

Psychopathological Risks Associated with Adherence to Treatment of Patients with High Blood Pressure

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Abstract:- Adherence to treatment is indispensable in the hemodynamic status of patients with AHT, nowadays this is considered as the chronic non-communicable disease that has surpassed limits at international level, alerting its multiple cardiovascular, cerebrovascular complications and psychological risks leading to the main causes of death and psychopathological disorders. **Objectives:** To determine the psychopathological risks associated with adherence to treatment in patients with arterial hypertension attending the Abdón Calderon Union Health Center.

Methodology: Method: experimental. **Type of research:** descriptive-correlative, prospective, cross-sectional and qualitative approach. **Sample:** 206 patients with a diagnosis of arterial hypertension with more than 6 months of treatment and older than 30 years old men and women will be taken. **Instruments:** 3 instruments will be used, LSB-50, sociodemographic card, and Treatment Adherence Scale. **Statistical analysis:** a descriptive analysis of social disadvantages and risk of adherence will be carried out using frequencies, percentages and measures of central tendency. **Expected results:** We expect to identify and evaluate the psychopathological risks that most affect the patient's adherence to antihypertensive treatment and to improve their lifestyle.

Keywords:- Psychopathological Risks, Adherences to Treatment, Arterial Hypertension.

I. INTRODUCTION

Poor blood pressure control according to the recommendations of current clinical guidelines and the maximum range (<140/90 mm/Hg) is a persistent problem in the hypertensive population. 55% of patients with access to antihypertensive drug treatments do not achieve satisfactory control due to low adherence to treatment and is now considered an important factor in this discordance (1).

In Ecuador, the Ministry of Public Health has a model of comprehensive health care, however, patients are evaluated with care focused on the biopsychosocial part, where mental health is not considered, it is important a psychology consultation at the beginning and during the continuity of treatment, since changes in lifestyles generate emotional alterations in their mood losing interest in the meaning of life.

The Abdón Calderón Union Health Facility has a chronic club that allows us to evaluate and observe the general health status of patients on a monthly basis. Currently, there is evidence of poor control of blood pressures, where 3 patients during the period January-March 2020 have presented complications secondary to their disease such as acute myocardial infarction, although it is true that pharmacological treatment is a main indicator to maintain their pressure within normal parameters. However, it is important to take into consideration non-pharmacological treatment, which is aimed at improving lifestyle behavior that complements successful treatment.

There is also an increase in the number of patients with decompensated arterial hypertension, since during the exhaustive review of clinical records, blood pressure figures higher than 140/90mm/Hg are observed, which is an imminent indicator of non-adherence to the established antihypertensive treatment.

All these factors increase the costs of the health system, since poorly controlled chronic diseases end up with complications that require interventions or interconsultations by specialized professionals.

Currently, mental disorders have increased significantly in society, constituting a high rate of disability, triggering non-compliance and even abandonment of treatment, generating major problems for public health due to the characteristics of psychopathological diseases and the lack of empowerment in their self-care (2).

I have considered working on this problem, since a good therapeutic alliance improves the patient's behavior, increases life expectancy, decreases hospital admissions, relapses, deterioration, disability, and by maintaining control of the factors that generate poor adherence, the surrounding community benefits from mental health and the costs of the health system.

Justification

Globally, between 20 to 30% of the population over 18 years of age suffers from arterial hypertension and the figures are still rising, some authors indicate that 68% of the population over 60 years of age are more predisposed to contracting this pathology related to different conditioning factors. In the United States of America, the main cause of death are the complications associated with arterial hypertension, such as strokes and heart disease. In 2013, 360,000 people died, which indicates that there are 1,000 deaths per day. 75 million U.S. adults have AHT which represents 32% of the total population, this indicates that 1 in 3 people have a chronic non-communicable disease, of them 36 million patients have uncontrolled pressure (3). Worldwide, cardiovascular diseases are responsible for 17 million deaths per year, and 9.4 million are caused by the complications of arterial hypertension. Three countries, such as Canada, the United States and Cuba, have 35% control of hypertensive patients (4).

The United States of America, which accounts for about 10% of total health care expenditures in the world, estimated that in 2011 the annual direct health care costs attributable to poor blood pressure control were \$372 billion dollars, this burden that uncontrolled hypertension imposes on the health care system is too worrisome to overlook. Globally, only one in seven people with hypertension has controlled blood pressure (5).

The highest prevalence according to the World Organization and studies conducted in 2019 correspond to African countries with 27% and the lowest in the region of the Americas with 18% according to studies of 2015, currently 1,130 million suffer from HTN, unlike the year 1975 with 594 million, where the highest increase is evident in low-income countries and medium resolution, which is subject to higher risk factors (6).

In the National Health Survey (ENSANUT) in 2012 Ecuador has a prevalence of arterial hypertension between 18 to 59 years of age of 37.2%, being more frequent in men than in women (11.2% vs. 7.5%) (7). This chronic noncommunicable disease is modifiable, which implies working directly with the population on promotion and prevention.

In the province of Azuay in the city of Cuenca, about one eighth of the adult population has arterial hypertension, which is associated with the presence of central obesity, sedentary lifestyle, insulin resistance, hypercholesterolemia and hypertriglyceridemia, representing 11.28% of the total population between the ages of 15 and 49 years (8).

State of the art

The integral health teams work on compliance with the prescriptions made by the physician with the aim of maintaining healthy lifestyles and helping patients to enter the world of adherence, in the case of chronic diseases, especially hypertensive diseases that are difficult to adapt to, with repercussions from the medical, economic and psychosocial point of view, such as delays in recovery, relapses, the appearance of complications and giving an erroneous assessment of the effectiveness of the prescribed treatment (9).

Self-efficacy will help to modify various behaviors creating health domains ranging from chronic disease management (10), diet and eating behavior (11), physical activity, (12) sexual behavior, (13) tobacco and drug use, (14) weight reduction, (11) generate self-awareness to improve the line of treatment and avoid life-threatening complications in their health (15).

Arterial hypertension and adherence to treatment is a problem to maintain blood pressure figures within normal parameters, (16) intimately related to cardiac complications such as left ventricular hypertrophy and heart failure, (17) it is also associated with multiple structural changes of the cardiovascular apparatus, interrupting myocardial perfusion in extreme cases (18).

The WHO defines adherence to treatment as the degree of a person's behavior such as: taking medication, following a diet and making lifestyle changes (19). It also emphasizes that the percentage of adherence to treatment of patients with chronic diseases reaches 50% in developed countries, and that approximately 20% of the world's population suffers from HTN, while only between 3 and 34% of this group controls their blood pressure with antihypertensive treatment (20).

