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Self-Care in Hypertensive Patients: Relationship between Knowledge, Demographic Factors and Therapeutic Adherence

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ABSTRACT: Hypertension is among the most dangerous cardiovascular diseases due to its often silent nature. The objective of this study is to examine the relationship between knowledge about hypertension, demographic factors, and treatment adherence. The methodology employed was quantitative, non-experimental, field-based, prospective, cross-sectional, and correlational. Theoretical and empirical methods were used to examine the current state of knowledge through a survey using the CSH questionnaire, administered to 125 adults aged 30 to 70 with hypertension. The results showed that of the 125 respondents, 52 had been living with the disease for approximately 5 years and demonstrated a low level of knowledge; a smaller group of 34 had been living with the disease for approximately 6 to 10 years, yet their level of knowledge was good; this same level was observed in 19 individuals who had been living with the disease for more than 10 years; however, 6 subjects demonstrated a fair level of knowledge. These findings, related to treatment adherence, show that 64 of the surveyed subjects do not adhere to their treatment and have suffered from the disease for more than 5 years, while 41 reported that they do. More men (34%) than women (27%) exhibit this behavior. In conclusion, a low level of knowledge is proportional to a lack of adherence to treatment; men show less adherence, and education level does not guarantee treatment compliance. The healthcare system still has work to do in promoting self-care and addressing hypertension.

INTRODUCTION

Arterial hypertension is a disease characterized by the rise in blood pressure in the vessels of the circulatory system; values above 140/90 mmHg are referents of the condition; 140mmHg corresponds to systolic blood pressure (SBP) demonstrates ventricular contraction and 90 corresponds to diastolic blood pressure (DBP) and relaxation of the ventricles in young adults,

according to the "Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure". However, it has been qualified that there is a state of prehypertension when SBP reaches levels of 120-139 mmHg and DBP between 80-89 mmHg; in this line, when these ranges are less than 120/80 mmHg, it is considered normal blood pressure.(Nair de la Caridad, 2024)(Calle Chaparro, 2023)

This condition, in the world population is silent and generates sequelae due to the compromise of target organs, brain, heart, kidneys and eyes and joints, they have been the focus of heart attacks, heart failures, stroke, retinal hemorrhage, and others. Worldwide, approximately 1280 million adults aged 30 to 79 years are hypertensive, most of them living in low- and middle-income countries; in Africa and Latin America as a result of weaknesses in self-efficacy, beliefs, and social adequacy; in the Americas and the Caribbean region, 35% of adults who have developed cardiovascular disease (CVD) with arterial hypertension (HTN) have ended in premature death. (OMS, 2023)(Babaei Koli et al., 2025)(Morocho, y otros, 2024)

According to the WHO, just under 42% of the population is inclined to therapeutic adherence and only 21% have it monitored, The number of men is higher than in women. In the South American region, Paraguay contrasts with Peru with the prevalence of (56.4%) and Peru (20.7%). Knowledge on the subject is 69.8%; women are the most informed (75.3%) than men (64.8%). (Torres Rojas,, 2023)

The treatment rate in 2019 was 60.3%, up from 39.9% in 1990, only 60.4% of people treated with medication managed to control their hypertension, which was better in women than men.(Calle Chaparro, 2023)

In Ecuador, according to the 2012 National Health Survey (ENSANUT), the prevalence of prehypertension at 10 to 17 years of age is 14.2%, and in the population of 18 to 59 years of age it is 37.2%. It is more frequent in men (11.2%) than in women (7.5%). These data show that it is important to undertake prevention around this disease at an early age and that the proposed strategies are effective in protecting the health of those who are at risk of the disease (MSP, 2019)

Studies show that there are factors that influence the development of the disease, difficult access to the health system network, the lack of specialized personnel in the management of prevention programs in chronic degenerative non-communicable diseases, late diagnosis, poor evaluation of prevention and control strategies are among the main risk factors; however, the uncontrolled consumption of alcohol, a diet with high consumption of saturated fats and simple carbohydrates, high salt consumption of over 5 g per day and foods rich in sodium, low consumption of fruits and vegetables accompanied by little or no physical activity, as well as exposure to environmental pollution, are some of the conditions that cause variation and rise in the lipid profile that is aggravated in terms of adherence to treatment in terms of hypertension (Ojeda Zegarra, 2019)

