covering various profiles of carriers. On average, approximately 18,000 people are treated per month in all these three units.

The study population was the elderly carrier with systemic arterial hypertension (SAH) in the city. The classification for the elderly, according to the World Health Organization (WHO), in developing countries focuses on 60 years.

The sample used for developing of the work was configured in 40 elderly people. This number was established according to the flow of the elderly who entered in the pharmacy network between August and October 2018. The elderly included in this research were those ones who were aged 60 years or older and of both sexes, randomly chosen and who are under pharmacological treatment for SAH.

Data collected occurred through a direct interview with the participants. The research instrument was developed based on the work of Elias (2011) that uses adhesion scales according to Morisky and Green test. The procedure was performed in a reserved place in order to avoid unnecessary exposure of the wearer.

Data obtained were tabulated and organized into spreadsheets, graphs and tables in Microsoft Excel® 2010. Univariate analysis was performed based on absolute frequencies and percentage frequency distribution. In addition, the project was submitted to the Ethics Committee of the Faculdade Independente do Nordeste - FAINOR, and it was authorized through Ordinance no. 2,769,959. The participants involved in the research signed the Informed Consent Term (TCLE).

## III. RESULTS AND DISCUSSION

In the sample studied, a higher prevalence was observed in females, that represented 52.5% (n = 21) of the total sample. This data was similar to the one found by Tavares and contributors. (2016), when they evaluated the quality of life and adherence to the pharmacological treatment among hypertensive elderly, so that the predominance was also female.

Corroborating with Oliveira et al. (2008), the biological factors and the divergence of exposure to the risk factors of mortality, contribute to this increase be justified in women. David and collaborators (2013) complement this assertion when they approach the climacteric and its consequences in women, especially weight gain and obesity, which are factors that interfere in the emergence of several chronic diseases, such as hypertension.

As to the feminization of old age, it contributes much for obtaining this result, and we can still observe that women are more concerned with health than men, self-care and the search for health services for monitoring, diagnosis and control of certain pathologies, facilitate the identification of SAH in this public (Dias et al., 2019).

In relation to the age group, the highest percentage was in the range of 60 to 70 years, corresponding to 55% (n = 22). The result, however, differed from the study by Aiolfie et al. (2015), since most of the hypertensive elderly present on the study of the authors were older than 71 years (n = 69). The work by Andrade et al. (2014) also had a different result from the present research, and the interval with the highest concentration was between 70 and 79 years (30%). This data may demonstrate that HBP has been increasing by affecting the younger population, requiring medication to control the risk factors associated with the disease.

The relation between the age of the patient and hypertension is quite considerable, since over the years there is a decrease in the integrity of physiological systems and, in contrast, the vascular system is most affected, especially the renin-angiotensin-aldosterone system (RAA), that can suffer a modification and overload the entire organism, by maintaining the systemic blood pressure higher (Barbosa et al., 2016; Magalhães, 2012; Bhattacharya; Alper, 2014).

In case of physiology, there is still a rigidity in the blood vessels with advancing age, mainly due to the normal dysregulation of the vasodilator and vasoconstricting substances, associated with the genetic factors and the lifestyle of the bearer over the years, which may influence directly into the bloodstream (Barbosa et al., 2016).

Given the above, the physical vulnerability of the elderly and the limitations that arise in this phase of life,

interfere directly to the occurrence of chronic diseases. Some examples of these limitations are difficulty for locomotion, the lack of regular physical exercises and the prescription of restricted and specific diets, which can result in a compromising of the quality of life and, consequently, the clinical picture of the individual becomes worse (Campolina; Dini; Ciconelli, 2011).

Concerning to the ethnicity of the interviewees, 57.5% (n = 23) they declared themselves to be of a brown color. However, Massa and collaborators (2016), when they analyze hypertensive elderly in their research, they found a predominance of black skin color. Although this relative difference had been found, the miscegenation is a strong coefficient in Brazil. Thus, self-reported brown individuals are influenced by black skin color, because they are result of mixed breed (Iser, et al., 2015).

Therefore, the work of Serra et al. (2015), this category can be divided into whites and nonwhites (in which it covers brown and black individuals). According to Tavares et al. (2018), THE black race is a risk factor for the development of hypertension and it elucidate the high mortality rates in black individuals who have some cardiovascular disease, in comparison with populations of other races, for example.