Nola Pender (21) indicates that human behavior is motivated to achieve wellbeing and to make decisions about health care, and despite the lack of familiarity with psychopathological diagnoses, most patients with disorders go to the primary care physician because they present physical symptoms such as insomnia, headache, fatigue, weight loss, which can be attributed to other concomitant diseases or related to a response mechanism in the face of poor adherence to treatment (22).

Dorothea Orem's theories in relation to self-care

A very prominent nurse of American origin and creator of many models with the aim of helping the individual to carry out and maintain self-care actions to preserve health and life, recover and overcome the consequences of the disease. To this end, it employs five technical methods: guiding, teaching, supporting, acting, and providing an environment for the development of responsible decisions (23).

Self-care deficit theory: Defined as a relationship between the demand for therapeutic self-care and the action of self-care of human properties in which the skills developed for self-care constitute the action (23).

Self-care theory: Activity learned by individuals themselves or their environment, oriented towards a goal, to regulate the factors that affect their development and functioning for the benefit of life, preserving their own health and well-being (23).

Universal self-care requirements: It refers to the conservation of environmental factors such as air, water, elimination, activity and rest, solitude and social interaction, risk prevention and interaction of human activity (24).

Therapeutic demand for self-care: It is a set of procedures constructed by people that represents the sum of self-care activities required by individuals (23). Self-care is given by 3 very important systems in the individual.

Fully compensatory system: The main compensatory role is performed for the patient, where the nurse takes charge of meeting the patient's universal self-care requirements until the patient can resume his or her own care or has learned to adapt to any disability (24).

Partially compensatory system: The nurse acts with a compensatory role, but the patient is much more involved in his own care and in a position to make decisions and take actions much more of his own, here there is not the same intensity of nursing intervention (24).

Educational support system: It is appropriate for the patient who is able to perform the necessary actions for self-care and can learn to adapt to new situations, which means encouraging him to any signs and symptoms he presents (25).

Nursing care from a psychosocial perspective

Nursing care was to deepen the care of the human being and his environment as an essential entity to preserve health, but it was necessary to understand human behavior not only in disease, but also from the psychosocial point of view as quality of life, adaptation to the environment and the development of resources to cope with different situations and achieve well-being (26).

There are three disciplines that give the name to psychosocial care

Nursing: A care from psychological factors such as feelings, emotions, attitudes and personality (26).

Psychology: Humanistic considers the person the most reliable source of knowledge regarding his or her own abilities, resources and characteristics (26). Sociology. It is based on sociocultural variables such as culture, society, groups, family, influence, leadership, but always from a global vision of the person in interaction with the environment (26), the more complex the treatment and its dosage, the more difficulties patients will have to comply with pharmacotherapy (27), nursing is the fundamental pillar in the recovery and stability of health (28).

Direct and indirect methods are used to measure the degree of therapeutic compliance; direct methods are used in hospitalized patients or patients under strict follow-up, measuring by quantifying the drug or one of its metabolites, while indirect methods are simpler and used in primary health care by means of a clinical interview, a thorough review of the patient's file or drug counting (29).

Epistemology of nursing science oriented to the biopsychosocial approach to care.

Philosophy that is in charge of the study of the belief in the philosophical development of how knowledge is generated throughout history, where it has been combining different strategies to collect knowledge based on the prevailing ideologies taken from tradition. (30) Nowadays, norms, ethical and deontological codes, various oaths have been created to establish the rights and duties of nursing professionals in relation to care and respecting the religious and legal space (31), creating specific competencies in prevention and care to achieve quality care that guarantees the best results (32).

Initially the nursing profession has had a biomedical-positivist vision, throughout history, along with professional development, it has been complementing holistic aspects of the care of the human being as a social entity, influenced by the contributions of the social sciences of constructivist cut (33) and the technical skills where it provides security and professional authenticity of nursing-patient (34).

Social historical contextualization of care at the first level of care.

There are three stages of evolution in order to strengthen the primary health care level: 1. Development of primary health care and initial forms of professional improvement, 2. Improvement of higher medical education in the national health system (35). It is said that the ambulatory medical assistance that provided care to the poorest population was also created by the Cuban governments since 1825, naming them as "casas de socorro" (emergency homes), which became the first model of primary health care in the country (35).

Primary health care was proposed in 1978 with the aim of guaranteeing access to universal health care; since then, it has undergone several changes in the policies of Latin American countries, focusing more and more on the most vulnerable population groups (36). Over time, the National Health Systems consider important the use of clinical practice guidelines, which should be applied within the provision process, so that medical professionals can provide quality and efficient care to patients with chronic diseases such as hypertension and diabetes mellitus in order to guarantee and monitor the care process and user satisfaction (37). Since a patient with a chronic disease requires continuous follow-up and treatment where integrated and specialized care is provided to avoid disability problems due to complications secondary to poor adherence to treatment and improve life expectancy (38), to finally achieve and respond to the crises of the same, with better and broader proposals and knowledge (39), awakening reflection on the

problem, helping in the implementation of strategies aimed at improving the culture of safety and assertive care in health (40).

Preventive approach to nursing care in the attention to psychopathological risks throughout the life cycle.

The great changes are present with the increase in technology and the social changes inherent in this era, imposing challenges for the nursing profession to maximize care with an integral focus on the individual and one of them is prevention from the community point of view, (41) determined by multiple factors that directly affect the health of the population (42). according to clinical trials have shown that the physician generally devotes little or no time in the consultation to assess adherence to treatment, it is advisable to assess adherence during the consultation by means of a validated questionnaire (43).

Preventive approach to nursing care in the attention to psychopathological risks throughout the life cycle.

There are patients who are subjected to jobs that represent a moderate physical effort where they consider that it is sufficient and beneficial for their health, but our body adapts to a set of external and internal changes that respond as one more function to our body, however, it is not enough, we need an extra dynamic activity to daily life to see positive results (44).

Clinical nursing follow-up of the hypertensive individual to achieve adherence to antihypertensive treatment.

In order to achieve a good clinical nursing follow-up, an active and voluntary participation of the patient is needed in a course with a mutually agreed behavior in order to produce a desired therapeutic result, since the lack of adherence to pharmacological treatment or therapeutic noncompliance is a prevalent and relevant problem in clinical practice, especially in the treatment of chronic diseases such as arterial hypertension (45). Human beings are a biological machine capable of understanding life in different ways and of controlling many emotions; however, we have different knowledge and skills developed with receptive channels, some more developed than others, adapting differently to the external physiological and physical changes of a collective environment (46).

General objective:

To determine the psychopathological risks associated with adherence to treatment in patients with arterial hypertension attending the Establecimiento de salud la Unión Abdón Calderón.

Specific objectives:

To identify the sociodemographic characteristics, psychopathological risks and adherence to antihypertensive treatment in the study population.

To describe sex, medication, physical activity, age and time of treatment according to the disease.

