Revista de Enfermagem e Atenção à Saúde
REAS
INTEGRATIVE REVIEW
DOI: 10.18554/reas.v7i3.3511

FACTORS ASSOCIATED WITH ACUTE CORONARY SYNDROME AND ITS PREVALENCE AMONG GENDERS: INTEGRATIVE REVIEW

FATORES ASSOCIADOS A SÍNDROME CORONARIANA AGUDA E SUA PREVALÊNCIA ENTRE OS GÊNEROS: REVISÃO INTEGRATIVA

LOS FACTORES ASOCIADOS CON EL SÍNDROME CORONARIO AGUDO Y SU PREVALENCIA ENTRE SEXOS: REVISIÓN INTEGRADORA

Kaiomakx Renato Assunção Ribeiro[1], Thales Antônio Martins Soares[2], Maria Madalena Borges[3], Edivalda Pereira de Abreu[4], André Rodrigues dos Santos[5], Fernanda Alves Ferreira Gonçalves[6]

RESUMO
Objetivo: discutir sobre os fatores associados à Síndrome Coronariana Aguda, bem como sua prevalência entre homens e mulheres. **Método:** estudo do tipo, revisão integrativa da literatura, com busca dos artigos nas bases de dados LILACS, SciELO, BDENF, PUBMED, publicados entre 2012 e 2018. **Resultados:** foram encontrados inicialmente 502 artigos, dos quais, 20 compuseram esta pesquisa. O tabagismo foi o fator de risco mais prevalente no surgimento da Síndrome Coronariana Aguda, seguido da Hipertensão Arterial Sistêmica. Os pacientes acometidos por esta doença apresentaram como características dois ou mais fatores de riscos. O gênero masculino foi o que apresentou maior prevalência para esta patologia. **Conclusão:** são vários os fatores de riscos para o surgimento da Síndrome Coronariana Aguda e o seu surgimento parece estar associado a presença de dois ou mais fatores de riscos, o que denota a necessidade de uma maior ênfase na educação da população sobre a prevenção desses fatores.
Descritores: Infarto do miocárdio; Síndrome coronariana aguda; Epidemiologia; Prevalência.

ABSTRACT
Objective: discuss the factors associated with acute coronary syndrome, as well as its prevalence among men and women. **Method:** study of the type, integrative review of the literature, with search of articles in databases LILACS, SciELO, BDENF, PUBMED, published between 2012 and 2018. **Results:** initially were found 502 articles, of which 20 comprised this study. Smoking was the most prevalent risk factor in the occurrence of acute coronary syndrome, followed by systemic hypertension. Patients affected by this disease presented as two or more risk factors. The male gender was presented the highest prevalence for this pathology. **Conclusion:** There are several risk factors for the onset of acute coronary syndrome and its appearance seems to be associated with the presence of two or more risk factors, which denotes the need for a greater emphasis on the education of the population on the prevention of these factors.
Descriptors: Myocardial infarction; Acute coronary syndrome; epidemiology; prevalence.

RESUMEN
Objetivo: discutir sobre los factores asociados al Síndrome Coronaria Aguda, así como su prevalencia entre hombres y mujeres. **Método:** el estudio del tipo, revisión integrativa de la literatura, con búsqueda de los artículos en las bases de datos LILACS, SciELO, BDENF, PUBMED, publicados entre 2012 y 2018. **Resultados:** se encontraron inicialmente 502 artículos, 20 de los cuales constaba de este estudio. El tabaquismo fue el factor de riesgo más prevalente en la ocurrencia de síndrome coronario agudo, seguido por hipertensión arterial sistémica. Los pacientes afectados por esta enfermedad presentan como dos o más factores de riesgo. El sexo