Religion was another variable evaluated and the finding was extremely relevant, in which 70% (n = 28) of the elderly say they are Catholic. According to Abdala and contributors. (2015); Silva et al. (2016), older people tend to be more religious as they are compared with individuals of different age groups, by adding that religion provides greater benefits to the quality of life, since this public shows to be more active in religious activities and keep remains the optimistic in relation to the treatment and illness, through prayers.

In relation to schooling, 45% (n = 18) of the 40 hypertensive elderly interviewed studied until the current ATUAL fifth year (formerly known as primary, from the first to fourth grade of primary education). Similar results were found in the work of Aiolfi et al. (2015), in what they evaluated adherence to the medication use among elderly hypertensive patients and they found that the majority of the studied researched population (76%) had low educational level, with some degree of instruction.

The authors Lobo et al. (2017) and Andrade et al. (2015) bring data from the National Health Survey in their work and they describe the trends in the prevalence of SAH in Brazil. The preponderance of both studies revealed that the individuals with more advanced age and with less education, are more prone for developing the disease.

According to Zaitane et al. (2006) the level of schooling is linked to the risk factors that may contribute to the

development of hypertension, such as lifestyle. In addition, Pinheiro et al. (2018) elucidate that the lack of information can contribute to that the holders of SAH be prevented of performing an adequate follow up and they are unaware about the consequences of no adherence therapeutics.

It was also evaluated the place of residence of the elderly participants, and it identified that 95% (n = 38) reside LIVE in Vitória da Conquista, Bahia. This variant is important, since it can directly impact IN the adherence to the treatment of the patients, since the no displacement of the patient to acquire treatment in another place reflects in its comfort and quality of life (Rêgo et al., 2018).

The subsequent variable was the marital status of the elderly interviewed, and the most frequent data was concentrated around the elderly who were married or lived with a partner with a score of 57.5% (n = 23). Aquino et al. (2017) developed a survey of hypertensive elderly people and the percentile found in individuals who have married or who have lived in stable union were similar and it represented 58.17% (n = 145).

Accompanied by the marital situation, it was possible to analyze four other aspects that are complementary to this question: where he/she lives, with whom he/she lives, how many people live in his/her residence, the monthly income of the family group and occupation, which are shown in table 1.

*Table 1. Social and housing characteristics of elderly patients with systemic arterial hypertension (SAH), interviewed in a pharmacy network in Vitória da Conquista, Bahia.*

Variables	Frequency	
	n	%
<b>Where do you live</b>		
House or apartment with the family	34	85
House or apartment alone	6	15
<b>Who do you live with</b>		
Children	7	17,5
Husband and children	15	37,5
Husband or partner	8	20
Other relatives, friends or classmates	4	10
Live alone	6	15
<b>How many people live in your household including the interviewed</b>		
Two people	9	22,5
Three people	10	25
Four people	6	15
Five people	6	15
Six people or more	1	2,5
Live alone	8	20
<b>Monthly income of the family group</b>		
Less than one minimum wage	13	32,5
From one to three minimum wage	26	65
From three to six minimum wage	1	2,5
<b>Occupation</b>		
Worker	5	12,5
Retired / Pensioner	26	65
Self employed	9	22,5
<b>Total</b>	<b>40</b>	<b>100</b>

**Source:** Data collected by the researcher (2018).

In agreement with Muniz and collaborators (2017) it is indispensable that the elderly live with their relatives, because this experience helps, mainly, in the adherence of drug therapy. Warner et al. (2015) supplement this statement as they present a study about aging in Germany and they point out that the social and family support network contributes positively to the quality of the elderly life, especially in mental, by reducing symptoms of anxiety and depression, for example.

In reference to monthly income of the family group, 65% (n = 26) of the interviewed stated that they receive from one to three minimum wages. Santos and Ferreira (2018) and Dias, Souza and Mishima (2016) presented a reality similar to the finding, as they report that the hypertensive elderly in their respective jobs are supported by up to two minimum wages.

