

PREVALENCE OF CARDIOVASCULAR RISK FACTORS IN HOSPITALIZED PATIENTS IN A LIMA HOSPITAL

PREVALENCIA DE FACTORES DE RIESGO CARDIOVASCULAR EN PACIENTES HOSPITALIZADOS EN UN HOSPITAL DE LIMA

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ABSTRACT

Objective: To determine the factors associated with cardiovascular risk in patients of the HSEB Department of Medicine. **Methods:** Prospective, cross-sectional, descriptive and observational study, included 83 probabilistically chosen patients from a universe of 105 hospitalized from the HSEB Department of Medicine. For the calculation, OpenEpi version 3 and Microsoft Excel 2010 were used and in the analysis and interpretation of the data, graphs and tables of relative and absolute frequencies were used. **Results:** 53% were women and the average age was 54.5 years. The frequency of main risk factors was: Overweight 30.1%, obesity 13.3%, the Ci / Ca index very high in women 54.2%, family history of AMI 38.5% and HTA 34.6%, DM2 65.5%, High Cholesterol 34.4% , HTA 21.7% of these 73.9% were controlled, classified and were optimal 21.7% and Normal-High 34.8, also sedentary lifestyle 50%, carbohydrate consumption 56.6%, lipids 32.5%, fast food 44.6% and as a degree of Anxiety less than 54.2% and greater than 32.5%. **Conclusion:** There is a higher risk of a coronary event more in women over 50 years of age than in men, having as main cardiovascular risk factors diet, sedentary lifestyle, overweight, normal-high pressures, minor anxiety, and comorbidities Associated such as diabetes and high cholesterol.

Key words: Women; Sedentary; Overweight; Anxiety. (source: MeSH NLM)

RESUMEN

Objetivo: Determinar los factores asociados a riesgo cardiovascular en pacientes del Departamento de Medicina del Hospital Sergio E. Bernales (HSEB). **Métodos:** Estudio transversal, descriptivo y observacional, incluyo 83 pacientes elegidos probabilísticamente de una población de 105 hospitalizados del Departamento de Medicina del HSEB. En el análisis e interpretación de los datos se utilizaron gráficos y tablas de frecuencias relativas y absolutas. **Resultados:** El 53% fueron mujeres y la edad promedio fue 54,5 años. La frecuencia de factores de riesgo principales fue: El sobrepeso 30,1%, la obesidad 13,3%, el Índice Ci/Ca muy alto en mujeres 54,2%, antecedente familiar de IAM 38,5% e HTA 34,6%, DM2 65,5%, Colesterol Alto 34,4%, HTA 21,7%, según su tipo se tuvo que el 73,9% estaban controladas; y al clasificarla, fueron optimas el 21,7% y Normal-Alta 34,8, asimismo se observó también sedentarismo 50%, consumo carbohidratos 56,6%, lípidos 32,5%, comida rápida 44,6% y como grado de Ansiedad menor un 54,2% y mayor el 32,5%. **Conclusión:** Un mayor riesgo de evento coronario afecta más a las mujeres mayores de 50 años que en los varones, teniendo como factores de riesgo cardiovascular principales la dieta, el sedentarismo, el sobrepeso, las presiones normal- alta, la ansiedad menor, y comorbilidades asociadas como la diabetes y colesterol alto.

Palabras clave: Mujer; Sedentarismo; Sobrepeso; Ansiedad. (fuente: DeCS BIREME)

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Cite as: Karla X. Zuni-Chavez, Bryan Emilio More-Sandoval, Carlos Daniel Fernández-Vargas, Bill Bryan García-Fuentes, Julio Manuel Ruiz-Olano, Vanessa Karín Pérez-Rodríguez. Prevalence of cardiovascular risk factors in hospitalized patients in a lima hospital. Rev. Fac. Med. Hum. Octubre 2019; 19(4):68-73. DOI 10.25176/RFMH.v19i4.2343

INTRODUCTION

Cardiovascular diseases (CVD) are a chronic disorder that develops insidiously, progressing even when there are no symptoms and/or signs, increasing the degree of disability at the time of diagnosis¹, it is estimated that in the coming decades the total loss of Disability-adjusted life years (DALYs) would increase from 85 million in 1990 to 150 million in 2020^{2,3} and, therefore, continue to be the most important cause of lost productivity. CVD is strongly related to lifestyle, especially with tobacco consumption, unhealthy eating habits, physical inactivity and psychosocial stress^{4,5}. According to the WHO, with adequate lifestyle changes, more than three quarters of cardiovascular mortality could be prevented⁶ as it continues to be a major challenge for the population, political actors and health professionals, who with coordinated actions, population and individuals seek to eradicate, eliminate or minimize the impact of CVD and the associated disability^{7,8}.

The study will provide us with preventive and rehabilitative measures to the population on the consequences that they could develop, due to their harmful habits of life that, little by little decrease their life expectancy, therefore, the present work has as main objective to describe the frequency of Cardiovascular risk factors in patients of the Department of Medicine of Sergio E. Bernales Hospital (HSEB).