To establish relationships between psychopathological risk, adherence to treatment, fear of COVID-19, age, and time on treatment in patients with arterial hypertension.

To analyze whether there are differences between psychopathological risk, fear of COVID-19 and adherence to medication in patients according to pathological disease.

II. METHODOLOGY

Type of research

An experimental, descriptive-correlational, prospective, cross-sectional, quantitative approach, descriptive-correlational study was conducted.

Population

According to statistical data collected by the researcher, there are 1,900 patients with arterial hypertension in the health district 01D03, which corresponds to the establishment under investigation, including two cantons, Santa Isabel, Girón and 10 operating units. The parish of Abdón Calderón la Unión, where the study is being carried out, has 300 patients with arterial hypertension, representing 2.15% (6,469 inhabitants) of the total population.

Sample

The present study was carried out with patients with a diagnosis of arterial hypertension. The universe was calculated using the EPIDAT 4.1 computer program, according to the following parameters: a) Population size= 300 patients b) Expected proportion= 50% c) Confidence level= 99% d) Accuracy= 5%. The sample consisted of 208 patients with a diagnosis of arterial hypertension who attended the Unión Abdón Calderón health facility.

Inclusion criteria

All male and female patients with a diagnosis of arterial hypertension over 30 years of age who have been under treatment, either single or combined, for more than 6 months, and their authorization of informed consent were taken into account.

Exclusion criteria

Patients under 30 years of age, with a diagnosis of less than 6 months, patients with psychological disorders, intellectual, hearing or physical disability, patients over 80 years of age and those who did not agree to participate in the study were not considered.

Instruments

Sociodemographic surveys: Patient identification data was collected for the respective analysis: age, sex, education, ethnicity, religion, marital status, residence, pathological family history, pathological diseases, time of treatment, medication, family structure, family relationship, occupation, and whether or not he/she is physically active.

Brief Symptom Checklist (LSB-50): This second edition manual of individual and collective application for adults was used, with the purpose of quickly obtaining clinical information and identifying and assessing psychological and psychosomatic signs and symptoms that intervene in the personal behavior and social environment of the outpatient, created by Rivera and Abuin, in Madrid in 2018, with an application duration between 5 to 10 minutes (47).

The LSB-50 has two validity scales to collect information on possible psychopathological disorders of increasing or minimizing responses, the Min scale (minimization) and the Mag scale (magnification), the 8 items of the Min scale include a set of symptoms that usually appear with a frequency greater than 50% in the general population sample (48). Regarding internal consistency, values above 0.8 were found for the internal consistency of psychopathological risks (LSB-50) using Cronbach's alpha, see Table 1.

Table 1:- Analyzing the internal consistency of the psychopathological risks (LSB-50) using Cronbach's alpha.

Scale/index	Cronbach's alpha
Minimization	0,89
magnification	0,88
Psycho reactivity	0,89
Hypersensitivity	0,87
Obsessive Compulsion	0,88
Anxiety	0,9
Hostility	0,88
Somatization	0,87
Depression	0,87
Sleep disturbance	0,88
Extended sleep disturbances	0,89
Pathological risk index	0,87
GLOBAL	0,89

Within the internal consistency of the psychopathological risks, Cronbach's alpha in relation to all 12 subscales is higher than 0.8, which indicates a reliable scale with good validity.

It is also possible to obtain 3 Global indices that measure the frequency and intensity of psychopathological damage:

1. Global severity index: Assesses the intensity of psychic and psychosomatic suffering at the global level of the person being evaluated.
2. Number of symptoms present: Indicates how many symptoms the patient suffers, informing the extent and amplitude of psychopathological manifestations.
3. Symptom intensity index: helps us to assess the average intensity of the symptoms reported by the patient (47).

The LSB-50 was carefully designed to overcome those difficulties found in the previously used SCL-90-R that does not respond to the specific needs of researchers and clinicians within psychosomatic analysis, this instrument includes a linguistic adjustment and the addition of a new clinical scale for the evaluation of sleep-related symptoms based on the Diagnostic and Statistical Manual of Mental Disorders, giving relevance to sleep-related disorders, in addition to its high comorbidity with other psychopathological symptoms (49).

Morisky scale of medication adherence: This instrument allowed us to measure by means of 8 key questions the specific behaviors and degree of adherence associated with medication intake, whose response alternatives are never, sometimes, almost always, and always, adherence is

determined according to its score, classifying patients with 8 points as adherent and non-adherent with scores below 8. The sensitivity and specificity values of the MMAS-8 scale indicate that it allows us to detect patients who are not adherent to following their drug treatment, while its specificity indicates that it is an instrument that allows us to moderately detect patients who comply with the indications related to the intake of drugs (50).

The validation of this instrument was translated into Spanish by the author of the MMAS-8, to ensure and adapt measures of adherence in Colombian patients with chronic kidney disease, preserving the same metric properties as the English version, submitted to expert judgment following the Delphi method, experts were selected to act as judges, the selection was made taking into account academic training and experience related to drug-therapeutic follow-up processes and management of patients with chronic kidney disease, the score obtained when applying the MMAS-8 scale as high adherence when it obtained 8 points, medium if it obtained 6 or 7 points, and low if it obtained 5 points or less (51).

Procedure

The respective permission was managed to the director of district 01D03 Girón - Santa Isabel health for the research procedure, then the approval is received by the Bioethics committee of the Catholic University of Cuenca, prior to having the required permissions a virtual meeting was held with the District Director 01D03 and the representative of the Club of Chronic with Arterial Hypertension belonging to

the health establishment the Union Abdón Calderón, The people who decided to participate in the research signed the informed consent form prior to filling out the socio-demographic survey, the List of Brief Symptoms (LSB-50) and the Morisky scale of medication adherence; The application of the data collection techniques was carried out in person, taking into account biosafety measures, by means of home visits that were previously accepted by telephone. The data of each subject, in rows, only have an identifying code number; in no case were names, surnames, ID card numbers or e-mail addresses recorded; therefore, the subjects cannot be identified.

Ethical considerations

Care for monthly control and follow-up of patients with chronic noncommunicable diseases is provided at the primary health care level, where nursing is the first contact to assess the state of their health and discover possible complications to be faced, whether physical or emotional, assessing their social determinants such as: biological, cultural, environmental and social.

The present study will be carried out with the purpose of assessing the psychopathological risks in patients suffering from arterial hypertension, and their degree of adherence to antihypertensive medication without threatening the integrity of the participants, with total confidentiality of the information collected, and for the exclusive use of the research, based on ethical principles of autonomy, beneficence, no bad efficiency, justice, the respect of accepting or not to be part of the research

validating with the signature of the informed consent (Annex 2). Under no circumstances will the participants receive any economic contribution, and they are free to leave the study at any time they wish.

