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SOCIODEMOGRAPHIC, CLINICAL AND ADDITIONAL CARDIOVASCULAR PROFILE OF HYPERTENSIVE INDIVIDUALS

PERFIL SOCIODEMOGRÁFICO, CLÍNICO E CARDIOVASCULAR ADICIONAL DE INDIVÍDUOS HIPERTENSOS

PERFIL SOCIO-DEMOGRÁFICO, CLÍNICO Y CARDIOVASCULAR ADICIONAL DE LAS PERSONAS HIPERTENSAS

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ABSTRACT

Objective: identifying the additional cardiovascular, clinical and socio-demographic profile of individuals with hypertension. **Method:** a descriptive study, with the use of conglomerate sampling and in domicile, whose sample included the participation of 143 individuals in the municipality of Viçosa, MG. The research project was approved by the Research Ethics Committee, Protocol 048/2012/CEPSH. **Results:** there was a higher prevalence of hypertension among individuals understood in the age group lesser than 60 years old, followed by contingent with 71 years old or over; the variable gender, 74,1% of participants were female; 58% of respondents were retired and 70,56% of respondents contained in the classification with high or very high cardiovascular risk **Conclusion:** this study showed that the additional cardiovascular risk classification was more sensitive to categorize and classify hypertensive patients that classification of Framingham cardiovascular risk. **Descriptors:** Family Health; Risk factor; Arterial Hypertension; Nursing.

RESUMO

Objetivo: identificar o perfil cardiovascular adicional, clínico e sociodemográfico de indivíduos com hipertensão arterial. **Método:** estudo descritivo, com a utilização de amostragem por conglomerado e em domicílio, cuja amostra contou com a participação de 143 indivíduos do município de Viçosa, MG. O projeto de pesquisa foi aprovado pelo Comitê de Ética em Pesquisa, protocolo n° 048/2012/CEPSH. **Resultados:** observou-se maior prevalência de hipertensão entre indivíduos compreendidos na faixa etária menor que 60 anos, seguido pelo contingente com 71 anos ou mais; na variável sexo, 74,1% dos participantes eram do sexo feminino; 58% dos entrevistados eram aposentados e 70,56% dos entrevistados contidos na classificação com alto ou muito alto risco cardiovascular. **Conclusão:** o presente estudo evidenciou que a classificação de risco cardiovascular adicional se mostrou mais sensível ao categorizar e classificar os pacientes hipertensos que a classificação de risco cardiovascular de Framingham. **Descritores:** Saúde da Família; Fator de Risco; Hipertensão Arterial; Enfermagem.

RESUMEN

Objetivo: identificar el perfil cardiovascular adicional, clínico y socio-demográfico de las personas con hipertensión. **Método:** es un estudio descriptivo, con el uso de muestreo por conglomerados y en domicilio, cuya muestra contó con la participación de 143 personas en el municipio de Viçosa, MG. El proyecto de investigación fue aprobado por el Comité de Ética en la Investigación, el protocolo 048/2012/CEPSH. **Resultados:** se observó una mayor prevalencia de hipertensión entre las personas comprendidas en el grupo de edad de 60 años, seguido por el contingente con 71 años o más; la variable género, el 74,1% de los participantes eran mujeres; 58% de los encuestados eran jubilados y 70,56% de los encuestados que figuran en la tabla de posiciones con alto o muy alto riesgo cardiovascular. **Conclusión:** este estudio mostró que la clasificación de riesgo cardiovascular adicional fue más sensible para categorizar y clasificar a los pacientes hipertensos que la clasificación de riesgo cardiovascular de Framingham. **Descriptores:** Salud de la Familia; Factor de riesgo; Hipertensión; Enfermería.