In this context, the WHO in 2016 proposed by 2025, to reduce the prevalence of this disease and together with the United States Center for Disease Control and Prevention (CDC) and proposed five technical packages as part of the global hearts initiative; HEARTS (Cardiovascular Risk Management), MPOWER (to reduce the global tobacco epidemic), ACTIVE (to increase physical activity), SHAKE (to reduce salt), and REPLACE (to eliminate trans fats); in this sense, these strategies demonstrate that efforts around the world have been aimed at counteracting risks and modifying lifestyles.(Campbell, 2023)

METHODOLOGY

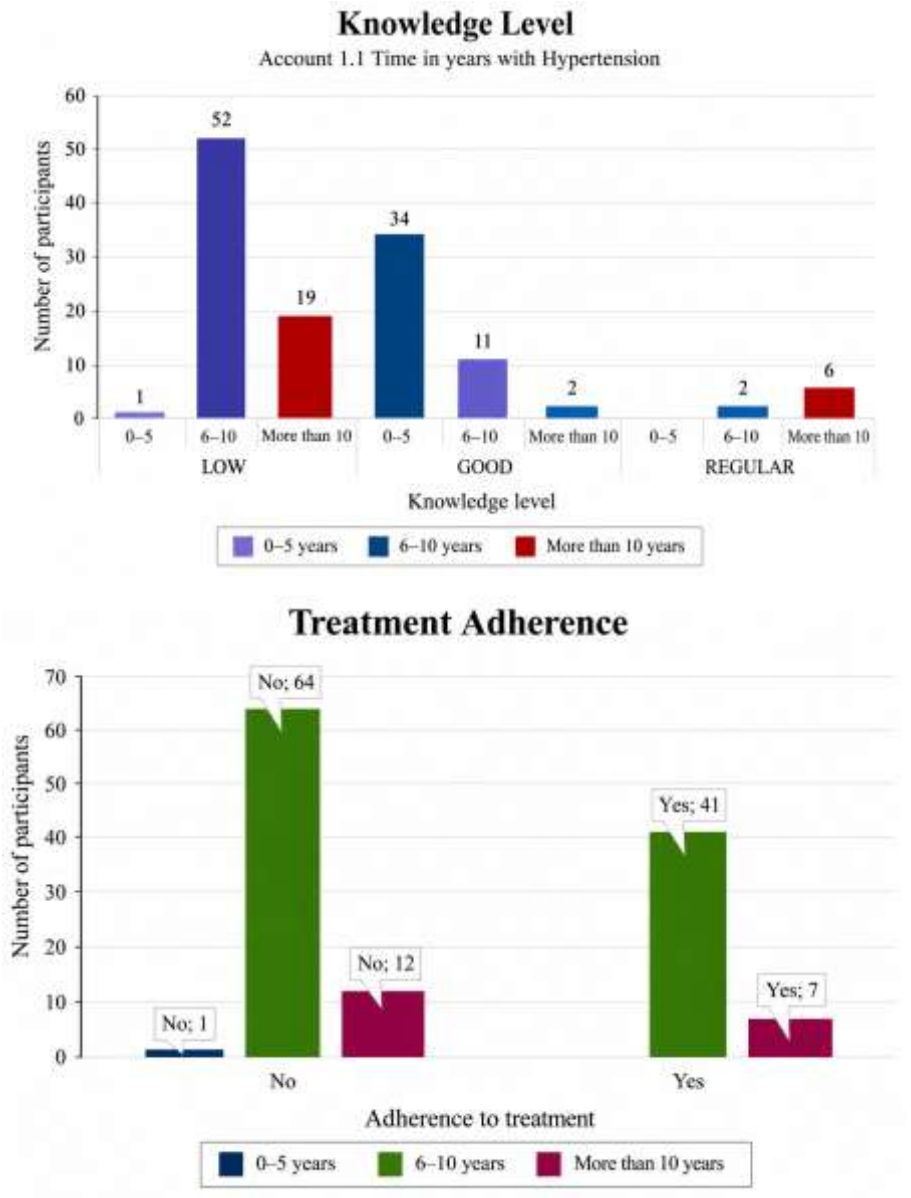
For this research regarding self-care in arterial hypertension and relationship with knowledge, demographic data and adherence to treatment in the population from 35 to 70 years of age who attend the occupational health center at the University of Guayaquil, in the year 2024, quantitative, descriptive, correlational, non-experimental, analytical research was undertaken in which a sample of 125 people was evaluated with the aim of finding the relationship between the independent variable: self-care in arterial hypertension and dependent variable: relationship with knowledge, demographic data and therapeutic adherence; a non-probabilistic sampling was applied for convenience, the interview was carried out using the instruments: Questionnaire on the knowledge of Arterial Hypertension (CSH) and the Morisky Green Levine Test (MASS-4) adherence to pharmacological treatment, this test was validated in its Spanish version by Val Jiménez, et al. Cronbach's alpha result was 0.75 and includes four questions with dichotomous yes and no answer option, and adherence was considered when the answer to the four questions was no. These questions measure drug consumption, discipline in schedule and drug consumption according to health condition. The indicators examined are to stop taking antihypertensive medicine at any time, to take the medicine on time, to stop taking the medicine if you feel good or feel bad.