The researcher alone will be in charge of the collection, interpretation, analysis and transcription of the information, assuring the confidentiality of each participant.

Statistical analysis

A descriptive analysis was performed using frequencies percentages and measures of central tendency, for the identification of sociodemographic characteristics and psychopathological risks, and adherence to antihypertensive treatment. Subsequently, a normality test was performed using Shapiro-Wilk, where parametric assumptions were obtained. Therefore, Pearson's r test was used to establish relationships between psychopathological risk, adherence to treatment, fear of COVID-19, age and time of treatment in patients with arterial hypertension, then a homocedasticity test was performed for the dependent variables (psychopathological risks, fear of COVID-19 and adherence to treatment) according to each of the independent variables (pathological diseases), and parametric assumptions were obtained. Therefore, for the analysis of mean differences of two groups the t-test for independent samples is used and for three groups or more the ANOVA statistical test is applied. The aforementioned analyses were performed using the Infostat statistical program and SPSS version 26.

III. RESULTS

Table 2. Univariate descriptive analysis of sociodemographic characteristic and medical history using absolute and relative frequencies.

		f	%
Sex	Male	74	35,6
	Female	134	64,4
Education	Cannot read or write	24	11,5
	Primary education	94	45,2
	School graduate	74	35,6
	Vocational training (intermediate level)	1	0,5
	Baccalaureate	8	3,8
	University student	1	0,5
	Third level	6	2,9
Ethnicity	Mestizo	205	98,6
	White	2	1,0
	Indigenous	1	0,5
Religion	Catholic	197	94,7
	Christian	5	2,4
	Evangelical	5	2,4
	Jehovah's Witness	1	0,5
Marital Status	Married	137	65,9
	Unmarried	8	3,8
	Widowed	25	12,0
	Divorced	17	8,2
	Single	21	10,1
Residence	Urban	50	24,0

	Rural	158	76,0
Family History Pathological	T2DM	18	8,7
	HTA	57	27,4
	T2DM/HTA	24	11,5
	None	109	52,4
Pathological diseases	HTM	174	83,7
	T2DM/HTA	34	16,3
Medication	Losartan	141	67,8
	Enalapril	50	24,0
	Losartan and Amlodipine	9	4,3
	Amlodipine	8	3,8
Family Structure	Functional	175	84,1
	Dysfunctional	33	15,9
Family Relationship	Good	190	91,3
	Fair	18	8,7
Occupation	Home	146	70,2
	Employee	23	11,1
	Retired	8	3,8
	Own Business	31	14,9
Physical Activity	Yes	56	26,9
	No	152	73,1
	Total	208	100

Table 2 shows that 134 patients of the sample studied were female (64.4%) in relation to men (35.6%); according to education, 42.% had primary education, and 11.5% of the total population had no education, of whom 98.6% were of mixed ethnicity, 94.7% were Catholics and 65.9% were married, and 76% of the population lived in a rural area, According to their family history, 52.4% have no pathologies, 27.4% have direct relatives who suffer from hypertension, and 11.5% have relatives with two chronic diseases such as hypertension and T2DM, of whom 83.7% suffer from a single pathology such as hypertension, and 16.3% have T2DM. The main antihypertensive treatment for

this group is Losartan covering 67.8%, followed by Enalapril with 24%.

Something very important in the target population is that a very high figure of 84.1% is formed by a functional family, with respect to the family relationship, 91.3% have a good family relationship and 8.7% have a regular relationship. A high number of patients (146) with hypertension remain at home (70.2%) and only 29.8% have a job, either their own or private, something that is striking among these patients is that 152 (73.15) do not engage in physical activity.

Table 3. Measures of central tendency, measures of position and measures of dispersion of psychopathological risk.

	<i>m</i>	<i>md</i>	<i>DE</i>	<i>Variance</i>	<i>Range</i>	<i>Mí</i>	<i>Máx</i>	<i>Percentiles</i>		
								25	50	75
Minimization	10,29	9,00	7,209	51,974	32	0	32	5,00	9,00	15,00
Magnification	8,01	5,00	7,560	57,154	32	0	32	2,00	5,00	11,75
Psychoreactivity	17,71	15,00	12,121	146,921	56	0	56	8,00	15,00	25,00
Hypersensitivity	7,71	6,00	6,775	45,897	28	0	28	2,00	6,00	12,00
Obsessive compulsive	10,00	10,00	6,035	36,425	28	0	28	5,00	10,00	14,00
Anxiety	9,37	7,00	8,539	72,909	36	0	36	3,00	7,00	13,75
Hostility	6,39	4,00	5,819	33,863	24	0	24	2,00	4,00	10,00
Somatization	7,75	6,00	6,337	40,152	28	0	28	3,00	6,00	11,75
Depression	11,39	8,00	9,275	86,027	40	0	40	5,00	8,00	17,00
sleep disturbances	3,78	3,00	3,118	9,719	12	0	12	1,00	3,00	6,00
extended sleep disturbances	8,47	7,00	6,341	40,211	28	0	28	4,00	7,00	13,00
Pathological risk index	13,15	9,50	12,340	152,282	52	0	52	4,00	9,50	18,75

According to the psychopathological risk and the trends of central measures, position and dispersion, a range of 12 people in the population present sleep disturbances, with a pathological risk index.

Table 4. Summary measures of medication adherence and fear of coronavirus.

	Medication adherence	Fear of Covid-19
Range	19,00	26,00
minimum	0,00	7,00
maximum	19,00	33,00
m	3,8381	16,9524
S.D	2,30092	5,33452
Variance	5,294	28,457

Table 4 analyzes adherence to treatment, where there is a maximum range of 19% adherence and a maximum range of 33% who are afraid of Covid-19, with a variance between the two of 5.25 in relation to medication and 28.457% in relation to fear.

Table 5. Summary measures of quantitative variables (age and treatment time) according to disease pathology.

			Edad	Tiempo de tratamiento
<i>Pathological diseases</i>	Arterial Hypertension	m	63,71	8,78
		md	64,00	7,00
		DE	11,388	6,090
		Range	59	33
		Mín	21	0
		Máx	80	33
	Diabetes Mellitus and Arterial Hypertension	m	67,21	10,09
		md	67,00	9,50
		DE	8,033	5,113
		Range	27	21
		Mín	52	2
		Máx	79	23

In Table 4, the population with essential arterial hypertension has a mean age of 64 years and a treatment time of 7 years, in contrast to patients with two pathologies Diabetes mellitus plus arterial hypertension, with a mean age range of 67 years and a treatment time of 9.5 years.