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INTRODUCTION

Brazilian society has experienced, over the last few centuries, several changes relating to socio-cultural aspects, demography and epidemiology. These features inherited from the Industrial Revolution and culminated in significant changes in the population's morbidity and mortality profile, causing an increase and prevalence of chronic noncommunicable diseases (NCDs), among them cancer and cardiovascular disease.¹

The change in the population's health profile culminates in high costs to health systems and social security, arising from high rates of mortality and/or disability early, and also spending on prevention, control and intervention, in order to repair complications and sequelae.¹

It is known that the estimated number of individuals with diabetes mellitus (DM) and systemic arterial hypertension (SAH) is of 23.000.000, of which cardiovascular disease is responsible for the burden of the biggest causes of death in Brazil. Among the risk factors that are associated with the emergence of a set of complaints, they are physical inactivity, dyslipidemia, obesity and smoking.^{1,2} There is no doubt about the importance of hypertension as a major risk factor and directly associated with cardiovascular disease. Due to its high prevalence in society the disease is considered as a public health problem in Brazil.³

The prevalence of hypertension in adult population aged 40 or over reaches values between 40% and 50%, reaching the highest scores in the age groups above 60 years old. It is a disorder that often even asymptomatic, is responsible for cardiovascular complications, encephalic, coronary, renal, and peripheral vascular complications and when associated with DM considerably increases the possible complications.⁴

The SAH degree that can lead to cardiovascular complications is closely associated with undiagnosed for much of the population, long haul asymptomatic, harmful effect on the cardiovascular and renal function, and finally, complications in target organs due to the presence of thrombi and inflammation.²

However, the Ministry of Health considers as important as the diagnosis of hypertension is the assessment of subjects on cardiovascular risk, brain and kidney. The classification of hypertension can occur at three levels of risk of developing major

cardiovascular events, which are: low, medium and high.¹

Its main risk factors are: smoking, hypercholesterolemia (elevated LDL-c), men over 45 and women over 55 years old, SAH, DM, obesity (BMI greater than or equal to 30 kg/m²), abdominal fat, physical inactivity, poor diet in fruits and vegetables, psychosocial stress and family history of premature cardiovascular disease (relative of 1st degree, male less than 55 years old and women less than 65). People who have nine of these factors have almost 90% chance of developing the disease.⁵

It has been also suggested as additional risk markers, fasting plasma glucose (100-125 mg/dL) and glycated hemoglobin off the patterns of abnormality, abdominal obesity (waist circumference > 102 cm for men and > 88 cm for women) pulse pressure > 65 mmHg (in the elderly), history of pre-eclampsia during pregnancy, family history of hypertension (in borderline hypertensive).⁶

Risk stratification is based even in getting a physical examination focused on atherosclerotic manifestations. Some findings on clinical examination may be indicative of high risk (myocardial infarction, stroke or prior transient ischemic attack, aneurysmal aortic disease, peripheral vascular disease, congestive heart failure of ischemic etiology, angina pectoris, chronic kidney disease). To qualify the individual and the degree of risk to which it belongs must also make the use of complementary examinations when the individual point to grade intermediate to high risk.⁵

Therefore, to achieve the therapeutic decision regarding the cardiovascular risk professionals should be alert to the presence of risk factors, target organ damage and/or established cardiovascular disease.^{5,6}

The objective of evaluating the cardiovascular risk is with the intention of making efforts to prevent new cardiovascular events; to such holders will be guided and assisted more generally, being evaluated not only isolated risk factors such as high blood pressure, but also other factors, estimated the absolute risk of each individual. Thus, the setting of the intervention is: the higher the risk, the greater the potential benefit of a therapeutic or preventive intervention.^{5,7}

In Brazil, the structural foundation of primary care activities in health focuses on the Family Health Strategy (FHS), which is responsible for developing disease prevention and health promotion activities aiming at an effective and continuous assistance. However,

individuals with cardiovascular risk still have an unknown profile, which hinders the development of actions in this sphere of health care. Thus, the establishment of goals and proposals individually and population in order to diagnose and prevent cardiovascular diseases in that group is difficult.⁸

From this perspective, health promotion must be a strategy used to provide visibility to the population at risk, verifying which conditions and determinants of disease should be objects of intervention by the health team. Such actions should aim to singular care, considering the needs of each individual, enabling a care that most closely matches the completeness.^{1,5,9}

In this sense, this study aims to identify the additional cardiovascular profile, clinical and sociodemographic in individuals with hypertension.