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The CSH questionnaire examines 7 indicators; indicator 1, Knowledge of arterial hypertension, assesses six concepts that have to do with hypertension values, time of suffering from the disease. Indicator 2 examines risks of hypertension with respect to the eyes, brain, heart, joints and kidneys, numeral 3, examines knowledge about the risk factors associated with hypertension due to comorbidity, diabetes, obesity, smoking and cholesterol levels. Indicator 4 examines diet, restriction in foods, fats, fruits and vegetables, salt consumption. Indicator 5 examines the control of blood pressure with medication, controls the dose to increase or increase according to the blood pressure value and abandonment of treatment if it has controlled the pressure values. Indicator 6 examines lifestyle modifications with respect to losing weight, walking, taking life calmly and indicator 7 corresponds to the perception of the disease and support in the family with the health team.

RESULTS AND DUSCUSION

Figure N1. Adherence to treatment and knowledge



In this study, in which knowledge, lifestyle, adherence to treatment are related to the topic of hypertension, it was obtained as a result that in 125 respondents, 52 subjects have approximately 5 years with the disease and have a low level of knowledge, while the good level of knowledge is a group of less than 34 subjects with approximately 6 and 10 years of suffering from the disease. These findings, related to the variable adherence to treatment, result in 64 of the respondents not adhering to the

treatment, only 41 subjects answer that they do comply with the treatment. Of the 52 subjects with a low level of knowledge suffer from the disease for less than 5 years; however, those who suffer between 6 and 10 years are 34 subjects with a good level of knowledge.

Coinciding with the study by Soplopuco, which found that 96.5% of the population with inadequate knowledge about arterial hypertension has partial adherence to treatment; in addition, patients with inadequate knowledge about their disease have a 5.1 times higher risk of partial adherence to treatment. 62.8% (86) presented inadequate knowledge, while 37.2% (51) had adequate knowledge. At the same time, in the Soplopuco study, it describes that there is a significant association between the degree of adherence to treatment with the variables marital status, time of consultation, identifying these as risk factors for partial adherence to antihypertensive treatment. In conclusion, these findings show that the low level of knowledge conditions compliance with treatment, and the longer the time of suffering from the disease, the more information on the subject.(Soplopuco Díaz, 2021)

Another of the conclusions that can be reached from these findings revolves around the time of suffering from the disease between 6 and 10 years or more with arterial hypertension, it can be noted that there is no probability of adherence to treatment with respect to the time of suffering from the disease, evidence of this is that there are 64 subjects surveyed who do not adhere to treatment.

