RESEARCH

RISK FACTORS FOR ACUTE MYOCARDIAL INFARCTION EVIDENCED IN HOSPITALIZED PATIENTS IN THE CORONARY CARE UNIT

Fatores de risco para infarto agudo do miocárdio evidenciados em pacientes hospitalizados em unidade coronariana

Factores de riesgo de infarto agudo de miocardio en evidencia en los pacientes hospitalizados en la unidad de cuidados coronarios

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ABSTRACT

Objective: to describe the risk factors identified in patients with acute myocardial infarction hospitalized in coronary unit. **Method**: a descriptive, cross-sectional citado with a quantitative approach. conducted with 125 individuals diagnosed with acute myocardial infarction. the sample was collected for convenience consecutively. data were analyzed using the Statistical Package For Social sciences version 21 and approved under opinion 457 504. **Results**: the predominant male subjects were caucasian and with an average of 62 years. the most prevalent risk factors in the sample were: physical inactivity, high blood pressure, family history, smoking, alcohol consumption and diabetes mellitus. **Conclusion:** the research provided data relevant to the control of identified risk factors, showing where to focus preventive actions in order to reduce the incidence of acute myocardial infarction, its sequels and mortality.
DESCRIPTORS: Myocardial infarction; Risk factor; Nursing care.

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RESUMO

Objetivo: descrever os fatores de risco identificados em pacientes com infarto agudo do miocárdio hospitalizados em unidade coronariana. **Método:** estudo descritivo, transversal com abordagem quantitativa, realizado com 125 indivíduos com diagnóstico de infarto agudo do miocárdio. a amostra foi coletada por conveniência de forma consecutiva. os dados foram analisados com auxílio do programa estatístico statistical package for the social sciences versão 21 e aprovado sob parecer 457.504. **Resultados:** predominou indivíduos do sexo masculino de etnia branca e com uma média de 62 anos. os fatores de risco mais prevalentes na amostra foram: sedentarismo, hipertensão arterial, histórico familiar, tabagismo, ingesta alcoólica e diabetes mellitus. **Conclusão:** a pesquisa traz dados relevantes para o controle dos fatores de risco identificados, mostra onde direcionar as ações preventivas, a fim de diminuir a incidência do infarto agudo do miocárdio, suas sequelas e a mortalidade.

DESCRITORES: Infarto do miocárdio; Fator de risco; Assistência de enfermagem.

RESUMEN

Objetivo: describir los factores de riesgo identificados en pacientes con infarto miocardio agudo hospitalizados en una unidad coronaria. **Método:** estudio descriptivo, transversal con enfoque cuantitativo, realizado con 125 personas con diagnostico de infarto miocardio agudo. la muestra fue recogida conveniencia consecutivamente. los datos se analizaron con ayuda del paquete statistical package for social sciences versión 21 y aprobado bajo la opinión 457.504. **Resultados:** predominó individuos del género masculino de étnico blanco y con un promedio de 62 años. los factores de riesgo más prevalentes de la muestra fueron: sedentarismo, hipertensión arterial, historia familiar, fumar, ingesta alcohólica y diabetes mellitus. **Conclusión:** la investigación trae datos relevantes para el control de factores de riesgo identificados, mostrando dónde enfocar las acciones preventivas, para reducir la incidencia de infarto de miocardio agudo, sus secuelas y mortalidad.

DESCRIPTORES: Infarto de miocardio; Factor de riesgo; Cuidados de enfermería.

INTRODUCTION

Cardiovascular diseases (CVD), which include acute myocardial infarction (AMI), are among the main causes of morbidity and mortality in the world. It is estimated that worldwide mortality from CVD is close to 12 million people annually.[1] In Brazil, the number of deaths from AMI in 2017 was 92,657, corresponding to 7.06% of the total deaths in the year.[2]

This disease is being considered an epidemic today and, due to its high mortality rate, has caused major public health concerns,[3] as well as a major socioeconomic impact, both in developed and underdeveloped countries.[1] Estimates for the year 2020 indicate that CVD will continue to be the main cause of morbidity and mortality in the country.[4]

With the aging and growth of the population, combined with terrible living habits, the risk for atherosclerotic diseases arises. This risk is the result of the sum and potentiation caused by the combination of some factors.[5]

Among the best known risk factors for these diseases, which are more prevalent, besides age, which ends up aggravating the other pre-existing factors, are hypertension, smoking, excessive alcohol consumption, sedentarism and hyperglycemia.[6]

The existence of risk factors for the development of AMI has long been known, but there are still differences in the literature regarding the proportion with which each risk factor contributes to the genesis of AMI; these may differ from one population to another due to differences in prevalence, strength of association among risk factors, genetic susceptibility and environmental factors that influence the atherosclerotic process.[7]

In this context, the need for studies on AMI in different populations is noted, which justifies this research, since there is a need for clarification and determination of their risk factors in order to better understand them and develop strategies for prevention. The results of the present study may contribute to the promotion of knowledge development in order to assist the care of patients with AMI. In this context, this study aims to describe the risk factors identified in patients with acute myocardial infarction hospitalized in a coronary unit.