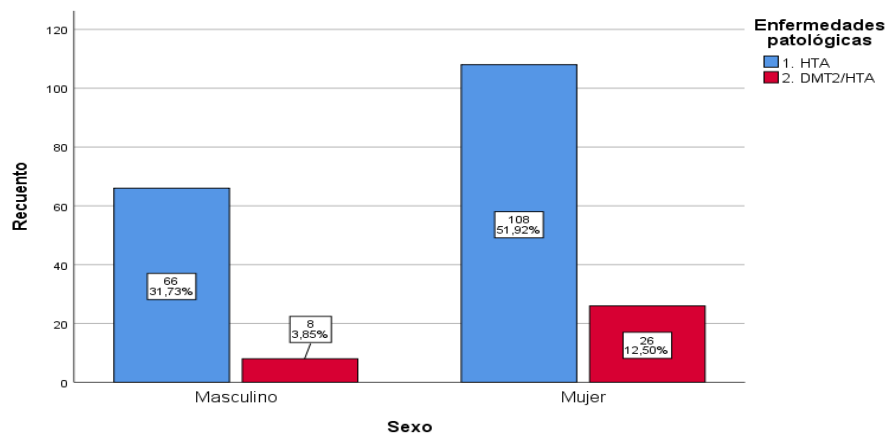


Figure 1. Pathological diseases according to sex.

This figure shows that patients with essential arterial hypertension are more prevalent in the female sex with a percentage of 51.92%, as opposed to the male sex with 31.73%.

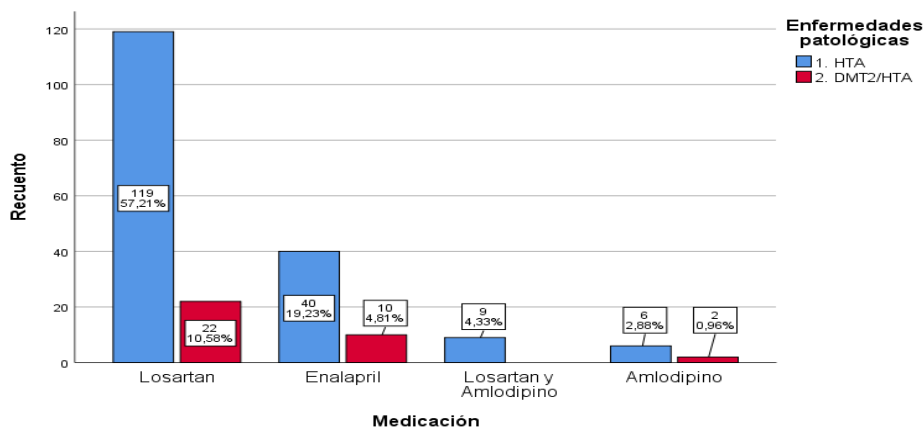


Figure 2. Pathological diseases according to medication.

In Figure 2, we found that 57.21% of the patients studied are treated with an antihypertensive angiotensin II receptor antagonists (ARA-II- Losartan), followed by an angiotensin converting enzyme inhibitor (ACE inhibitor- Enalapril) with 19.23%, and 4.33% corresponds to patients suffering only from arterial hypertension with a combined treatment of (Losartan-Amlodipine), and a minimal population is treated with a beta-blocker (Losartan-Amlodipine), 23%, and 4.33% corresponds to patients suffering only from arterial hypertension with a combined treatment of (Losartan-Amlodipine), and a minimal population is treated with a Beta-blocker such as Amlodipine (2.88%).

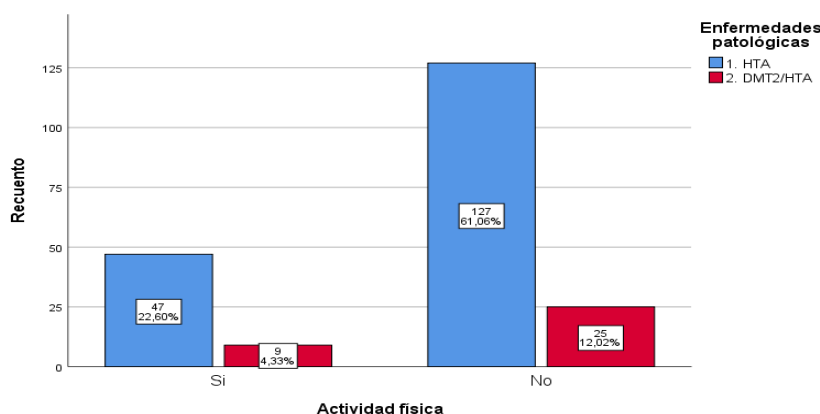


Figure 3. Pathological diseases according to physical activity.

Of the total population (208) suffering from essential arterial hypertension, 61.06% (147) patients do not engage in physical activity, while 47 (22.06%) perform different physical activities that complement a non-pharmacological treatment for a patient with chronic pathology.

Table 6. Relationships between psychopathological risk, adherence to treatment, fear of COVID-19, age and time on treatment in patients with arterial hypertension.

Pearson's correlation	Fear of Covid-19	Medication adherence	Age	Treatment time	Psychopathological Risk
Fear of Covid-19	1	,140*	0,115	0,041	,183**
		0,043	0,098	0,552	0,008
Medication adherence	,140*	1	-,160*	-0,093	,324**
	0,043		0,021	0,180	0,000
Age	0,115	-,160*	1	,346**	-0,135
	0,098	0,021		0,000	0,052
Time on treatment	0,041	-0,093	,346**	1	-0,037
	0,552	0,180	0,000		0,600

Note: the value of p is those in bold italics.

*. The correlation is significant at the 0.05 level..

**.. The correlation is significant at the 0.01 level.

During the investigation, it can be observed that patients with a diagnosis of arterial hypertension in the Abdón Calderón la Unión parish have a significant psychopathological risk in relation to the time of treatment (0.600) and age (0.52).

Table 7. Mean differences between psychopathological risks, fear of covid-19 and medication adherence in patients according to pathological condition, using Student's t-test (parametric).

	<i>HTA</i>	<i>DMT2</i>			
	m		gl	T	<i>p</i>
Medication adherence	3,83	3,65	83	0,63	0,5278
Fear of Covid-19	16,52	19,18	85	-3,93	0,0002
Psychopathological risk	13,9	7,41	192	4,28	0,0001

According to this table, it is evident that the psychopathological risks present maximum values in relation to adherence to treatment with a range according to the parametric test of 0.5278 and the T-test with a value of 0.63.

IV. DISCUSSION

The study population has a high percentage of women, where 42% of the population has primary education and 11.5% cannot read or write, illiteracy is a worldwide problem that cannot be overcome to date, most of them belong to rural areas, leading a functional family and with a good family relationship, Within the non-pharmacological treatment, physical activity is an essential factor to maintain weight, blood pressure and mood of these patients within normal parameters essential for their health, it was found that the population does not meet this requirement since 152 of them prefer not to do it. Some studies indicate that low levels of education and income, inadequate doctor-patient relationship and high level of emotional stress directly interfere with adherence to treatment (1). Of the hypertensive patients evaluated, 70.2% remain at home, which indicates that they do not have an economic income and depend on their relatives for their survival.