METHODS

83 probabilistically selected patients from a population of 105 hospitalized patients of the HSEB Medicine service were included during September 2016, the statistical formula of proportions for finite population with a 95% confidence level was used, a relative error of 5% and an expected frequency of 50%; using the OpenEpi open-source calculator, selecting the participants from the hospitalized list in the mentioned month for a period of two weeks.

A quantitative methodology was carried out, with a prospective, transversal, descriptive and observational design, with the application of a data collection sheet of own elaboration, validated by experts in the field. To determine cardiovascular risk factors, the interviewers were previously trained to collect the data included: diagnosis of Arterial Hypertension (AHT) by means of the average of at least 2 blood pressure shots separated by 5 minutes in a sitting position and at rest 15 minutes prior to taking^{9,10}, using Riester manual sphygmomanometers, minimus[®] model, classifying patients using the European Cardiology

Guide (2012)¹¹ for arterial hypertension. For measuring height, a height meter was used that follows the recommendations of the National Center for Food and Nutrition (CENAN)¹²; for the determination of the weight was by means of a calibrated electronic digital scale (Seca Alpha, GmbH & Co., Igny, France; range 0.1-150 kg, accuracy 100 g; determination of the waist / hip index (ICC), the measurement of the waist was performed by taking the midpoint between the lower costal arch and upper iliac crest at the level of the anterior axillary line, and the hip, at the widest part at the bi-trochanteric level; the body mass index (BMI) and the Waist hip index (CHF) were analyzed as established by the World Health Organization (WHO) 6 and to determine the level of anxiety the Hamilton test was used^{13,14}.

Procedures

An appointment was requested with the HSEB Medical Director where he was informed of the objectives and justification of the present investigation, once the request was approved, the medical management was responsible for sending the relevant document to the area head of the Department of Medicine informing on the details of the development of the study and at the same time committing to provide the necessary facilities at the time of applying the surveys.

Once the previous coordination and having the authorization of the institution, the survey was applied to the patients of the Department of Medicine, the interviewer informed the patient verbally and in writing of the objectives of the study, as well as the importance and benefits of their participation in the development of research. Once their participation was accepted, they were provided with a screen for greater privacy and confidentiality of the process, accompanied by the respondents and their families if required. Finally, at the end of the survey, a feedback was requested to improve the quality of the interview.

Data analysis and ethics

A critique was made of all the data collection cards applied to each patient in the study sample to check that they have been filled in correctly, of finding badly filled files they were left out.

Once the data was obtained, they were emptied digitally in the Microsoft Excel program; which also helped us to clean the database. For better analysis and interpretation of the data obtained, graphs and tables of relative and absolute frequencies were used.

Likewise, the present investigation was carried out under strict compliance with the bioethical principles,

no privacy norms were affected, nor the rights of the people surveyed. Each survey had the informed consent signed by the patient, protecting his anonymity and respecting the confidentiality of the data provided.

RESULTS

83 patients were found, of which 53% were women,

with an average age of 54.5, is the elderly in a greater proportion with 39.8%, their BMI averaged 25.8 and a CHF which mainly affected the female sex in 54%. Regarding the family history of cardiovascular risk, the disease with the highest prevalence was acute myocardial infarction with 38.5%. Regarding personal cardiovascular risk factors, diabetes mellitus was the disease with the highest prevalence with 65.6%. The data is detailed in Table 1.

Table 1. Social and anthropometric characteristics in hospitalized patients in a hospital in Lima.

Sex	N°	%
Female	44	53
Male	39	47
AGE *	54,5	15
Adult life stage		
Young adult (20-24)	7	8,4
Intermediate adult (25-54)	30	36,1
Pre-elderly adult (55-59)		15,7
Older adult (over 60 years old)	33	39,8
Body mass index (BMI) *		6,1
Waist Hip Index (CCI)		
Men		
Very low (<0.95)	17	21
Low (0.96-0.99)	4	4,8
High (> 1.00)	17	21
Women		
High (> 0.85)	45	54
Family Cardiovascular Disease History		
Acute Myocardial Infarction (IMA)	10	38,5
Hypertension (HT)	9	34,6
Ischemic cerebrovascular accident	3	11,5
History of Personal Cardiovascular Disease		
Congestive heart failure (CHF)		26,3
Acute Myocardial Infarction (IMA)	4	21,1
Ischemic cerebrovascular accident	2	10,5
Type II diabetes mellitus	21	65,6
Dyslipidemia (Cholesterolemia)		34,4

* Mean, Standard Deviation.

Source: Self- made.

When evaluating the diet with the highest prevalence, it is observed that white meat is consumed more frequently and, when evaluated for anxiety, 54.2% suffer from less anxiety. The results are detailed in Table 2.