Retirement was the most marked occupation among the interviewed 65% (n = 26). Similar to the work done by Dias et al. (2015) that also observed that the elderly hypertensive retired, represent a large part of the sample number used in their research, BY corresponding to 88.46% (n = 23). The income based on retirement provides to the elderly a better adherence to pharmacological treatment, because he can go to the private sector and buys the drug prescribed. While 33% of the elderly (n = 13) warranty the medicines through the

public service. The result was directly similar to that one found in the work of Alveze Ceballos (2018), that obtained a larger number of elderly hypertensive patients, who acquired drugs in the private sector.

The great obstacle that the elderly who buy medicines in the public sector can face is the complexity of the service and the lack of obtaining the medication, that impedes the therapeutic adherence and, consequently, the stability and improvement of the clinical condition (Ferreira et al., 2013 Santos et al., 2014).

According to Bonadiman et al. (2012), the majority of the elderly obtain their medicines in the public network and in the private network, since not all of them are available in public pharmacies. Therefore, it presents a difficulty in obtaining antihypertensive drugs. In another study proposed by Cunha et al. (2012) and Cintra et al. (2010), the elderly presented some difficulty in medication acquisition, by including the lack of medication in the unit, financial conditions and distance from the health unit.

The regarding information to the lifestyle of the bearer and habits adopted by them are shown in Table 2. These ones can be configured as modifiable risk factors for the progression of hypertension and possible development of other diseases of the cardiovascular system.

Table.2: Risk factors adopted for elderly patients with systemic arterial hypertension (SAH), interviewed in a pharmacy network in Vitória da Conquista, Bahia.

Variables	Frequency	
	n	%
<b>Smoking</b>		
No	38	95
Yes	2	5
<b>Drinking (alcoholic drinks)</b>		
No	36	90
Yes	4	10
<b>Realiza atividade física (pelo menos 03 vezes na semana)?</b>		
No	20	50
Yes	20	50
<b>Faz dieta para controlar da pressão arterial?</b>		
No	8	20
Yes	32	80
<b>Total</b>	40	100

Source: Data collected by the researcher (2018).

About smoking, 95% (n = 38) of the interviewees do not use tobacco, and 5% (n = 2) use tobacco. These data reveal that most of the elderly individuals interviewed do not use cigarettes or have ever done it in the past. Costa et al. (2007) verified that people who have already smoke have a higher prevalence of hypertension. Girotto et al. (2013), reports that the reduction of alcohol consumption and smoking cessation should be part of the management of the arterial hypertension.

As they evaluate the use of alcoholic beverages, 90% (n = 36) reported that they do not drink, and only 10% (n = 4) use alcoholic drinks. Result similar to those ones of Ramos et al. (2015) that 91.6% said they do not use beverages. It is verified that in this research a very low number of elderly people who consume alcoholic beverages, however the use of the drink can influence the adherence to the drug treatment.

According to the results found, half of the participants, 50% (n = 20) practice some type of physical activity. A different result verified by Martins et al. (2010) and Cunha et al. (2012) and Souza et al. (2014)

HAVE showed that most of the elderly have not practiced physical activities. According to Bonadimanet al. (2012) physical activities in general, practiced in a regular way, with lasting from 30 to 45 minutes, with a frequency from three to five sessions per week, have excellent efficacy as an adjunct to antihypertensive treatment. In view of this, it is essential the relation of interventions of the health team to raise awareness and clarify the importance of physical activity in antihypertensive treatment.

In relation to diet, 80% (n = 32) of the patients interviewed refer to follow diet. According to Freire (2016), THE excessive consumption of fats, salt and sedentarism are practices that favor the emergence of hypertension. Therefore, because that, an adequate diet, combined with physical activity, is able to delay the appearance of hypertension. According to Bonadimanet al. (2012) THE obesity is one of the main causes for the development of hypertension, as there is a high prevalence of patients with obesity, since this factor may be related to non-adherence to the antihypertensive treatment.

Table.3: Degree of adherence to the pharmacological treatment of the interviewees based on the Morisky and Green test.

Degree of adherence	Frequency	
	n	%
High degree of adherence	22	55
Low degree of adherence	18	45
<b>Types of behavior related to the low degree of adherence</b>		
Low unintentional adherence	9	22.5
<b>Low intentional adherence</b>	3	7.5
Low adherence with both	6	15
<b>Total</b>	<b>42</b>	<b>100</b>

Source: Data collected by the researcher (2018).