The psychopathological risks are notorious since they report that they present sleep disturbances either to reconcile it or interrupt it in the middle of the night, preventing the necessary rest that each patient should fulfill, when these factors exist, it is discovered that there is poor adherence to antihypertensive treatment, many of them due to lack of interest, carelessness, low economic resources, and because they are afraid of covid-19 preferring not to go to a health establishment where they withdraw their monthly medication. They also indicate that external factors can affect the mental health, mood, behavior and thinking of individuals, altering the subject's ability to function normally (2).

Patients with essential arterial hypertension are more prevalent in the female sex with a percentage of 51.92%, of whom 22.06% are engaged in some type of physical activity, whether passive or active, in an attempt to lead a healthy lifestyle and improve their non-pharmacological therapeutic adherence. Latin American studies that have analyzed adherence in hypertensive patients and its relationship with sports activity conclude that physical activity improves adherence to treatment (9).

Patients suffering from a single pathology such as essential hypertension are between an average age of 64 years with a treatment range of 7 years, while those suffering from two chronic diseases such as hypertension-DMT2 are between 67 years with a treatment time of 9.5 years. This population of patients being young older adults. Studies carried out in Cuba in 2017 show us that the prevalence of arterial hypertension has a predominance of the female sex and among the age groups 60-64, 65 and over (3), which coincide with the study carried out.

The results show that the more years of treatment, the greater the psychopathological damage in the chronic population, likewise adherence to treatment decreases according to age, the younger the patient is, the better the adherence to antihypertensive treatments, since dealing with the day to day creates discomfort and emotional discomfort, they report that family support and a good relationship is a very indispensable pillar of support in daily life, making the medication intake be compensated in the course of the day and not vary much from one intake to another.

In relation to objective 4, it is evident that psychopathological risks in patients with a chronic disease are closely related to medication adherence, where those who suffer only from AHT are the most affected, patients with fear of covid-19 who suffer from two pathologies together are the most at risk for suffering some disorder or complication of their mental health. A study conducted in Madrid in 2018 in a general population found 2 factors as stress producers in a patient with a chronic disease 1. emotional issues 2. external influences in patients with chronic diseases related to interpersonal situations, competitive demands and internal feelings (11).

V. CONCLUSIONS

During the research process it has been found that there is a great psychopathological risk of patients with chronic diseases such as hypertension in relation to adherence to treatment, according to their age, the time of suffering and poor family relationship, directly influencing their mood and worsening adherence to pharmacological and non-pharmacological treatments of the individual, this is where the work of nursing at the primary level in health facilities begin to be a key pillar to improve these health problems that are preventable, where a continuous follow-up should be provided, integrating the community and the

family of their environment, providing continuous, clear and precise advice in each consultation, focused on self-care and the possible serious side effects that these patients could have throughout their lives, since they are chronic degenerative diseases that damage certain very important target organs, taking care of the patient's mental health is to keep them connected with their functional organic axis.

REFERENCES

- [1]. Chacon J, Sandoval D, Muñoz R, Romero T. Evaluation of blood pressure control and therapeutic adherence in hypertensive patients followed in the Cardiovascular Health Program (PSCV). *Rev Chil Cardiol.* 2015 [cited Jan 11, 2021]; 34(1): 18-27. Available from: <https://scielo.onicyt.cl/pdf/rchcardiol/v34n1/art02.pdf>
- [2]. Gallego I. Adherence to treatment and complications in psychiatric patients (Thesis). Cantabria: Faculty of Nursing of the University of La Rioja. [cited 2021 Jan. 11, 2021]; Available from: <https://repositorio.unican.es/xmlui/bitstream/handle/10902/16518/RuizRoldanRaquel.pdf?sequence=1&isAllowed=y>
- [3]. Prince JCA, Salabert I, Salabert IA, Morales M, García D, Acosta A. Arterial hypertension: an international health problem. *Rev. Med. Electron.* [Internet]. 2017 [cited Jan 11, 2021]; 39(4): 987-994. Available from: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1684-18242017000400013&lng=es
- [4]. World Health Organization (WHO). Global hypertension overview [Internet]. a disease that kills in silence, a global public health crisis. 2013 [cited 2013 Jan 15, 2021]. Available from: https://www.who.int/cardiovascular_diseases/publications/global_brief_hypertension/es/
- [5]. Patel P, Ordunez P, DiPette D, Escobar M, Hassell T, Wyss F, et al. Improved Blood Pressure Control to Reduce Cardiovascular Disease Morbidity and Mortality: The Standardized Hypertension Treatment and Prevention Project. *Rev. panamericana de salud pública.* 2017 [citado 15 de enero de 2021]; 41(1). Available in: <https://iris.paho.org/handle/10665.2/34004?locale-attribute=es>. DOI: 10.1111/jch.12861
- [6]. World Health Organization (WHO). Hypertension. [internet]. 2019 [cited January 15, 2021]. Available from: <https://www.who.int/es/news-room/factsheets/detail/hypertension>
- [7]. Ministry of Public Health (MSP). Arterial hypertension. [internet]. Clinical Practice Guidelines (CPG). Quito, Ecuador. 2019 [cited 2021 Jan 15] Available from: https://www.salud.gob.ec/wp-content/uploads/2019/06/gpc_hta192019.pdf
- [8]. Peña S, Espinosa H, Torres C, Mora G, Vélez P, Vásquez G. Arterial hypotension in the urban population of Cuenca-Ecuador, 2016. Prevalence and associated factors. *Rev. Latin. of hypert.* 2018 [cited Jan 12, 2021]; 13(2): 73-77. Available from: http://www.revhipertension.com/rlh_2_2018/11_hipertension_arterial_en_la_poblacion.pdf
- [9]. Mena FC, Nazar G, Mendoza S. Antecedents of adherence to treatment in hypertensive patients in a Chilean health center. *Towards Promoc. Health.* 2018 [cited Jan 12, 2021]; 23(2): 67-78. Available from: <http://www.scielo.org.co/pdf/hpsal/v23n2/0121-7577-hpsal-23-02-00067.pdf>
- [10]. Carpi A, Zhurriaga R, Gonzalez P, Marzo J, Habraham PB. Self-efficacy and perceived control in the prevention of cardiovascular disease. *Universitas Psychologica.* 2010 [cited Jan 12, 2021]; 9(2): 423-432. Available from: <http://pepsic.bvsalud.org/pdf/up/v9n2/v9n2a10.pdf>
- [11]. Garcia-Silva G, Peralta-Ramirez MI, Navarrete N, Silva-Silva D, Caballo VE. Validity and reliability of the self-efficacy scale for physical exercise in patients with metabolic syndrome. *Rev Esp de Sal Públ.* 2018 [cited Jan 12, 2021]; 92: 11-21. Available from: http://scielo.isciii.es/scielo.php?pid=S1135-57272018000100420&script=sci_arttext&tlng=en
- [12]. Koring M, Richert J, Lippke S, Parschau L, Reuter T, Schwarzer R. Synergistic effects of planning and self-efficacy on physical activity. *Health Education & Be.* 2012 [cited January 12, 2021]; 39(2): 152-8. Available from: <https://pubmed.ncbi.nlm.nih.gov/22167316/>
- [13]. Heeren G, Jemmott J, Ngwane Z, Mandeya A, Tyler J. A Randomized Controlled Pilot Study of an HIV Risk-Reduction Intervention for Sub-Saharan African University Students. *AIDS and Behavior.* 2013 [cited January 12, 2021]; 17(3): 1105-1115. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3401634/pdf/nihms353192.pdf>
- [14]. Hughes JR, Naud S. Perceived role of motivation and self-efficacy in smoking cessation: A secondary data analysis. *Addictive Behaviors.* 2017 [cited 2021 Jan 12]; 61: 58-61. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4943656/>
- [15]. Olivari C, Urra E. Self-efficacy and Health Behaviors. *Science and Nursing.* 2007 [cited January 12, 2021]; 13(1): p. 9-15. Available from: <https://www.redalyc.org/pdf/3704/370441794002.pdf>
- [16]. Herrera E. Adherence to treatment in people with arterial hypertension. *Towards health promotion.* 2018 [cited January 12, 2021]; 23(2): 67-78. Available from: <http://www.scielo.org.co/pdf/aven/v30n2/v30n2a06.pdf>
- [17]. Gomez E, Buchholz C, Muller O, Otero G. Inhibition of left ventricular hypertrophy, normalization of cardiac contractile response and oxidative stress in experimental hypertension. *Revista Argentina de Cardiología.* 2015 [cited January 12, 2021]; 83(1): 14-20. Available from: https://ri.conicet.gov.ar/bitstream/handle/11336/7907/CONICET_Digital_Nro.9934.pdf?sequence=1&isAllowed=y
- [18]. Santana TN, Rodriguez R, Monteagudo A, Aguila A. Anatomofunctional modifications of the left ventricle in the hypertensive patient. *Revista Archivo Médico de Camaguey.* 2007 [cited January 12, 2021]; 15(1): 1-10.

