Nursing Care through ICTs in Hypertensive Teachers with Cardiovascular Risk in a Primary Care Centers

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Abstract

Introduction: Cardiovascular diseases (CVD) are a group of disorders of the heart and blood vessels and are the leading cause of death worldwide. In turn, they seem to affect men and women differently, being the most frequent cause of death in the latter worldwide, even in developing countries.
Aim: to determine Nursing care using ICTs in hypertensive teachers with cardiovascular risk in a primary care center in North Lima. primary school in North Lima.
Methods: a quantitative, descriptive-cross-sectional study, with a population of 265 participants who answered a questionnaire of sociodemographic aspects and the cardiovascular risk calculator.
Results: we could observe that 4.2% have very high cardiovascular risk, 10.9% high cardiovascular risk, 37.4% moderate cardiovascular risk and 47.5% very low cardiovascular risk.
Conclusions: the person with high blood pressure should be educated about the risks that the disease can generate, and how to minimize the risks that may affect their health well-being.

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1. Introduction

Cardiovascular diseases (CVD) are a group of disorders of the heart and blood vessels and are the leading cause of death worldwide [1]. In turn, they seem to affect men and women differently, being the most frequent cause of death in the latter worldwide, even in developing countries [2][3].

High blood pressure (HTN) is a condition characterized by elevated blood pressure exceeding 140/90 mmHg. The estimated global prevalence is approximately one billion individuals, and around 7.1 million deaths a year could be attributed to hypertension [4]. Suboptimal blood pressure (BP) is responsible for 62% of cerebrovascular disease and 49% of ischemic heart disease, with small variations due to sex [5][6].

Deaths from cardiovascular diseases have increased worldwide due to population growth, aging and epidemiological changes [7]. Additionally, cardiovascular disease is the leading cause of premature death and disability in the world (myocardial infarction, cardiac death and fatal or non-fatal stroke), and is responsible for more than 17 million deaths annually, which mainly affects the population located in low- and middle-income countries; It is estimated that 80% of global cargo occurs in these countries [8][9].

Palliative care is an approach that improves the quality of life of Professors and their families facing the problem

associated with a life-threatening illness, through prevention and relief of suffering through early identification and impeccable assessment and treatment of pain. and other physical, psychosocial and spiritual problems [10].

The potential benefits of primary prevention strategies developed from studies are useful in verifying the reduction of cardiovascular disease events [11]. The harmful consequences of multiple risk factors are additive [12]; although in addition to the use of information and communication technologies (ICTs) it allows to improve the quality of care and management in health, since it allows constant monitoring for the follow-up of people, in addition to allowing us to have access to important information about cardiovascular health and the nurse-patient relationship to improve effective communication [13].

A study conducted in Colombia [14] explains that cardiovascular disease remains the leading cause of death in the world. Women have a protective factor against this during reproductive age due to the effect of estrogen on the vascular endothelium, typical of this stage of life; Subsequently, perimenopause and postmenopause lead to states of hypoestrogenemia that generate an increased risk of cardiovascular disease and death from this cause.

In another study conducted in Colombia [15] it is realized that in the population of the cardiovascular risk program an average age of 38.11 years and a body mass index of 26.00 m2/kg were found. 7.58% had hypertension, 1.08% diabetes mellitus and 24.91% smoking. The cardiovascular risk calculated with the Framingham scale was 4.48%. Body mass index, age, and systolic blood pressure are not statistically significant for Framingham risk assessment.

In a study conducted in Paraguay [16] the mean age was 23 ± 4 years, mostly from urban areas, being 58% male and with a low educational level. The mean body mass index was 23.5 ± 5 mm and 58% had no family history of hypertension. The mean blood pressure figures were 150 mmHg for systolic and 100 mmHg for diastolic. Secondary arterial hypertension was detected in 86% of the sample. The most frequent etiology was parenchymal kidney disease (86%), of which 89% suffered from chronic kidney disease and lupus nephritis. The frequency of white organ damage was 86%, fundus was abnormal in 8%, 46% had left ventricular hypertrophy by electrocardiogram and 58% by echocardiogram, 78% had alteration of normal renal architecture by ultrasound, 57% had elevated creatininuria, 76% traces of protein in urine taken at random and 80% 24-hour proteinuria elevated.