METHODOLOGY

It is a descriptive study in a sample of hypertensive patients followed by Family Health Teams of Viçosa, MG. Data were collected through questionnaires in the home.

According to the Information System data in Primary Care (SIAB) the municipality, in July 2011, there were registered 5881 hypertensives.¹⁰ These data were used to calculate the required sample size for the development of study. Accepted to be an error (d) of 5,0 percentage points at the 95% confidence level and adopted the estimated 90% of patients being followed by the FHP teams. With these parameters, we have come up with a sample of 135 hypertensive patients. Issues of time and cost for the development of the interviews were relevant in this calculation. It was felt that as the interviews would be held during the day, there could be a significant loss for the absence of the respondent and then added to 20% to the original size, which resulted in a final sample of 162 hypertensive patients.

However, the study had a sample of 143 individuals, because other were not at home during the day.

For selection of respondents was used cluster sampling. The first conglomerate unit was the FHS, the second one the Community Health Agents (ACS) and finally the home of patients with SAH registered and assisted by the FHT. It conducted a draw for choice of seven teams with a total of 15 of the municipality. For each team selected an ACS was chosen for selection of hypertensive patients. The selection of respondents was systematically according to the family in order SIAB registration. If a family submittes more than one patient with hypertension would be held a lottery for choosing which member would be interviewed.

The data collection instrument was a pre-coded questionnaire, drawn from the registration form of HIPERDIA system¹¹ and Cotta et al¹². To test this instrument, it conducted a pretest in a basic health unit of Viçosa, in February 2012, with subsequent questionnaire adjustments and construction of a filler manual to guide researchers during data collection.

The questionnaire consisted of socioeconomic and demographic information, health-related issues, and access to user satisfaction with health services. Also it analyzed the current pressure level, waist circumference and hip weight and that height and blood glucose.

To classify individuals in the degree of additional cardiovascular risk to which they are inserted, data were analyzed for the number of risk factors, number of lesions in target organs and degree of SAH. The degree of hypertension was classified according to criteria established by the VI Brazilian Guidelines of Hypertension (Tables 1 and 2).

Table 1. Blood pressure classification according to the casual measure in the office (>18 years old).

Classification*	Systolic Pressure (mmHg)	Diastolic Pressure (mmHg)
Excellent	< 120	< 80
Normal	< 130	< 85
Borderline	130-139	85-89
Hypertension stage 1	140-159	90-99
Hypertension stage 2	160-179	100-109
Hypertension stage 3	≥ 180	≥ 110
Isolated systolic hypertension	≥ 140	< 90

* When the systolic and diastolic pressures of a patient are into different categories, the higher must be used for classification of arterial pressure.
Source: VI Brazilian Guidelines on Hypertension 2010.

Table 2. Stratification of individual risk of hypertensive patients: additional cardiovascular risk according to blood pressure levels and the presence of risk factors, target organ lesions and cardiovascular disease.

Risk factors	Blood Pressure*				
	Normal	Boarderline	Hypertension stage 1	Hypertension stage 2	Hypertension stage 3
Without risk factors	Without additional risk		Low risk	Middle risk	High risk
1 to 2 risk factors	Low risk	Low risk	Middle risk	Middle risk	Very high risk
3 or more risk factors or target organ lesion or diabetes mellitus	Middle risk	High risk	High risk	High risk	Very high risk
Cardiovascular disease	High risk	Very high risk	Very high risk	Very high risk	Very high risk

* When the systolic and diastolic pressures are within a patient into different categories, the higher must be used for classification of arterial pressure.
Source: VI Brazilian Guidelines on Hypertension 2010.

The criteria used as cardiovascular risk factors were: cardiovascular family history; diabetes (type 1 or type 2 diabetes and do not know the type); ages above 60 years old; smoking; increased waist hip; dyslipidemia; and still, the presence of acute myocardial infarction; presence of other coronary artery disease and kidney disease.