- Available at:
http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1025-02552011000100005&lng=pt&nrm=iso&tlng=en
- [19]. Lopez-Romero L, Romero-Guevara S, Parra D, Rojas-Sánchez L. Adherence to treatment: concept and measurement. *Towards prom. health.* 2016 [cited 2016 Jan 12, 2021]; 21(1): 117-137. Available from: <http://www.scielo.org.co/pdf/hpsal/v21n1/v21n1a10.pdf>
- [20]. Castrillon-spitia J, Franco-Hurtado A, Garrido-Hernandez C, Jaramillo-Patiño J, Londoño-Moncada M, Machado-Alba J. Use of antihypertensive drugs, effectiveness and clinical inertia in patients. *Colombian Journal of Cardiology.* 2018 [cited Jan 12, 2021]; 25(4): 249-256. Available from: <https://www.elsevier.es/es-revista-revista-colombiana-cardiologia-203-pdf-S0120563318300263>
- [21]. Aristizabal GP, Blanco DM, Sanchez A, Ostiguin RM. Nola Pender's model of health promotion: a reflection on its understanding. *Enfermeria Universitaria.* 2011 [cited January 12, 2021]; 8(4): 16-23. Available from: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1665-70632011000400003
- [22]. Martin M, Perez R, Riquelme A. Diagnostic value of the Goldberg Anxiety and Depression Scale (EAD-G) in Cuban adults. *Universitas Psychologica.* 2016 [cited 2016 Jan 12, 2021]; 15(1): 177-192. Available from: <http://www.scielo.org.co/pdf/rups/v15n1/v15n1a14.pdf>
- [23]. Navarro Y, Castro M. Dorothea Orem's model applied to a community group through the nursing process. *Enferm. glob.* 2010 [cited Jan 12, 2021]; (19) p. 1-14. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1695-61412010000200004
- [24]. Naranjo Y, Concepción J, Rodríguez M. The Self-care deficit theory: Dorothea Elizabeth Orem. 2017 [cited January 12, 2021]; 19(3): 89-100. Available from: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1608-89212017000300009
- [25]. Prado L, Gonzalez M, Paz N, Romero K. Self-care deficit theory: Dorothea Orem starting point for quality of care. *Rev. Med. Electron.* 2014 [cited Jan 15, 2021]; 36(6): 835-845. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1684-18242014000600004&lng=es&nrm=iso
- [26]. Carbelo B, Romero M, Casas F, Ruiz T, Rodríguez S. Caregiving from a psychosocial perspective. *Culture of care.* 1997 [cited January 15, 2021]; (2): 54-59. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1684-18242014000600004&lng=es&nrm=iso
- [27]. Pedroza GA, Sanchez LE, Lozano s, Munguía S, Beltrán L, Ferrer JG, Medina R, et al. Evaluation of the EFD-66 Scale as a tool to predict adherence to treatment in patients with chronic noncommunicable diseases. *Pan American Journal of Public Health.* 2018 [cited January 12, 2021]; 41(113): 11-21. Available from: <https://iris.paho.org/handle/10665.2/34440?locale-attribute=es>
- [28]. Rosas-Chavez G, Romero-Visurraga G, Ramire-Guardia E, Malaga G. The degree of health literacy and adherence to treatment in patients with arterial hypertension in a national hospital in Lima, Peru. *Peruvian Journal of Experimental Medicine and Public Health.* 2019 [cited Jan 12, 2021]; 36(2): 214. Available from: <https://www.scielosp.org/article/rpmesp/2019.v36n2/214-221/>
- [29]. Aid J. Adherence to antihypertensive treatment in outpatients in an urban hospital. *Rev. Virtual Soc. Medicine.* 2015 [cited 2015 Jan 15, 2021]; 2(2): 43-51. Available from: http://scielo.iics.una.py/scielo.php?pid=S2312-38932015000200005&script=sci_abstract&tlng=es
- [30]. Seguel-Palma FA, Valenzuela-Suazo S, Sanhueza-Alvarado O. Positivist epistemological current and its influence on the generation of knowledge in nursing. *Aquichan.* 2012 [cited 2021 Jan 15]; 12(2): 160-168. Available from: http://www.scielo.org.co/scielo.php?pid=S1657-59972012000200007&script=sci_abstract&tlng=es
- [31]. Lescaille M, Apao J, Reyes MA, Alfonso M. Etiology of Florence Nightingale's thought. *Rev haban cienc med.* 2013 [cited 2021 Jan 15]; 12(4): 688-696. Available from: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1729-519X2013000400021
- [32]. Martínez-Santos Alba-Elena, Tizón E, Pesado JA. Nursing knowledge on prevention, diagnosis and care of lower extremity ulcers in a health area. *Gerokomos.* 2019 [cited 2021 Jan 15]; 30(1): 34-41. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1134-928X2019000100034
- [33]. Mosqueda-Díaz A, Vílchez-Barboza V, Valenzuela-Suazo S, Sanhueza-Alvarado O. Critical theory and its contribution to the nursing discipline. *Invest Educ Enferm.* 2014 [cited Jan 15, 2021]; 32(2): 356-63. Available from: http://www.scielo.org.co/scielo.php?pid=S012053072014000200018&script=sci_arttext&tlng=es
- [34]. Sánchez J, Aguayo C, Galdames M. Development of nursing knowledge, in search of professional care. Relationship with the critical theory. *Cuban Journal of Nursing.* 2017 [cited 2021 Jan 15]; 33(3). Available from: <http://www.revenfermeria.sld.cu/index.php/enf/article/view/2091>
- [35]. Cáceres A, Cruz SS. Historical evolution of Primary Health Care and its impact on professional improvement. *MEDISAN.* 2010 [cited 2021 Jan 15]; 14(9): 1029-3019. Available from: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1029-30192010000900020&lng=en&nrm=iso&tlng=es
- [36]. Ase I, Buriyovich J. The Primary Health Care strategy: progressivity or regressivity in the right to health? *Salud Colectiva.* 2009 [cited 2021 Jan 15]; 5(1): 27-47. Available from: <https://www.redalyc.org/pdf/731/73111117003.pdf>