The Morisky and Green test evaluates the adherence to the drug treatment. In this test the answer "Yes" for at least one of the questions means nonadherence, the "No" answer for all the questions means adherence to the treatment. The test can still be used to describe the degree of adherence to the treatment, by classifying as high degree of adherence those people who had all the test answers negative, and with low degree of adherence those ones who had at least one affirmative answer. The delantones can still be classified as to their behavior that can be intentional or unintentional, or both, as shown in Table 3.

It is noteworthy that in the study 70% (n = 28) administer adequately the drug. In the study, 35% (n =

14) of the participants HAVE reported that they neglected to take the medication, and 65% (n = 26) took the medication at the correct time. Ramos et al., (2015), in their study, 47% of the interviewees forgot to administer the drug, and 54.4% neglect about the time of administering the drug.

The main factors that interfere with adherence to the treatment are sex, old age, health beliefs, life habits, cultural aspects, difficulty to buy the medication, side effects, inadequate orientation of the professional, difficulty in administering the medication, this way a very important aspect for the treatment of SAH is the correct use of medicines (Ramos et al., 2015).



Regarding failing to take their medication when they feel better, 85% (n = 34) of the interview reported that they do not interrupt their treatment, and 90% (n = 36) do not stop administering the drug even when they felt ill. A similar result was proposed by Ramos et al. (2015). Meanwhile Bonadimanet al. (2012), report in THEIR study that patients discontinue the treatment because they do not feel anything and only return to use the medication when SOME symptoms reappear.

However, the results presented indicate that 55% (n = 22) of the patients in the study were classified as adherent to the drug treatment, that is, they answered "NO" to all the questions present in the Morisky and Green test. In contrast, 45% (n = 18) of the interviewed answered at least one affirmative question and thus, according to the Morisky and Green test, they have a low degree of adherence. There is also a greater index of "YES" answers in questions one and two of the test, regarding forgetting to take medication and carelessness with the schedule.

Result that differ from that of Ramos et al. (2015), indicate that the majority of the participants (67.3%) were classified as not adherent to the drug treatment. In another study by Dosseet al. (2009) with hypertensive patients who have participated in the Morisky-Green test, has showed that 86.93% of the patients have presented no adherence to the drug treatment.

It is important to draft the factors that may lead to this low adherence to the drug treatment, from the

socioeconomic characteristics to the lifestyle of the patient. The majority of the elderly have a polypharmacy, and have a tendency forenoon adherence to the pharmacological treatment.

Most of the participants are over 12 years old with a diagnosis of hypertension, BY representing 37.5% of the sample. In this study, 95% of the participants have no difficulty in administering the medication, that means a positive aspect. Cintra et al. (2010) show that THE elderly patients consume several drugs daily, and may cause errors in their administration.in relation to the undesired symptom in administering the medicament, only 10% reported this discomfort, data similar to that one of Lima et al. (2010). Pharmacovigilance (2008) suggests that unwanted drug symptoms are any unfavorable occurrence or unintended effect while the patient is using the drug.

When evaluated the patients classified with low adherence degree, they may be classified as unintentional, intentional or low adherence with both adherences. Among the 18 patients classified as low adherence, 22.5% (n = 9) presented low unintended adherence, by indicating standards of forgetfulness or carelessness with the time of taking the medication, and 7.5% (n = 3) presented low intentional adherence, in which the patient decides to stop using the medication when he / she feels well, or when he / she feels bad about the use, it is emphasized that in 15% (n = 6) of the cases are classified as low adherence in both types.

Table.4: Drug Therapy Related Factors of the Research Participants

Variables	Frequency	
	n	%
<b>Are medications enough for controlling hypertension?</b>		
Never	1	2,5
Almostalways	8	20
Always	31	77,5
<b>Do you believe in the positive effects of treatment for hypertension?</b>		
Almostnever	2	5
Almostalways	3	7,5
Always	34	85
Não sei	1	2,5
<b>Do you worry about gauging the pressure?</b>		
Almostnever	11	27,5
Many times	3	7,5
Almostalways	6	15

Always	20	50
<b>Do you have any disease other the hypertension?</b>		
Yes	19	47,5
No	21	52,5
Total	40	100

**Source:** Data collected by the researcher (2018).

The interviewed reported that medications are essential for the control of hypertension, with succeeding 77.5% (n = 31), as indicated in Table 4, in agreement withheld of Lima et al. (2010) that 99% of patients reported that the drug is fundamental for controlling the blood pressure. Medications can be used in the prevention, diagnosis, treatment of diseases, their use should always be made with the advice of a specialized health professional, since the incorrect use can cause serious damage to the health. Thus 85% (n = 34) of the patients believe in the positive effects of treatment for hypertension.