With all the data collected, it was built up the database in Excel 2007. It was subsequently conducted a descriptive and stratified analysis of the data with the software EPI INFO 7.0.

This study is linked to the extension project interface with research entitled: *"Health promotion and disease prevention in skin lesions in diabetic patients in the center of secondary care (HIPERDIA) in Viçosa, MG: a proposal for a dialogue between extension and search"*, and the research was carried out with the authorization of the Municipal Health of Viçosa and approved by the Ethics Committee on Human Research of the Federal University of Viçosa (UFV), Protocol 048/2012/CEPSH.

RESULTS AND DISCUSSION

In the present study there were obtained as sample the total of 143 individuals. To better understand the variables to be fragmented Discussed the findings into two sections, Namely: sociodemographic and clinical profile and cardiovascular risk of hypertensive users.

♦ **Socio-demographic characteristics of participants**

Describing the approaches to socio-demographic aspect, shown in Table 3, it was obtained in the variable gender, 74,1% were female. Similar data were found in a study of hypertension and/or diabetes in the municipality of Teixeiras-MG, revealing that gender predominance in 74,4%¹². Studies with hypertensive in Formiga, Minas Gerais and

Salvador-BA, found values 53,6% and 87,8% respectively^{13,14}. This predominance is justified by several authors due to higher search of women by health services, and careful design that is intrinsic to the genre.^{13,15}

These results can be explained by analyzing data on occupational status, in which a significant number of respondents are retired (58%) and was associated with the age groups studied, we prevalence: 37,1% under the age of sixty years old and 36,4% seventy or over, which can be explained by the fact that women retire earlier than men. The results can also be attributed to caregivers' roles of home, still commonly used to them.

There was a higher prevalence of hypertension among individuals understood in the age group under 60 years old, followed by contingent aged 71 or over. According to the VI Brazilian Guidelines of Hypertension, about 7,6 million people die each year due to hypertension, of which, 80% of deaths occur in developing countries, and the most prevalent age group are those with between 45 and 69 years old⁶.

In the aspect of the age group, 37,1% were less than 60, and 36,4% are included in the age group aged 71 or over. When evaluating aspects of family status, it was observed that the largest number, 28%, are provisions of family life that keep children and marital ties, with 23,1% of respondents living with a partner with marital ties and no children.

In the religion variable analysis, it was observed that 79,7% of respondents belong to the Catholic religion and 19,6% to the Evangelical/Protestant. Regarding education, 53,3% have not completed elementary school.

Still concerning education, 125 users totaled the group of low education, since 22,5% cannot read or write; 12,05 are literate and 53,5% have not finished elementary

school. Studies show that individuals who have these higher variables corroborate protective

effect for high blood pressure.¹⁶

Table 3. Distribution of sociodemographic variables in hypertensive patients registered at FHS of Viçosa-MG.

Variable	n	%
Gender		
Female	106	74,1%
Male	37	25,9%
Age		
Under 60	53	37,1%
60-70	38	26,6%
71 ou +	52	36,4%
Color		
White	38	26,6%
Black	48	33,6%
Yellow	13	9,1%
Dark skin	39	27,3%
Ignored	5	3,5%
Family situation		
Lives with a partner and children	49	28%
Live with partner with marital ties and childless	33	23,1%
Lives with a partner, children and/or other relatives	18	12,6%
Lives with family, without a partner	33	23,1%
Coexists with other person (s), no consanguine ties and/or marital ties	4	2,8%
Lives alone	15	10,5%
Religion		
Catholic	114	79,7%
Spiritist	1	0,7%
Protestant/Evangelic	28	19,6%
Schooling		
Can't read and write	32	22,5%
Literate	17	12,0%
Elementary incomplete	76	53,5%
Elementary complete	06	4,2%
High School incomplete	3	2,1%
High School complete	7	4,9%
Specialization/Residence	1	0,7%
Occupational status		
Retired	83	58,0%
Unemployed	35	24,5%
In illness	04	2,8%
Employed	08	5,6%
Employer	01	0,7%

◆ Clinical profile

By analyzing variables contained in the clinical profile it was observed that the waist circumference was increased by 90,9%; and the waist/hip increased was present in 32,2% of respondents. Findings of this study are similar to those found in a study of hypertensive patients followed in outpatient clinics in the city of São Paulo¹⁷, where it was found that 80,6% of men showed values greater than 94 cm and 94,9% of women had values greater than 80 cm for Question waist size (Table 4).