- [37]. Poblano-Verástegui O, Vieyra-Romero W, Galván-García A, Fernández-Elorriaga M, Rodríguez-Martínez A, Saturno-Hernández P. Quality and compliance with clinical practice guidelines for chronic noncommunicable diseases at the first level. *Public Health Mex.* 2017 [cited Jan 15, 2021]; 59(2): 165-175. Available from: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0036-36342017000200165
- [38]. Espallargues M, Serra-Sutton V, Solans-Domènech M, Torrente E, Moharra M, Benítez D, et al. Development of a conceptual framework for the evaluation of chronicity care in the National Health System. *Rev Esp Public Health.* 2016 [cited 2016 Jan 15, 2021]; 90. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1135-57272016000100302
- [39]. Daza LA, Ladino LE. Nursing: Normal Science or Revolutionary Science? *Nursing univ.* 2018 [cited Jan 12, 2021]; 15(2): 184-198. Available from: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1665-70632018000200184
- [40]. Kalckmann S, Campos AR, Borges F, Crozeta K, Peres AM, Assis F. Patient safety culture: assessment of nurses in primary health care. *Global Nursing.* 2019 [cited 2021 Jan 15]; 18(4): p. 387-397. Available from: <https://revistas.um.es/eglobal/article/view/352261/272241>
- [41]. Dandicourt TC. El cuidado de enfermería con enfoque en la comunidad. *Revista Cubana de Medicina General Integral.* 2018 [citado 14 de enero de 2021]; 34(1): p. 55-62. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21252018000100007
- [42]. Pasarín MI, Díez E. Community health: a necessary action. *Gaceta Sanitaria.* 2013 [cited January 14, 2021]; 27(6): 477-478. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S0213-91112013000600001
- [43]. Sabio R. Arterial hypertension and adherence to treatment: the gap between clinical trials and reality. *Revista Cubana Salud Pública.* 2018 [cited 2021 Jan 14]; 44(3). Available from: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-34662018000300017
- [44]. Quiroz-Mora C, Diana M, Serrato-Ramírez D, Bergonzoli-Peláez G. Factors associated with adherence to physical activity in patients with chronic noncommunicable diseases. *Journal of Public Health.* 2018 [cited Jan 14, 2021]; 20(4): 460-464. Available from: <https://scielosp.org/pdf/rsap/2018.v20n4/460-464/es> Pérez E, Soler YM, Morales L. Therapeutic adherence and beliefs about their health in hypertensive patients. *MEDISAN.* 2016 [cited 2016 Jan 14, 2021]; 20(1). Available from: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1029-30192016000100002
- [45]. Escobar-Castellanos B, Cid-Henriquez P. Nursing care derived from technological advances in health care. *Acta Bioeth.* 2018 [cited 2021 Jan 14]; 24(1): 39-46. Available from: https://scielo.conicyt.cl/scielo.php?script=sci_abstract&pid=S1726-569X2018000100039&lng=es&nrm=iso
- [46]. Rivera L, Abuín M. LSB-50, Listado de sintomas breves. TEA Ediciones. 2018 [cited January 14, 2021]; 25(2): 131-141. Available from: <http://web.teaediciones.com/LSB-50--Listado-de-Sintomas-Breve.aspx>
- [47]. Abuín M, Rivera L. The measurement of psychological and psychosomatic symptoms: the Symptom Checklist. *Clinica y Salud.* 2014 [cited Jan 14, 2021]; 25(2): 131-141. Available from: <https://www.redalyc.org/pdf/1806/180631191007.pdf>
- [48]. Iglesia G, Beatriz J, Castro A, Fernández-Liporace M, Fernández-Liporace M. Construct validity of the LSB-50 in Argentine adults: cross-validation and factorial invariance. *Acción psicológica.* 2015 [cited January 14, 2021]; 12(2): p. 43-58. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1578-908X2015000200004
- [49]. Valencia-Monsalvez F, Mendoza-Parra F, Luengo-Machuca L. Evaluation of the Morisky scale of medication adherence (mmas-8) in older adults in a primary care center in Chile. *National Institute of Health.* 2017 [cited January 14, 2021]; 34(2): p. 245-249. Available from: <https://rpmesp.ins.gob.pe/index.php/rpmesp/article/view/2206/2768>
- [50]. Chavez NM, Echeverri JE, Ballesteros DA, Quijano J, Camacho D. Validation of the 8-item Morisky scale in patients with chronic kidney disease. *Revista med.* 2016 [cited Jan 14, 2021]; 24(2): 23-32. Available from: http://www.scielo.org.co/scielo.php?pid=S0121-52562016000200003&script=sci_abstract&tlng=es
- [51]. Martínez-Santos Alba-Elena, Tizón E, Pesado JA. Nursing knowledge on prevention, diagnosis and care of lower extremity ulcers in a health area. 2019 [cited January 12, 2021]; 30(1): 34-41. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1134-928X2019000100034