[1] Enfermeiro pela -UNIVERSO-GO. Pós-graduação em UTI, Cardiologia e Hemodinâmica, Residente de Enfermagem, modalidade Terapia Intensiva pela SES do Distrito Federal-SES-DF. Hospital de Base do Distrito Federal-HBDF. Escola Superior de Ciências da Saúde-Distrito Federal-ESCS-DF.
[2] Mestre em Enfermagem pela UFG - Goiás - GO.
[3] Enfermeira pela Universidade Católica de Goiás, Especialista em administração hospitalar. Universidade Salgado de Oliveira UNIVERSO-GO. Pontifícia Universidade Católica de Goiás-PUC-GO.
[4] Enfermeira doutoranda pela Pontifícia Universidade Católica de Goiás, Docente do curso de enfermagem da Universidade Salgado de Oliveira, Goiânia-GO, Brasil.
[5] Escola Superior de Ciências da Saúde-Distrito Federal –ESCS-DF.
[6] Enfermeira. Mestranda em Enfermagem do Programa de Pós Graduação em Enfermagem da Faculdade de Enfermagem da Universidade Federal de Goiás (PPG/FEN/UFG). Enfermeira do Hospital das Clínicas da UFG. Goiânia-Goiás.

masculino se presentó la mayor prevalencia de esta patología. **Conclusión:** Existen varios factores de riesgo para la aparición de síndrome coronario agudo y su aspecto parece estar asociado con la presencia de dos o más factores de riesgo, lo que denota la necesidad de un mayor énfasis en la educación de la población sobre la prevención de estos factores.
Descriptores: Infarto del miocardio; Síndrome coronario agudo; epidemiologia; prevalencia.

INTRODUCTION

Cardiovascular diseases are the main responsible for the increase in morbidity and mortality of the greater part of the population. Among these, we highlight the acute coronary syndrome (ACS) or acute myocardial infarction (AMI), pathology causing several deaths in developed and developing countries, responsible for over 30% of deaths in Brazil. Therefore, AMI can be considered as an important indicator of quality standards of policies on collective health to be a disease of great impact.[1-2]

The AMI diagnosis is confirmed through the electrocardiogram (ECG) and should be performed at the time of up to 10 minutes after the arrival of the patient in the hospital.[2] It is observed on this exam that AMI can change the electrocardiographic records and be classified as AMI with elevation of the ST segment (IAMCST) or without elevation of the same follow-up (IAMSST).[1]

In Brazil, according to data from the Sistema Único de Saúde (DATASUS) and the Ministry of Health, there were 84,945 deaths due to ischemic heart disease in 2005. In 2008, the systems of information recorded 518 hospitalizations for AMI in Rio Grande do Sul. In the United States, approximately 1.5 million patients each year develop AMI, of which 40% to 50% are accompanied by presenting ECG with ST segment elevation (IAMCST).[3]

Statistically, between 25 to 30% of the AMI do not have fatal outcomes, being that the clinical symptoms are not recognized by the patient, but identified with efficiency by routine ECG or at *post-mortem examination*. Therefore, the ECG associated with a good clinical history and physical examination is fundamental for the patient with chest pain, because in addition to the cost low, its implementation is simple and allows the immediate assessment of the result of the examination.[3]

In the year 2009, the AMI was the third largest cause responsible for hospitalizations in the Unified Health System (SUS). This represented a total of 10.2% of hospitalizations, number that exceeds 25% when analyzed the population over the age of 50 years.[4]

In 2011, Coronary Artery Disease (CAD), was responsible for a every seven deaths in the United States. In the same year, 375,295 Americans died of this pathology. Annually, it is estimated that 635,000 new coronary attacks occur, 300,000 recurrent attacks, in addition to 155,000 additional went silent in the American population. It is also important to emphasize that approximately every 34 seconds, an American presents a coronary event, and about one minute and 24 seconds, a death occurs in this population.[5]

However, the hospital mortality in relation to IAMCST showed significant decrease of 11.5% in the year 1990, 8.0% for the year 2006. attaches to this decline factors such as advances in clinical pharmacotherapy and the reperfusion strategies, such as percutaneous coronary intervention (PCI) primary, and also to changes of patients in

regard to their demographic profile and the response time between onset of symptoms and the demand for specialized help.[6]

It is worth noting that, despite the reduction in mortality due to AMI in the intra-hospital phase, the incidence of deaths by this pathology is still significant in the prehospital environment. This high mortality, especially in Brazilian metropolises, represents a considerable socioeconomic impact for the country.[7]

As regards the most prevalent risk factors for the onset of AMI, we highlight the Systemic Arterial Hypertension (SAH), smoking (SM), diabetes mellitus (DM), alcoholism and the dyslipidemia.1.8 important to stress that SAH is considered as the main risk factor of AMI, in addition to evident as an expressive index of hospital mortality in patients with a definitive diagnosis of AMI.[2]

In this way, this study aimed to discuss the factors associated with acute coronary syndrome, as well as a review of the current literature brings about the prevalence of acute coronary syndrome/acute myocardial infarction (SCA/AMI) between men and women.