It is worth noting that 50% (n = 20) of the participants said that "blood pressure always influences", and 27.5% (n = 11) "almost never" have this custom, a result different from that of Lima et al., (2010), where 84% said they worry about gauging pressure regularly. This way, it is a worrying fact, since because the only way of knowing that there is an effective control of blood pressure is through gauging it, because it is a silent illness and does not usually present signs and symptoms.

In the variable "other diseases" in addition to HAS HBP, 47.5% (n = 19), most the individuals reported by having other health problems. The high level of comorbidity in the elderly population may contribute to poor adherence to the medication treatment of SAH. Freitas et al., (2015) point out that the association of hypertension with other health problems is one of the nonadherence factors.

It should be pointed out that individuals with diseases associated with hypertension suggest the need of taking other medications, which may intensify the side effects and drug interaction, by presenting greater difficulty in acquiring all medications and difficulties in taking care of the dose schedules (Ramos et al., 2015).

The most commonly used drug that was reported by elderly patients was Losartan with 72.5%, followed by Metformin with 27.5%, and Simvastatin and Hydrochlorothiazide with 22.5%. It is noticed that the patient uses on a large-scale Metformin, a medicine used to treat diabetes mellitus type 2, so that the arterial hypertension is most often accompanied with diabetes mellitus. This result is different from the tone found by

Lima et al., (2010), and by being that the most used drug was Captopril 34%, followed by Hydrochlorothiazide 29% and Methyldopa 13%. Therefore, this drug treatment is adequate according to the V Brazilian Guidelines for Hypertension.

#### IV. FINAL CONSIDERATIONS

Arterial hypertension is one of the major public health problems in Brazil and all over the world, with a high prevalence on the Brazilian adult population, especially the elderly. However, it is necessary to monitor all variables related to adherence to the treatment, in order to ensure the effectiveness and efficiency of health care services. By regarding about the pharmacological treatment, it can be affirmed that among the factors that interfere in adherence to the treatment are the symptomatology of the disease and the amount of medication administered daily.

It is able to be emphasized that it is important that the professional advises the ir patients by regarding to the factors involved in abandoning of the treatment or by not complying with therapeutic recommendations. Therefore, it is necessary to plan health promotion activities and disease prevention activities by considering the profile of the elderly hypertensive, such as walking, work gymnastics, educational activities to raise awareness the patient about their illness and the importance of complying with appropriate medical treatment. Beyond that, consultations and home visits should be organized and scheduled.

#### REFERENCES

- [1] Alves, Niedja Maria Coelho; Ceballos, Albanita Gomes da Costa de. Polifarmácia em idosos do programa universidade aberta à terceira idade. **J. Health BiolSci**, Recife, v. 6, n. 4, p. 412-418, 2018.
- [2] Abdala, Gina Andrade et al. Religiosidade e qualidade de vida relacionada à saúde do idoso. **Rev Saúde Pública**, p. 49:55, 2015.
- [3] Aiolf, Cláucia Raquel et al. Adesão ao uso de medicamentos entre idosos hipertensos. **Rev. Bras. Geriatr. Gerontol.** Rio de Janeiro, v. 18, n. 2, p. 397-404, 2015.