When analyzing the measurement of WHR it was found that 44,4% of men had greater than or equal to 1,0, and 82,1% of women had WHR greater than or equal to 0,85. A survey of elderly women of Sao Paulo found that changes in WHR values and high waist circumference (> than 88 cm for women and> 102 cm in men that), increase by 83% the chances of developing cardiovascular disease¹⁶. Even in line with other studies, it is

that obesity increases 2,2 times the odds of developing hypertension, and is therefore a recognized risk factor for developing cardiovascular diseases and DM^{13,16,17}.

Regarding the variable presence of heart disease, 28,7% of subjects had the above pathology, and although 45,5% reported being diabetic. When assessing the degree of hypertension of respondents it was noted that 34,5% are owned by hypertension grade 1; 15,5% grade 2 and grade 3 14,8%, totaling 64,3% of respondents are presenting hypertensive blood pressure uncontrolled and 46,4% belonging to the group of hypertensive patients with excellent or borderline blood pressure, thanks to adopted therapy. The VI Brazilian Guidelines of Hypertension⁶ advocate the need of proper stratification of individuals, as the disease and degree of hypertension presented so that health services

are able to detect lesions and classify cardiovascular risk equal and unique way.

Interpolate the data of the variable in analyzing the presence of cardiovascular risk and their classification as potential for the individual to develop cardiovascular disease, found a total percentage of 70,56% of respondents contained in the standings with high or very high cardiovascular risk.

Table 4. Distribution of cardiovascular risk factors in hypertensive patients registered at FHS of Viçosa-MG.

Variable	n	%
Increased waist circumference		
Yes	130	90,9%
No	13	9,1%
Waist/Hip ratio increased		
Yes	46	32,2%
No	97	67,8%
Heart disease		
Yes	41	28,7%
No	102	71,3%
Obesity		
Yes	101	73,2%
No	37	26,8%
Smoking		
Yes	16	12,2%
No	127	88,8%
Alcoholism		
Yes	21	14,7%
No	122	85,3%
DM		
Yes	65	45,5%
No	78	54,5%
Degree of Hypertension		
Excellent/Normal	33	23,2%
Boarderline	17	23,2%
SAH Degree 1	49	34,5%
SAH Degree 2	22	15,5%
SAH Degree 3	21	14,8%
Cardiovascular Risk		
Without additional risk	1	0,69%
Low risk	12	8,39%
Middle risk	29	20,27%
High risk	58	40,5%
Very high risk	43	30,06%

Given the above data, it appears the FHS's strategic role in planning and implementing actions aimed at reducing the impact of chronic diseases, especially hypertension, aiming to reduce morbidity and mortality and improving the quality of life of patients by be this health care level the preferred contact from users and the main "gateway" to the health service. In addition, the promotion of healthier lifestyles can be established, aimed at reducing risk factors responsible for the increasing prevalence of chronic diseases and their complications.¹⁸

CONCLUSION

The additional cardiovascular risk classification was more sensitive to categorize and classify hypertensive patients with cardiovascular risk classification of Framingham. How fragility of the study, we can report that for classifying the individual and the degree of cardiovascular risk in high or very high, not used for additional tests analyzes as recommended by the Ministry of

Health due to operational issues or non-realization of these.

Even when there are effective health services, they are able to promote solving the diseases brought by the population through comprehensive care and interdisciplinary and multidisciplinary work to care that is required, often non-existent due to non-articulation of reference services and counter-referral, which on several occasions constitutes an insuperable barrier, reflecting the fragmentation of care and consequently the inefficiency of treatment.

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