Therefore, the objective is to determine Nursing care using ICTs in hypertensive teachers with cardiovascular risk in a primary care center in North Lima.

2. Methods

Research type and Design

In the respective research, according to its properties for data collection is quantitative approach, with non-experimental escriptive-transverse methodology [17].

Population
The population is made up of a total of 265 participants with hypertension.

Inclusion Criteria
- Participants who are seen more than 3 times in the health facility
- Participants who are over 18 years old
- Participants who agree to voluntarily participate in the study

Technique and Instrument
The data collection technique will be the survey, which will have information on sociodemographic aspects and PAHO's cardiovascular risk calculator.

Thecardiovascular risk cell developed by PAHO's GEDIC group. It includes the following indicators: gender, age, tobacco consumption, maximum systolic pressure in mmHg, presence of diabetes and total cholesterol in mg/dl. The final values provided by the calculator are: low risk <5%, moderate risk 5%-10%, high risk 10%-20%, very high risk 20%-30% and critical risk >=30% [18].

Place and Application of the Instrument
For the realization of thee study, it was coordinated with the head of the health establishment, in turn with the professionals in charge of the services where hypertensive people are treated. At the same time, information was provided for your knowledge about the investigation.
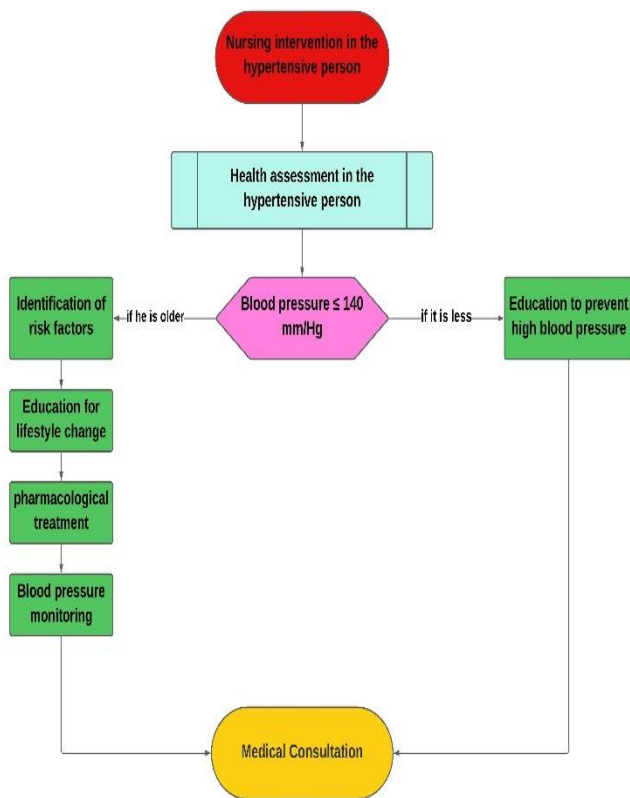
Figure 1. Flowchart on the intervention performed by the nursing professional for the care of hypertensive Professors.

In this flow diagram we can observe the intervention performed by the nursing professional and then perform the necessary care in the hypertensive patient.

HTN itself is associated with cardiovascular problems, which depend on factors such as family and personal history, where it can be determined by physical and laboratory examination.

In the diagram it can be seen that the nursing professional when observing that blood pressure is greater or less than 140 mm / Hg, determines certain points in which he will minimize the risks that hypertension can compromise.