- [4] Aquino, Glenda de Almeida et al. Fatores associados à adesão ao tratamento farmacológico em idosos que utilizam medicamento anti-hipertensivo. **Rev. bras. geriatr. gerontol.** vol.20 no.1 Rio de Janeiro Jan./Feb. 2017.
- [5] Andrade, Aluísio Oliveira de et al. Prevalência da Hipertensão Arterial e Fatores Associados em Idosos. **Rev. Bras. Promoç. Saúde**, Fortaleza, v. 27, n. 3, p. 303-311, jul./set., 2014.
- [6] Araujo, F., N., F., De; Figueiredo, T., M., R., M.; Cardoso, M., A., A.; Paes, N., A.; Santos, H., E., A., M., dos. A efetividade das ações de controle da hipertensão arterial na atenção primária à saúde. **Revista de Pesquisa em Saúde**, v. 17, n. 2, p. 80-86, 2016.
- [7] Barbosa, Eduardo Costa Duarte et al. Manejo clínico da pré-hipertensão. **Ver. Bras.Hipertens**, vol. 23, n. 4, p. 99-102, 2016.
- [8] BONADIMAN, Raphael Laiber et al. Avaliação da Adesão ao Tratamento Medicamentoso e não Medicamentoso de Pacientes Hipertensos Atendidos No Psf Guaritá, Itaperuna-RJ. **Acta Biomedica Brasiliensia/** Volume 3/ nº 1/ junho de 2012.
- [9] Bhattacharya, M.; Alper, S., L. Farmacologia da regulação do volume. In: Golan, D., E.; Tashjian Junior, A., H.; Armstrong, E., J.; Armstrng, A., W. **Princípios de Farmacologia: A Base Fisiopatológica da Farmacoterapia.** Rio de Janeiro: Guanabara Koogan, ed. 3, 2014.
- [10] Campolina, A., G.; Dini, P., S.; Ciconelli, R., M. Impacto da doença crônica na qualidade de vida de idosos da comunidade em São Paulo (SP, Brasil). **Ciência & Saúde Coletiva**, v. 16, n. 6, p. 2919-2925, 2011.
- [11] Corrêa, T., D.; Namura, J., J.; Silva, C., A., P., Da; Castro, M., G.; Meneghini, A.; Ferreira, C. Hipertensão arterial sistêmica: atualidades sobre sua epidemiologia, diagnóstico e tratamento. **Arquivos Médicos do ABC**, v. 31, n. 2, p. 91-101, 2005.
- [12] Costa, J. S. D. et al. Prevalência de hipertensão arterial em adultos e fatores associados: um estudo de base populacional urbana e pelopos, Rio Grande do Sul, Brasil. **Arquivos Brasileiros de Cardiologia**, v. 88, n. 1, p. 59-65, 2007.
- [13] Cunha, Paulo Renan Matos Sucupira et al. Prevalência e Causas de não Adesão ao Tratamento Anti-Hipertensivo de Idosos na Atenção Básica. **Rev. Pesq. Saúde**, v. 13, n. 3, p. 11-16, set-dez, 2012.
- [14] Cintra, Fernanda Aparecida et al. Adesão medicamentosa em idosos em seguimento ambulatorial. **Ciência & Saúde Coletiva**, v. 15, n. 3, p. 3507-3515, 2010.
- [15] David, Helena Ramalho et al. Estado nutricional, sintomas do climatério e qualidade de vida. 2013.
- [16] Diretriz. V Diretrizes Brasileiras de Hipertensão Arterial. Tratamento Medicamentoso.
- [17] Dias et al. Caracterização dos hipertensos e fatores dificultadores na adesão do idoso ao tratamento medicamentoso da Hipertensão. Disponível em <file:///Users/fernandaportela/Downloads/720-1925-1-PB.pdf>. 2015.
- [18] Dias, Ernandes Gonçalves et al. Influência da enfermagem na adesão do idoso ao tratamento da hipertensão. **Rev. Gest.Saúde** (Brasília) Vol.07, n. 03, p. 1156-72, Set. 2016.
- [19] Dias, Jessika Rafaela Paixão et al. Análise do perfil clínico-epidemiológico dos idosos portadores de hipertensão arterial sistêmica nas microáreas 4, 6 e 7 da USF tenoné. **Braz. J. Hea. Rev.**, Curitiba, v. 2, n. 1, p. 2-41, jan./feb. 2019.
- [20] Dosse, C. et al. Fatores associados à não adesão dos pacientes ao tratamento de hipertensão arterial. **Revista Latino Americana de Enfermagem**, v. 17, n. 2, p. 201-206, 2009.
- [21] Deveschio, A., De P.; Pelegrino, T., A.; Silva, G., R., M., Da; Hunger, M., S.; Delbim, L., R.; Magalhães, R.; Zavariza, S., F.; Martelli, A. Fatores que influenciam a hipertensão arterial sistêmica e qualidade de vida em professores universitários. **Archives of Health Investigation**, v. 6, n. 8, 2017.
- [22] Farmacovigilância: Reações Adversas a Medicamentos. Reações Adversas a Medicamentos - Vamos Notificar? Nº 1 – agosto de 2008.
- [23] Freitas, J., G., A.; Nielson, S., E., De O.; Porto, C., C. adesão ao tratamento farmacológico em idosos hipertensos: uma revisão integrativa da literatura. **Revista da Sociedade Brasileira de Clínica Médica**, v. 13, n. 1, p. 75-84, 2015.
- [24] Freire, Simone Cardoso. Alimentação saudável pode diminuir hipertensão arterial. Disponível em <<https://www.minhavidade.com.br/alimentacao/materias/12825-alimentacao-saudavel-pode-diminuir-hipertensao-arterial>>2016.
- [25] Ferreira, F., M.; Cruz, M., J., B.; Santos, D., F.; Linhares, M., P.; Andrade, R., A. Fatores relacionados à adesão farmacoterapêutica de pacientes hipertensos acolhidos na estratégia de saúde da família. **Revista APS**, v.16, n.3, p. 258-268, 2013.
- [26] Gomes, M., F., P.; Borges, M., E.; Rossi, V., De A.; Moura, E., De O., C., De; Medeiros, A. Efeito do Treinamento Físico Resistido na Sensibilidade