Face it, this study is justified by the fact that the SCA/would be a reality in current scenario. Thus these data may serve as a warning to the health professionals regarding the need for health education to the population, in addition to stimulate demand an immediate hospital unit in the initial presence of signs and symptoms of AMI. In addition, this study can promote the knowledge of health professionals about this theme and to awaken the attention for its prevention, combat and control.

Methodology

It is a descriptive and exploratory study of integrative review of literature of epidemiological studies, in which they were covered six inter-related steps: establishment of hypothesis or guiding question, sampling or search in the literature, categorization of the study, assessment of studies included in the review, interpretation of results, synthesis of knowledge or presentation of the review.

For the elaboration of the guiding questions was used in the research strategy peak, which represents an acronym for (P) or patient population, (I) Intervention, (C) control or comparison, (O) "outcomes" (outcome). So the guiding questions were: What are the factors associated with the development of acute coronary syndromes have been described in the literature? Which its prevalence among men and women in the current scenario?

Subsequently, conducted the survey of articles between March and July of 2018, the databases *Medline data Public or Publisher Medline* (Pubmed), Latin American and Caribbean Literature in Health Sciences (LILACS), *Scientific Electronic Library Online* (SciELO) and the Nursing Database (BDENF), using the following Descriptors in Health Sciences (Decs): myocardial infarction, acute coronary syndrome and prevalence. As descriptors of the *Medical Subject Headings* (Mesh) were used: *Myocardial Infarction*, *Acute Coronary Syndrome Prevalence*. Thus, the search was performed using the following strategies: Myocardial infarction *and* acute coronary syndrome *and* prevalence *or* epidemiology, ((("*Myocardial Infarction*"[Mesh]) *AND* "*Acute Coronary Syndrome*" [Mesh]) *AND* "*Health*" [Mesh])

or ((("*Myocardial Infarction*"[Mesh]) *AND* "*Acute Coronary Syndrome*" [Mesh]) *AND* "*Epidemiology*"[Mesh].

The inclusion criteria were: studies available in their entirety, observational, descriptive, analytical; made with human rights in the context of clinical practice, in which the authors are health professionals (nurses, doctors, pharmacists and physiotherapists), which addressed the epidemiology or the prevalence of SCA/AMI and the risk factors associated with its development. As an exclusion criterion adopted: articles that addressed the theme proposed, pulicados texts on websites, brief communications, theses, dissertations or theses and articles pulicados preceding the year of 2012. Articles with dual publication or articles available in two or more databases were considered only once .

The selection of the studies gave himself by means of consensus among the researchers of this study, to evaluate the goals and the main results presented by them. The path followed in the search and selection of studies was presented in figure 1 and the results found, were presented in the form of tables (Table 1 and Table 2). The selected studies were characterized as descriptive, observational studies that have addressed the topic SCA or AMI and analyzed the risk factors present in your appearance.