Table 2. Diet and degree of anxiety in hospitalized patients in a hospital in Lima.

Diet with the highest prevalence	N°	%
Carbohydrates (Daily)	47	56,6
Vegetables (Daily)		37,3
Fruits (2 to 3 / week)		32,5
Milk and dairy products (once a week)	21	25,3
Red meat (not consumed)	33	39,8
White meat (2 to 3 / week)	36	43,4
Lipids (1 time / week)	27	32,5
Fast Food (1 time / week)	37	44,6
Hamilton Test (Anxiety)	N°	%
No anxiety	7	8,4
Minor Anxiety	45	54,2
Clinically manifest anxiety	4	4,8
Major Anxiety	27	32,5

Source: Self- made.

Concerning suffering from arterial hypertension, it is observed that 21.7% suffer from hypertension, of which 73.9% are controlled and when comparing those patients suffering from arterial hypertension to

the scale of hypertension that gives us the European Society of Cardiology has 34.8 suffer from high hypertension. The results are detailed in Table 3.

Table 3. High blood pressure in hospitalized patients in a hospital in Lima.

Blood Pressure	N°	%
History of hypertension	23	21,7
Controlled		73,9
Uncontrolled	6	26,1
According to the European Society of Cardiology		
Optimal	5	21,7
Normal 1	1	4,3
Normal High		34,8
Hypertension 1	5	21,7
Hypertension 2	1	4,3
Hypertension 3	0	0,0
Isolated systolic hypertension	3	13,0

Source: Self- made.

DISCUSSION

The increase in BMI has a close association with the risk of CVD¹⁵, however, it has been suggested that the body distribution of adipose tissue is more important than the total body weight for the determination of cardiovascular risk (CVR)¹⁶ distribution of fat mass and lean mass for this reason, the waist circumference is an

indicator of adipose tissue in the waist and abdominal area and the hip circumference is an indicator of adipose tissue that is on the buttocks, that is, it is a good indicator for intrabdominal and visceral fat¹⁷, this was demonstrated in prospective studies showing evidence of association between abdominal adiposity and coronary heart disease unlike BMI, in Our study

showed a higher CHF in women than in men 18/20, therefore one might think of a higher risk of coronary heart disease.

Arterial hypertension has a high prevalence in Latin America and the Caribbean^{21,22} since having high blood pressure is an important risk factor for coronary heart disease, heart failure, vascular brain disease, renal failure and more recently atrial fibrillation²³. A key element in prevention and rehabilitation is aerobic exercise with antithrombotic effects that reduce the risk of coronary occlusion after the rupture of a vulnerable plaque, including an increase in plasma volume, a reduction in blood viscosity, reduction in platelet aggregation and a greater thrombolytic capacity⁴, even exercise reduces the risk of arrhythmias due to the favorable modulation of the autonomous balance²⁵. The amount of physical activity / aerobic exercise of moderate intensity capable of producing a reduction in CV mortality and for all causes is from 2.5-5h / week²⁵. Family history is a combination goes Reliable of genetic factors and shared environmental factors, the evidence indicates that there is a high probability of inheriting risk factors such as diabetes mellitus²⁶, saying that adequate control of blood pressure in diabetes mellitus would reduce the risk of macrovascular and micro-vascular events, therefore there is a positive relationship between high blood glucose levels with a higher prevalence of cardiovascular events²⁷.

Nutrition and food quality also influence cardiovascular level particularly in dyslipidemias, high blood pressure, obesity, and diabetes; the protective effect of fruits and vegetables seems to be more favorable by improving blood pressure and microvascular function, while associations with plasma lipid concentrations, the risk of DM and body weight have not yet been firmly established 28 contrary , the consumption of fruit juices does not provide significant benefit in

addition to frozen or packaged fruit would increase the risk of death by 17% per serving but it should be considered that some areas of the country have poor access to fresh fruits and vegetables affecting people who have preexisting health disorders or complicated lifestyles in those who live in high Andean areas.

Finally, generalized anxiety appears to be associated with a high risk of coronary heart disease, even the high level of anxiety would be related as a strong predictor of fatal and non-fatal events of coronary heart disease²⁹. People with anxiety have a 26% higher risk of suffering from cardiovascular diseases and 48% of cardiovascular death³⁰.

CONCLUSION

The most frequent events in the study population were diabetes, family history, sedentary lifestyle, overweight, uncontrolled hypertension, dyslipidemia, diet and the degree of anxiety. Prospective and larger population studies are recommended to measure the strength of association of the elements found.

Contribuciones de autoría: Zuni-Chavez K, More Sandoval BD, Fernández-Vargas CD, García-Fuentes BB, Ruiz-Olano JM, Perez-Rodriguez VK; contributed in writing and final review of the research article, Zuni-Chavez KX, contributed in the final review of the article.

Financing: Self-financed

Interest conflict: The authors declare no conflict of interest in the publication of this article.

Received: May 30, 2019

Approved: September 05, 2019

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