Figure N2. Adherence to treatment and age, sex, education, marital status and occupation

		ADHERENCE TO PHARMACOLOGICAL TREATMENT					
		NO		YES			
		No.	**%**	**No.**	**%**	**No.**	**%**
SEX	F	34	27%	22	18%	56	45%
	M	43	34%	26	21%	69	55%
	Total general	77	62%	48	38%	125	100%
AGE	<40	10	8%	6	5%	16	13%
	41 - 15	1	1%		0%	1	1%
	41 - 45	10	8%	3	2%	13	10%
	46 - 50	17	14%	13	10%	30	24%
	51 - 55	15	12%	10	8%	25	20%
	56 - 60	12	10%	7	6%	19	15%
	61 - 65	11	9%	7	6%	18	14%
	>70	1	1%	2	2%	3	2%
	Total general	77	62%	48	38%	125	100%
INSTRUCTION	Bachelor	2	2%		0%	2	2%
	Primary	4	3%	8	6%	12	10%
	Secondary	8	6%	18	14%	26	21%
	Superior	52	42%	20	16%	72	58%

	Technical	11	9%	2	2%	13	10%
	Total general	77	62%	48	38%	125	100%
MARITAL STATUS	Married	50	40%	32	26%	82	66%
	Divorced	9	7%	3	2%	12	10%
	Other		0%	1	1%	1	1%
	Single	14	11%	8	6%	22	18%
	Widow or widower	4	3%	4	3%	8	6%
	Total general	77	62%	48	38%	125	100%
OCCUPATION	Housewife	2	2%	4	3%	6	5%
	Married		0%	1	1%	1	1%
	Merchant	3	2%	3	2%	6	5%
	Retired	1	1%		0%	1	1%
	Other	20	16%	19	15%	39	31%
	Professional	51	41%	20	16%	71	57%
	superior		0%	1	1%	1	1%
	Total general	77	62%	48	38%	125	100%

Regarding the relationship between adherence to treatment and the variables sex, age, education, marital status and occupation, the results were obtained that: Regarding the indicator of age and adherence to treatment, those who do not adhere to treatment are those in the 46 to 50 age group with 14%(17) with non-adherence, followed by those aged 51 to 55 years who do not comply with treatment and correspond to 12%(15) and 10%(12) of subjects aged 56 to 60 years with a tendency to non-compliance with treatment. 9%(11) range from 61 to 65 years of age with a lack of adherence to treatment, and a smaller group, that is, 8%(19) of subjects aged 41 to 45 years, have the same non-adherence behavior. These results coincide with those of Toledo, who showed that the 50 to 59 age group, corresponding to 28.6% of the sample, does not adhere to treatment on the subject of hypertension. (Toledo, Yumbla, Espinoza, & Molina, 2022)

The same tendency was demonstrated in Suárez's study with the topic "Beliefs of disease, beliefs of medication and adherence to treatment in patients with arterial hypertension," he evidenced that the age in the group with adherence to treatment was 55.94 ± 13.97 years. In the group without adherence it was 54.44 ± 12.00 years ($p = 0.350$). Finally, articulating these findings, it is concluded that, the older the age, the greater the tendency of non-adherence to treatment in terms of hypertensive disease. (Suárez-Arguello, Blanco-Castillo, & Perea-Rangel, 2022)

Following the analysis, with respect to the gender variable, the results of this study show that more men do not adhere to therapy (34%)(43), while the female gender is lower than the number of women who do not adhere to therapy (27%)(34). This data corresponds particularly well with Suárez's study, which showed that 52.7% of women meet the condition of non-adherence to therapy. At the same time, Toledo's study highlights that 52.3% of women lack adherence to treatment. (Suárez-Arguello, Blanco-Castillo, & Perea-Rangel, 2022)

From this comparative relationship in the gender variable, it can be inferred that the female gender has a significant percentage of non-adherence to therapy; however, a higher percentage prevails in the male gender.