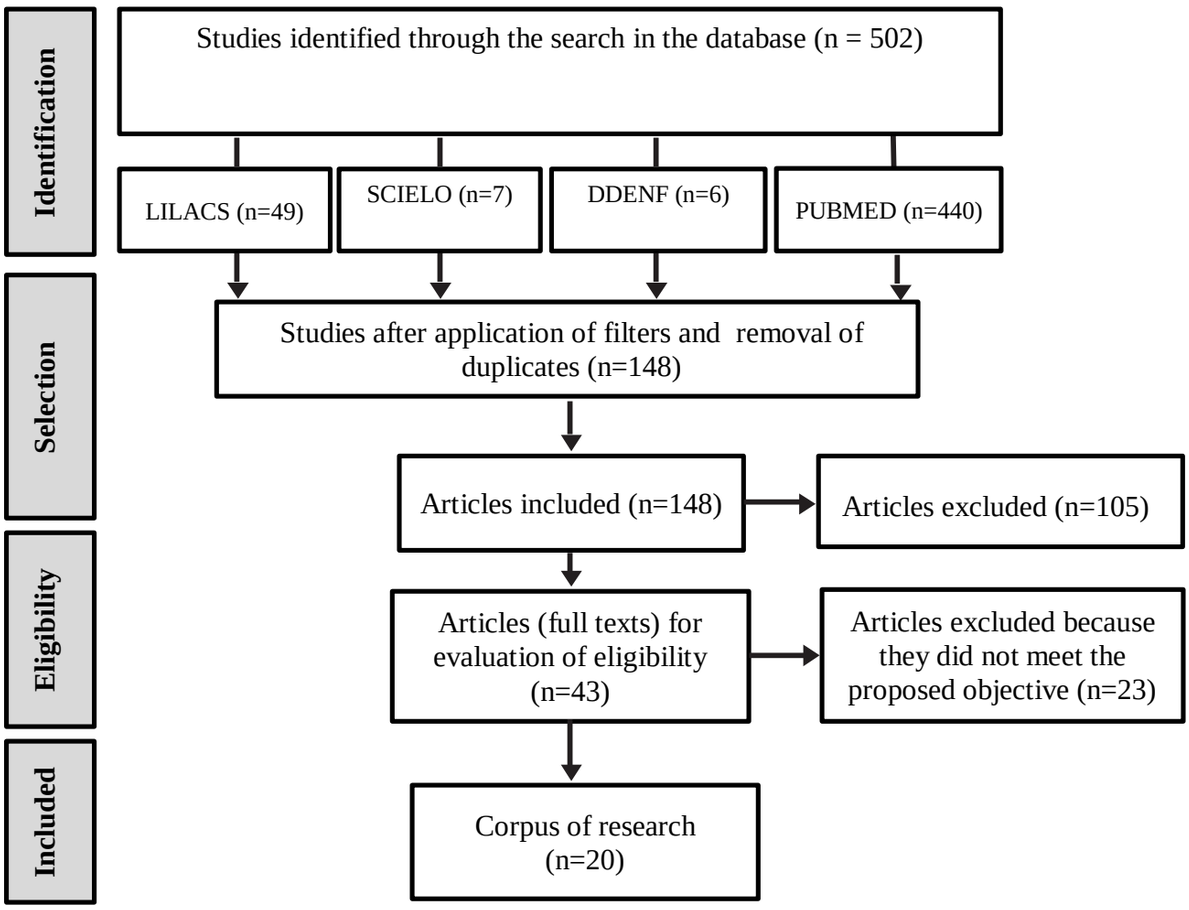

Figure 1. Search and selection of studies based on the PRISMA model diagram.

RESULTS

Initially, the search resulted in 502 studies. Of this total, 459 studies were excluded after adopting the exclusion criteria

described above. The 43 remaining studies were submitted to complete reading, which enabled the delete over 23 studies because they do not meet the objective of this study.

To analyze the results, we noticed that the variables with greater incidence among patients with AMI were: SAH, TB and DM. Among the variables prevalent and cited by the authors is the SAH, reported in 100% of articles as the pathology that affects patients with infarction. A situation that requires attention on the part of professionals and managers of health, aimed at controlling the tensor levels of the population already affected, reduce new cases by means of educational strategies and, consequently, reduce new cases of AMI.

When analyzing the smoking as a risk factor observed variations in its incidence according to the publications. The studies pointed out as the second variable more frequent among patients who developed AMI. These causes (hypertension and smoking), along with the other variables, may make them more complex and vulnerable to the development of a new cardiac event and even more serious.

Among the risk factors for AMI more incidents in the literature selected are the TB, hypertension, diabetes, obesity and sedentary lifestyle. It was evident that it was common the presence of two or more risk factors together, present in the same patient, in the onset of signs and symptoms of AMI. Therefore, it is observed that the risk factors alone are relevant for the development of AMI, however, when in conjunction with other risk factors, driving even further the risk of AMI.