1. If the pressure is greater than 140 mm/Hg, the nurse should make 4 important points:
    - Identify risk factors
    - Educate the person with hypertension to modify their lifestyle
    - Pharmacological treatment to be followed according to the family doctor
    - Monitor the blood pressure of the person with hypertension
2. If the pressure is less than 140 mm/Hg, the nurse should educate the person with hypertension about the risks and complications that may contribute to the disease, since the risk of cardiovascular problems increases due to hypertension.

Once all the intervention has been performed by the nurse, the person with hypertension will be referred to the family doctor who is attending him for treatment according to the assessment of the person with hypertension.

3. Results

In Figure 2, we can see that 47.5% (n=126) of participants with hypertension have a very low cardiovascular risk, 37.4% (n=99) a moderate cardiovascular risk, 10.9% (n=29) high cardiovascular risk and 4.2% (n=11) very high cardiovascular risk.
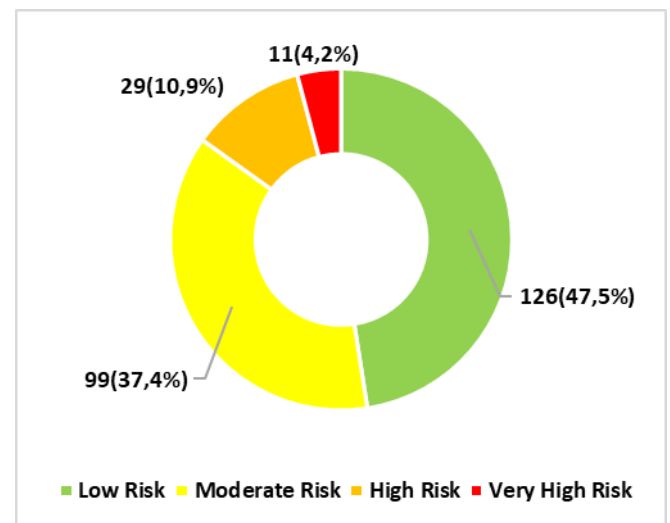

Figure 2. Cardiovascular risk in hypertensive Professors attending a primary care facility in North Lima.

In Figure 3, it can be observed in relation to sex that, in the male sex, 3.75 (n = 5) have a very high cardiovascular risk, 14% (n = 19) a high cardiovascular risk, 36% (n = 49) a moderate cardiovascular risk and 46.3% (n = 63) a low cardiovascular risk; and in the female sex, 4.7% (n = 6) have a very high cardiovascular risk, 7.8% (n=10) a high cardiovascular risk, 38.8%(n=50) a moderate cardiovascular risk, and 48.8%(n=63) a low cardiovascular risk.
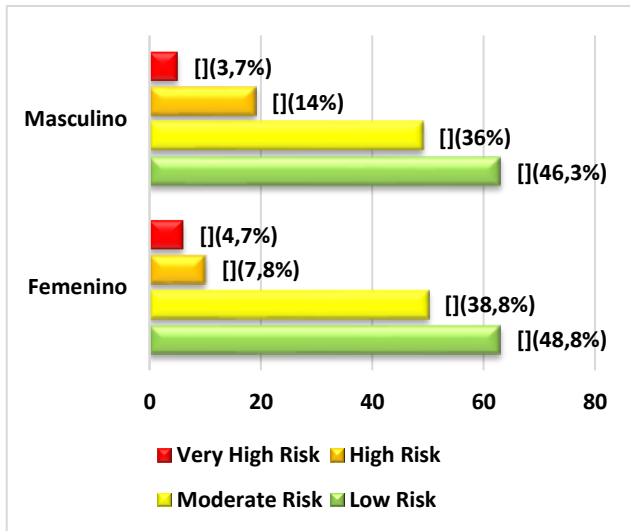
Figure 3. Cardiovascular risk in relation to sex in **hypertensive Professors attending a primary care facility in North Lima.**