METHOD

The present study is a cross-sectional, descriptive one. This descriptive study provides the researcher with the opportunity to observe, describe and classify a given phenomenon, clarifying its predominance and characteristics.[8] The study was carried out in the Emergency Department of Pernambuco - PROCAPE (emergency hospital of UPE) at the Oswaldo Cruz Hospital of the University of Pernambuco (UPE).

The population comprised 125 individuals diagnosed with AMI. The sample selection was done for convenience consecutively.

The sample inclusion criteria were: a) to be over 18 years of age, regardless of gender; b) to have the medical diagnosis of AMI registered in the medical chart; c) to be in the acute phase of the disease (up to 72 hours from the onset of the first symptoms); d) to be hospitalized at the Coronary Unit of the Hospital and Emergency Department of Pernambuco. Those patients who were transferred from the unit before completing the pain evaluation, those who had a change in the initial medical diagnosis, those who had their clinical condition worsened and difficulty in responding verbally and/or cognitive impossibility to participate in the survey were excluded.

The data were collected by the researchers within 72 hours of the patient's admission and the data were collected in a single moment. For data collection, a structured instrument was used and validated by two nurses specialized in cardiology. The instrument includes variables related to the socio-demographic and clinical characteristics. The data were collected by means of interview and physical examination and also by consulting the medical chart. The data were collected consecutively, by means of acceptance of the subjects and signature of the Free and Informed Consent Term and by means of an instrument prepared for this study.

The data were stored in Excel software spreadsheet, and later tabulated with the Statistical Package for the Social Sciences (SPSS), version 21.0, and presented in the form of

absolute and relative frequencies, mean, median and standard deviation.

The criteria established for research with human beings in resolution 466/12 of the National Health Council were obeyed. Patients received complete information about the objectives of the study and for those considered incapacitated for this purpose, their relatives and/or guardians were invited to represent the patient and were included after agreeing and signing the Free and Informed Consent Term.

This study is a cutout of the research entitled: "Acute pain: review of nursing diagnosis in patients with acute myocardial infarction", which was submitted to the Research Ethics Committee of the PE Emergency Room. Prof. Luiz Tavares-PROCAPE of the University of Pernambuco (UPE) and approved under CAAE 09889213.8.0000.5192 on November 12, 2013, in accordance with Resolution 466/12 which regulates research involving humans.[9]

RESULTS

125 patients were interviewed. The results on the sociodemographic and clinical profile of the patients evaluated are presented in Table 1 below:

Table 1 - Characterization of demographic data of patients with acute myocardial infarction. Recife/ PE, Brazil, 2020

Variable	N	%
Sex		
Male	77	61,6
Female	48	38,4
Origin		
Recife	61	48,8
Other cities	63	50,4
Other States	1	0,8
marital status		
With partner	72	57,5
Without partner	53	42,5
Schooling		
Non-literate	11	9,0
Incomplete fundamental	18	14,4
Fundamental Complete	50	39,7
Middle Incomplete	1	0,9
Medium Complete	27	21,6
Incomplete Superior	5	3,6
Superior Complete	12	9
Postgraduate	1	0,9
Ethnicity		
White/caucasian	81	64,7
Afrodescendant	43	34,5
Asian	1	0,9
Occupation		
Civil Servant	13	10,2
Private Employee	22	17,8
Standalone	21	16,9
From home	06	5,1
Retired	58	46,6
Unemployed	05	3,4
Total	125	100

Source: Data from Research 2020.