Regarding the instruction indicator, in In the present study, 62% (77) of subjects with some level of education do not adhere to the treatment and of these, 3%(4) have primary education, 8%(10) have secondary education; however, it is striking that a non-small group, which has higher education, that is, 42%(52) and 9%(11) are technicians, meets the same condition of non-adherence 6%(8). In this sense, some of these findings are important related to the study by Salas Salinas called Relationship between the level of knowledge about arterial hypertension and adherence to treatment at the Belén Hospital in Trujillo, 2021, in which he managed to identify that the main characteristics in patients who have a poor level of knowledge are: having a primary education level 22%; 61% were over 60 years of age 40%; and 35.5% were male. Parallel to these findings, the data found in Pincay's study, regarding Adherence to the treatment of arterial hypertension, showed coincidences in that low educational level and socioeconomic conditions have an opposite influence on treatment adherence(Salas Salinas, 2021)(Pincay, 2020).

On the other hand, with respect to the total that if they adhere to the treatment they are a smaller group, that is, 38% (48) of which 16% (20) have higher education and 14% (18) have secondary education. In other words, these data allow us to infer that there is a relativity in the relationship between instruction and adherence to treatment; however, having a degree of education is an advantage for the understanding of the information compared to those who do not have it.

Regarding the variable marital status, of the total number of subjects who do not adhere to the treatment, that is, 62%(77), 40%(50) are married; 11%(14) are single and 7%(9) are divorced. In the occupation indicator, of the total number of subjects who do not follow the treatment, 62%(77), 2%(3) are merchants and this same percentage are housewives, 16% (20) have another occupation, 41% (51) are professionals who are public employees.

Parallel to this situation is the group of those who do adhere to the treatment, which are a total of 38% (48); of these, 26% (32) are married, 6% (8) are single, and 3%(4) are widowed. These data on the variable marital status and occupation differ from the study "Control of arterial hypertension and associated factors in hypertensive adults" by Toledo, B; who highlights that 53.4% have the condition of free union; however, the occupation coincides that they are public employees with 34.6% of whom 64 do not adhere to treatment(Toledo, Yumbla, Espinoza, & Molina, 2022). Finally, it is concluded that the condition of having a partner because you are married or in a common-law union does not guarantee adherence to antihypertensive treatment; at the same time, that the condition of being employed is another trigger for non-adherence to treatment.

CONCLUSIONS

The indicators assessed in this study on the subject of self-care and relationship of knowledge, demographic factors and adherence to treatment in the subject of arterial hypertension have shown that the deficiency in the information that is handled in the matter of hypertension is a trigger for adherence to therapy, this variable is conditioned to the years of suffering from the disease which is inversely proportional, that is, the longer the time with the disease is not a guarantee of mastering information on the subject. This same phenomenon is repeated with age, leading to the inference that the older the age, the greater the probability of non-adherence to treatment, which is more marked in the male gender than in the female gender. Instruction does not influence adherence to therapy; however, it is an advantage in terms of understanding information compared to those who do not have schooling. The condition of being married or in a common-law union is not a determinant of adherence to therapy, thus, the circumstance of being employed is also a trigger for non-compliance in the treatment of arterial hypertension.

In this sense, the results found in the present study show that self-care is a condition that is still weak, and the lack of ability to master the subject puts the person suffering from hypertension in vulnerable conditions and consequently the family. However, the actions articulated from health policies, legislation, government provisions, strategies, algorithms, screenings and scores to control cardiovascular diseases demand evaluation in access and participation of people, with whom efforts must be made at an early age from childhood and adolescence through the formal and informal education system, in the family that reaffirms practices and customs to have healthy adults.

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Conflict of interest

There are no conflicts of interest of the authors.

Ethical responsibilities

Protection of people and animals. The authors declare that no experiments have been carried out on humans or animals for this research.

Data confidentiality. The authors state that they have followed their workplace's protocols on the publication of patient data.

Right to privacy and informed consent. The authors declare that this article does not contain patient data.

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