In Figure 4, we can see that 59% (n=95) of adult participants have a low cardiovascular risk, 35.4% (n=57) a moderate cardiovascular risk, 5.6% (n=9) a high cardiovascular risk and none of the adults presented very high cardiovascular risk; as for older adults, 29.8% (n=31) have a low cardiovascular risk, 40.4% (n=42) have moderate cardiovascular risk, 19.2%(n=20) have high cardiovascular risk, and 10.6%(n=11) have very high cardiovascular risk.
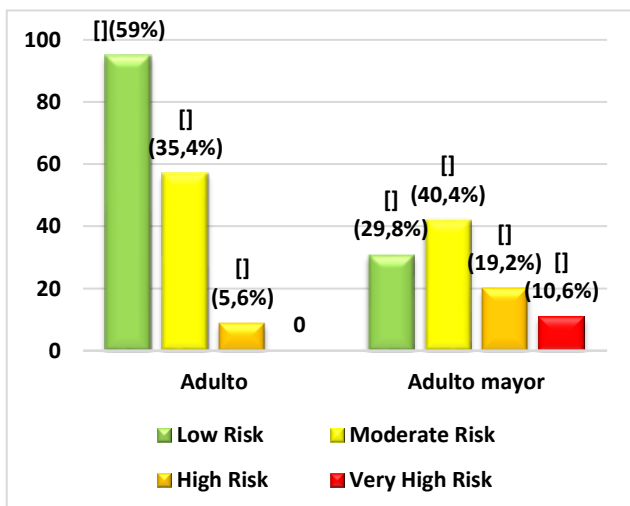

Figure 4. Cardiovascular risk in **relation to age group** in **hypertensive Professors attending a primary care facility in North Lima.**

4. Discussion

In the current study, it iscarried out from a public and community health perspective on the cardiovascular risks that can occur in people with high blood pressure, since it is one of the diseases considered health priorities [18-26]. With regard to the results of cardiovascular risk in hypertensive people, they have a low cardiovascular risk, this is because most hypertensive people are taking preventive measures so that there are no other risks resulting from hypertension or some other silent disease [27-32]; While it is true that the factors that can increase cardiovascular risks in a hypertensive patient are habits unhealthy, such as an inadequate lifestyle, smoking, overweight and obesity, being sedentary, alcohol abuse and non-modifiable characteristics, such as age, sex or family history, all these factors can compromise the hypertensive person, since the risks can be generated without realizing it and cause complications in it, given that people under 60 with hypertension have at least one cardiovascular risk factor and in people over 60 years of age Factors tend to increase. But that, in a person with hypertension who performs or maintains their healthy habits, maintains their health in balance with the disease, allowing that cardiovascular risk factors are not evidenced, allowing them to have a good quality of life [33-39].

As for the results of sex and age, we observe that they have low cardiovascular risk, this is because by making healthy habits, it allows people with hypertension to keep the disease stable and that no risk factors are evidenced that compromise their health [40-45]. However, when a person does not make healthy habits, these risks can occur regularly in the male sex than in the female sex, since men are more likely to contract hypertension because they do not make healthy habits when they are young, sedentary lifestyle, excessive consumption of tobacco and alcohol, sedentary lifestyle, not performing any activity physical and inadequate nutrition, over time causes the disease, however in the female sex [46-53], blood pressure is low before reaching menopause, between the ages of 48 to 52 years, cardiovascular risks and hypertension tend to be greater, since the decrease in female hormones and estrogen are not the only cause that can cause hypertension in women, but also factors such as obessity, high cholesterol or high triglycerides may be evidenced in it [54-60].

2. Conclusions

It is concluded that, itis necessary to take into account strategies to promote and prevent the risks that hypertension can generate, so that people with this disease know what consequences it can contract.

It is concluded that people with hypertension should be educated so that they can orient themselves to perform better self-care, so that it allows them to have a good quality of life and reduce the risks that may be caused.

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