It was also observed that the mean age 62.06 years (SD=12.13), with a minimum age of 33 and a maximum age of 87 years. In relation to Family Income the average value was 1848.60 reais (SD=1842.81), being the minimum income of 574 reais and the maximum of 11,000 reais. Table 2 shows the distribution of patients according to the risk factors identified in the study:

Table 2 - Distribution of patients according to family history of acute myocardial infarction, co-morbidities, exercise, smoking and drinking habits. Recife/ PE, Brazil, 2020

	N	%
Family history of acute myocardial infarction		
Yes	63	50,0
No	61	49,1
Doesn't know	1	0,9
Co-morbidities		
Hypertension	88	55,0
Diabetes Mellitus	55	34,4
Hipercholesterolemia	13	8,1
Lung diseases	3	1,9
Dyslipidemia	1	0,6
Smoking		
Yes	33	26,2
No	59	47,5
Stopped smoking	33	26,2
Drinking habits		
Yes	44	35,3
No	81	64,7
Exercise practice		
Yes	18	14,4
No	107	85,6

Source: Survey data, 2020.

The aspects inherent to alcoholism and smoking were related to the number of episodes of acute myocardial infarction in Table 3:

Table 3 - Distribution of patients according to the number of infarction episodes, and factors related to smoking and alcoholism. Recife/ PE, Brazil, 2020

Variable	Average	Standard Deviation	Average	Minimum	Maximum
Episodes of AMI*	1,24	0,43	1	1	2
Cigarettes in 24 hours	18,03	11,56	17,50	3	60
Years of smoking	29,70	15,24	30	2	60
Drinking (days/ week)	2,66	1,64	2	1	7
Drinking alcohol (litres/ week)	1,83	2,84	1	0	20

Source: Survey data, 2020. Note: AMI: Acute Myocardial Infarction.

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DISCUSSION

According to the context of the sample studied, several factors that characterize the profile of patients can be identified. Regarding socio-demographic factors, the highest incidence of AMI was observed in people over 60 years of age. According to the study, the majority of the cases of death occur in people of more advanced age, due to the great time of exposure to risk factors that increase the probability of an adverse cardiovascular event.[10]

Regarding the sociodemographic profile of the surveyed patients, most were male, Caucasian, married and did not have high schooling corroborating with other studies.[11-13]

Among the risk factors, the most prevalent was systemic arterial hypertension (SAH), one of the best known risk factors for AMI, a factor also observed in other studies that report similar results.[13,14]

Family history of AMI appeared as the second most prevalent risk factor in the sample, with 63 (50%) of the patients studied. In a similar survey, this risk factor also appears among the most prevalent.[15]

Diabetes mellitus was present in 55 (34.4%) of the population studied, similar numbers to those found in another study. This is due to the fact that the studied population is mostly composed of the elderly, as the incidence of Diabetes increases with aging.[16]

Another risk factor for AMI is smoking so that 33 (26.2%) patients report that they use the cigarette and another 33 (26.2%) state that they have already smoked but have suspended the use, adding 66 (52.4%) patients. Smoking is also reported in a similar proportion in another study.[17]

Ethylism had a prevalence of 44 (35.3%) of the population. According to other studies, this figure varies widely.[18]

Sedentarism is another important point to be observed, since 107 (85.6%) do not practice any physical activity. Studies indicate that excess body fat is a risk factor for chronic non-communicable diseases (NCD), including cardiovascular diseases. Therefore, physical exercises are part of the guidelines for the prevention of NCD.[19]

Risk factors such as hypercholesterolemia (8.1%), pulmonary diseases (1.9%) and dyslipidemias (0.6%) were lower when compared to other studies. It is believed that these data do not match the reality, since the patients had low schooling and a deficit of knowledge about their own health, moreover, the medical records, also studied, could be incomplete.[20]

It is known that most of the identified risk factors are modifiable and for effective prevention stratification is necessary, i.e. it is necessary to know the risk factors for which individuals are exposed in order to be monitored and controlled.[13]

CONCLUSION

Studying the risk factors in different populations brings essential health benefits to the population of each assisted location. Knowing the profile of the population, the habits of life and the factors that expose them to risk are fundamental pieces for health professionals to make prevention and promotion of adequate and efficient health, as well as permanent health education in order to implement public health policies.

The results of this survey revealed a high predominance of risk factors for AMI in the population surveyed, among which sedentariness, systemic arterial hypertension, smoking and heredity are very present in the sample. It was also evident that diabetes mellitus reached higher percentages than found in other studies. Thus, the research brings relevant data for the control of the risk factors identified, shows where to direct preventive actions in order to reduce the incidence of AMI and its sequelae and mortality.

The limitations of this study were felt during data collection, since a large part of the medical charts did not have information or were incomplete. Another relevant point was the lack of knowledge of patients about their health status, about their current disease, and about other comorbidities they had.

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