In relation to the incidence of AMI by genres, 94% of the studies analyzed showed a higher incidence of this pathology in males, ranging from 52.1% to 78.1. The female gender was also very expressive, however, less incident, ranging from 21.9% to 47.9% of cases occurred as the studies. However, it became apparent that there was an increase in the incidence of cases of ACS in females in recent years.

Table 1 - Prevalence of acute coronary syndrome among men and women according to the selected publications. 2018.

Authors, Year	Title	Sample	Literacy (%)	Males (%)
Bahall, Seemungal, Legall, 2018.[9]	Risk factors for first-time acute myocardial infarction patients in Trinidad	252	113 (45%)	138 (55%)
Fernández-Rodríguez *et al.*, 2017.[10]	Gender gap in medical care in ST segment elevation myocardial infarction networks: Findings from the Catalan network Codi Infart	4380	961 (21.9%)	3419 (78.1%)
Marino et al., 2016.[11]	Epidemiological profile and Quality Indicators in patients with Acute Coronary Syndrome in Northern Minas Gerais Minas Telecardio 2 Project	277	95 (34.3%)	182 (65.7%)
Araújo *et al.*, 2016.[2]	Profile of the population affected by acute myocardial infarction	106	36 (34%)	70 (66%)
Andrade *et al.*, 2015.[6]	Clinical and angiographic profile of young patients primary percutaneous coronary intervention	489	151 (30.9%)	338 (69.1)
Maier, Martins, Dellaroza, 2015.[12]	Pre hospital indicators in assessing the quality of care for patients with acute coronary syndrome	94	45 (47.9%)	49 (52.1%)
Soeiro *et al.*, 2015.[13]	Clinical characteristics and long-term progression of young patients with acute coronary syndrome in Brazil.	268	115 (43%)	153 (57%)
Andrade *et al.*, 2015.[14]	The assessment of the time of the initial electrocardiogram in patients with acute coronary syndrome	116	53 (45.7%)	63 (54.3%)
Sousa *et al.*, 2015.[15]	Epidemiology of coronary artery bypass grafting at the Hospital Beneficência Portuguesa, São Paulo	3011	906 (30.1%)	2105 (69.9%)
Almeida *et al.*, 2014.[16]	Comparison of clinical-epidemiological profile between men and women in acute coronary syndrome	927	556 (60%)	371 (40%)
Araújo *et al.*, 2014.[17]	Clinical and epidemiological profile of patients with acute coronary syndrome	150	52 (34.7%)	98 (65.3%)
Jesus, Campelo, Silva, 2013.[1]	Profile of patients admitted with acute myocardial infarction in the Emergency Hospital of Teresina-PI	240	105 (43.8%)	135 (56.2%)

Lima *et al.*, 2018.[18]	Clinical-epidemiological aspects of patients submitted to percutaneous coronary intervention in the university hospital	222	77 (34.7%)	145 (65.3%)
Deora *et al.*, 2016.[19]	Demographic and angiographic profile in premature cases of acute coronary syndrome: analysis of 820 young patients from South India	820	60 (7.3%)	760 (92.7%)
Agrawal *et al.*, 2016.[20]	Clinical Profile with angiographic correlation in Naïve Acute Coronary Syndrome	100	25 (25%)	75(75%)
Silva et al., 2018.[21]	Epidemiological and clinical profile of patients with acute coronary syndrome	145	166 (54.8%)	201 (45.2%)
Andamans *et al.*, 2016.[22]	Evaluation of algorithms is registry-based detection of acute myocardial infarction following percutaneous coronary intervention	5719	1448 (25.3%)	4271 (74.7%)
Pogorevici et al., 2016.[23]	Canada acute coronary syndrome score was a stronger predictor than baseline age ≥75 years of in-hospital mortality in acute coronary syndrome patients in western Romania	960	211 (22%)	749 (78%)

Fonte: authors, 2018.

Table 2 - Characteristics of the articles regarding the profile of patients with AMI, 2018.