- Barorreflexa de Ratos Hipertensos. **Arquivos Brasileiros de cardiologia**, v. 108, n. 6, p. 539-545, 2017.
- [27] Giroto, Edmarlonet al. Adesão ao tratamento farmacológico e não farmacológico e fatores associados na atenção primária da hipertensão arterial. *Ciência & Saúde Coletiva*, v. 18, n. 6, p. 1763-1772, 2013.
- [28] Iser, B., P., M.; Stopa, S., R; Chueiri, P., S; Szwarcwald, C., L; Malta, D., C; Monteiro, H., O., Da., C; Duncan, Schmidt, M., I. Prevalência de diabetes autorreferido no Brasil: resultados da Pesquisa Nacional de Saúde 2013. **Epidemiol. Serv. Saúde, Brasília**, v. 24 n. 2, p. 305-314, 2015.
- [29] Jardim, P., C., B., V. Metas de Pressão Arterial: Chegaremos a um Número Definitivo? Neste Momento, Tenho o Meu. **Arquivos Brasileiros de Cardiologia**, v. 109, n. 1, p. 1-4, 2017.
- [30] Lima, Tácio de Mendonça et al. Perfil de adesão ao tratamento de pacientes hipertensos atendidos na Unidade Municipal de Saúde de Fátima, em Belém, Pará, Amazônia, Brasil. **Rev. Pan-Amaz. Saude**, v. 1, n. 2, p. 113-120, 2010.
- [31] Lobo, Larissa Aline Carneiro et al. Tendência temporal da prevalência de hipertensão arterial sistêmica no Brasil. **Cad. Saúde Pública**, v. 33, n. 6, 03 Jul, 2017.
- [32] Martins, Maria do Perpétuo Socorro Carvalho et al. Consumo Alimentar, Pressão Arterial e Controle Metabólico em Idosos Diabéticos Hipertensos. **Rev. Bras. Cardiol.** v.23, n. 3, p. 162-170, 2010.
- [33] Massa, Kaio Henrique Correa et al. Fatores associados ao uso de anti-hipertensivos em idosos. **Rev Saúde Pública**, 50:75, 2016.
- [34] Magalhães, L., B., N., C. Anti-hipertensivos. In: SILVA, P. **Farmacologia**. Rio de Janeiro: Guanabara Koogan, ed. 8, 2012.
- [35] Medeiros, J., J., De; Brito, M., V., G; Perracini, M., R; De Araújo, F., B.; Santos, A., D. Aplicabilidade de hidroginástica e musculação em pessoas idosas da comunidade. **Revista Interfaces: Saúde, Humanas e Tecnologia**, v. 2, n. 6, 2014.
- [36] Muniz, Elaine Cristina Salzedaset al. Análise do uso de medicamentos por idosos usuários de plano de saúde suplementar. **Rev. Bras. Geriatr. Gerontol.** Rio de Janeiro, v. 20, n. 3, p. 375-387, 2017.
- [37] Oliveira, Sonia Maria Junqueira Vasconcellos de et al. Hipertensão Arterial Referida em Mulheres Idosas: Prevalência e Fatores Associados. **Texto Contexto Enferm.** Florianópolis, v. 17, n. 2, p. 241-9. Abr-Jun 2008.
- [38] Pinheiro, Fernanda Machado et al. Adesão terapêutica em idosos hipertensos: revisão integrativa. **Revista de Enfermagem do Centro Oeste Mineiro**, v. 8, 2018.
- [39] Ramos, Joerbeth Sousa et al. Avaliação da Adesão ao Tratamento por Idosos Cadastrados no Programa do Hiperdia. **Revista de Gestão em Sistemas de Saúde – RGSS**. Vol. 4, N. 1. Janeiro/Junho. 2015.
- [40] Rêgo, Anderson da Silva et al. Acessibilidade ao tratamento da hipertensão arterial na estratégia saúde da família. **Rev. Gaúcha Enferm**, 2018.
- [41] Rocha, C., H.; Oliveira, A., P., S., De; Ferreir, C.; Faggiani, F., T.; Scroeter, G.; Souza, A., C., A., DE; AttilioDecarli, G.; Morrone, F., B.; Werlang. M., C. Adesão à prescrição médica em idosos de Porto Alegre, RS. **Ciência & Saúde Coletiva**, v. 13, p. 703-710, 2008.
- [42] Souza, Clarita Silva de et al. Controle da Pressão Arterial em Hipertensos do Programa Hiperdia: Estudo de Base Territorial. **ArqBrasCardiol.**; v. 102, n. 6, p. 571-578. 2014.
- [43] Santos, Marcilio Sampaio dos et al. Avaliação da adesão ao tratamento da hipertensão arterial em pessoas idosas. 2018.
- [44] Silva, Cristiane de Fátima et al.. Espiritualidade e religiosidade em pacientes com hipertensão arterial sistêmica. **Rev. bioét. (Impr.)**.v.24, n. 2, p. 332-43, 2016.
- [45] Serra, Milma Marques et al. Condições Clínicas e Antropométricas de Hipertensos Atendidos em um Centro de Saúde de São Luís, Ma. **Rev. Pesq.Saúde**,v. 16, n. 2, p. 107-111, mai-ago, 2015.
- [46] Santos, K., P.; Costa, M., C., M.; Rios, M., C.; Rios, P., S., De S. Adesão a farmacoterapia em pacientes cadastrados no Hiperdia em uma Unidade Básica de Saúde em Aracaju, SE. **Infarma Ciências Farmacêuticas**, v.26, n.4, p.233-239, 2014.
- [47] Tavares, Darlene Mara dos Santos et al. Qualidade de vida e adesão ao tratamento farmacológico entre idosos hipertensos. **Rev. Bras. Enferm.** vol.69 no.1 Brasília Jan./Feb. 2016.
- [48] Tavares, Helen Hana Fernandes et al. Análise e Perspectiva Sobre a Formação do Profissional de Saúde para o Atendimento á Mulher Negra. Extensio: **R. Eletr. de Extensão**, ISSN 1807-0221 Florianópolis, v. 15, n. 28, p. 19-28, 2018.
- [49] Vancini-Campanharo, C., R.; Oliveira, G., N.; Andrade, T., F., L.; Okuno, M., F., P.; Lopes, M., C., B., T.; Batista, R., E., A. Hipertensão Arterial Sistêmica no Serviço de Emergência: adesão medicamentosa e conhecimento da doença. **Revista**

**Latino-Americana de Enfermagem**, v. 23, n. 6, p. 1149-56, 2015.

- [50] Veras, R., P. Estratégias para o enfrentamento das doenças crônicas: um modelo em que todos ganham. **Revista Brasileira de Geriatria e Gerontologia**, v. 14, n. 4, p. 779-786, 2011.
- [51] Zaitune, Maria Paula do Amaral et al. Hipertensão arterial em idosos: prevalência, fatores associados e práticas de controle no Município de Campinas, São Paulo, Brasil. **Cad. Saúde Pública**, Rio de Janeiro, v. 22, n. 2, p. 285-294, fev, 2006.