Authors	Sample	Sedentary Lifestyle	Arterial hypertension	Dyslipidemia	Diabetes Mellitus	Alcoholism	Smoking	Family History	Obesity/ overweight	Stress
Bahall, Seemungal, Legall, 2018.[9]	251	X	185 (73.7%)	49 (19.8%)	158 (63.0%)	81 (32.3%)	85 (33.9%)	76 (30.3%)	X	63 (25.1%)
Hayıroğlu *et al.*, 2018.[24]	142	X	67 (47.2%)	54 (38.0%)	73 (51.4%)	X	87 (61.3%)	X	X	X
Grieshaber *et al.*, 2018.[25]	434	X	410 (94.5%)	287 (66.1%)	172 (39.6%)	X	X	X	X	X
Ong *et al.*, 2017.[26]	1690	X	693 (41%)	467 (27.6%)	289 (17.1)	X	555 (32.8%)	185 (10.9%)	X	X
Fernandes-Rodrigues *et al.*, 2017.[10]	961	X	X	X	260 (27.1%)	X	X	X	X	X
Araújo *et al.*, 2016.[2]	106	X	88 (83%)	X	42 (39.6%)	8 (7.6%)	33 (31.2%)	X	X	X
Marino *et al.*, 2016.[11]	583	X	462 (79.2%)	324 (90.5%)	139 (23.8%)	139 (23.8%)	116 (19.9%)	235 (40.3%)	X	X
Mozaffarian *et al.*, 2015.[5]	489	X	325 (66.5%)	155 (31.7%)	153 (14.8%)	X	215 (44%)	91 (18.6%)	113 (23.1%)	X
Soeiro *et al.*, 2015.[13]	268	X	182 (68%)	115 (43%)	67 (25%)	X	180 (67%)	X	X	X
Andrade *et al.*, 2015.[14]	116	46 (39.3%)	63 (54.4%)	36 (31.1%)	X	X	9 (7.8%)	19 (16.3%)	X	X
Schmidt *et al.*, 2015.[27]	1817	X	1175 (64.7%)	649 (35.7%)	438 (24.1%)	X	761 (41.9%)	552 (30.4%)	X	3 (0.2%)
Sousa *et al.*, 2015.[15]	3010	X	2491 (82.8%)	1338 (44.5%)	1102 (36.6%)	X	1665 (55.3%)	881 (29.3%)	620 (20.6%)	X
Araújo *et al.*, 2014.[17]	150	1 (0.7%)	102 (68%)	2 (1.3%)	8 (5.3%)	1 (0.7%)	36 (24%)	X	X	X
Almeida *et al.*, 2014.[16]	927	598 (64.5%)	679 (73.2%)	544 (58.7%)	350 (37.8%)	181 (19.5%)	194 (20.9%)	X	X	X
Jensen *et al.*, 2018.[28]	3209	X	1724 (53.78%)	X	702 (21.9%)	X	1252 (39%)	X	553 (17.2%)	X
Lima *et al.*, 2018.[18]	222	202 (91%)	178 (80.2%)	X	85 (38.3%)	48 (21.6%)	121 (54.5%)	85 (38.3%)	55 (24.8%)	X
Agrawal *et al.*, 2016.[20]	100	X	21 (21%)	X	23 (23%)	X	18 (18%)	11 (11%)	21 (21%)	X
Deora *et al.*, 2016.[19]	820	X	140 (17.1%)	685 (83.5%)	115 (14%)	X	561 (68.4%)	62 (7.6%)	111 (13.5%)	X
Silva et al., 2018.[21]	367	X	229 (62.4%)	87 (23.7%)	51 (13.9%)	117 (31.9%)	114 (31%)	X	X	X
Pogorevici *et al.*, 2016.[23]	960	X	414 (43.1%)	297 (30.9%)	259 (27%)	X	306 (32%)	X	X	X

Fonte: autores, 2018.

DISCUSSION

To compare the clinical profile between men and women with AMI, a study published in 2014 showed that the coefficient of overall mortality is higher among men in relation to women, in all the years considered. However, the variable SAH, when compared their frequency between genders, we found a higher incidence among women (p=0.001), while smoking and alcoholism were more frequent in men (p=0.01).[16]

There are several risk factors associated with AMI, among them: marital status, being retired, family history of coronary artery disease; antecedents of SAH and DM, TB, physical activity, LDL-cholesterol, HDL-cholesterol, glucose, body mass index, among others.[1-5,12-14,16-21,23, 26-28]

In 2007,[29] was conducted a study with 50 patients, whose goal was to identify the epidemiological profile of patients with cardiovascular diseases. This showed that 32% of the patients were smokers or had stopped smoking after a cardiac event. Another important variable was the hypercholesterolemia, present in 44% of patients affected by any cardiac event.

Another study performed in 2015,[30] demonstrated a significant relevance in the influence of genetic factor/family history when analyzed the pathophysiology of AMI and its possible predisposing factors in individuals aged less than 40 years.

In this sense, the increase in cholesterol and the presence of TB are important risk factors for the onset of AMI. These and other factors such as being overweight and hypertension, in addition to contributing to the emergence of a coronary event, also interfere in the quality of life and the survival of the population. Therefore, the development of preventive strategies, health education and screening of the population at risk are fundamental and allow screening, control and prevent these risk factors, thus ensuring better quality of life of the population and to reduce the incidence of coronary events.

To conduct a survey of data between 2002 and 2003, it was demonstrated that the age above 60 years is a factor on the hospitalization rate and an indicator of the severity and mortality of patients with ischemic heart diseases.[31]

Another study conducted in 2009 with 64 patients hospitalized for ACS pointed out that 54.7% of the patients presented dyslipidemia, 93.8% were hypertensive, 26.6% were smokers, 37.5% diabetic patients and 67.2% were sedentary.[32]

Thus realizes that there are several risk factors that may favor the appearance of AMI/ACS (internal and external). The most effective way to combat these risks and reduce the impact of cardiovascular diseases at the population level, is the development of preventive actions. For this reason, the multidisciplinary team is indispensable in this process, working in active search and identification and intervention of external factors and proposing educational strategies that minimize the risk of ACS by internal factors.

As regards the treatment of ACS, there are several types of drugs that can be used in the management of this pathology, since the arrival of the patient in the emergency unit, until their hospital discharge. These medicines may vary according to the degree of involvement and the time of manifestation of symptoms. The most widely used in the initial management are: acetylsalicylic acid, clopidogrel, ticlopidine, ntitrombínicos, nitroglycerin, nitrates, tirofiban and

abciximab, inhibitors of angiotensin converting enzyme, statins, bloqueadores calcium, beta-blockers among others. [33]

Intravenous thrombolysis or fibrinolysis is an important procedure in the first minutes after AMI, but in patients with IAMCST eligible for rescue angioplasty (primary angioplasty) is fundamental and must be performed by an experienced team in up to 12 h after the onset of symptoms.[34]

Still lack clarity in studies regarding the combination between the therapies already imposed (thrombolysis, the use of antiplatelet drugs, betablockers and/or angiotensin-converting enzyme and the angioplasty), especially regarding its effectiveness in saving lives.[35]

Another study conducted in 2007,[36] showed that 483 patients were followed up for quality of life assessments and demographic profile questionnaire. These patients have formed the following therapeutic groups: surgical myocardial revascularization (SMR), 161 patients (33.3%), percutaneous coronary angioplasty (PCI), 166 patients (34.3%), and medical treatment (MT), 153 patients (32.4%), being periodically monitored. In this study it was possible to verify that patients in the three therapeutic options were similar when related to clinical and angiographic conditions, medication use, laboratory, among others. Of the patients in follow-up, 86% had, on admission to the study, anginal symptoms class II or III (CCS); 34% reported the occurrence of myocardial infarction; 32% were smokers.

In this study, all patients received specific medications for cardiac impairment and other comorbidities. In relation to the clinical treatment after the period of four years of follow-up, of the 153 patients referred, 12 (7.7%) were victims of AMI, 24 (15.3%) were submitted to myocardial revascularization surgery and 19 (12.1%), evolved to death. In addition, five patients (3.1%), suffered a stroke and 40 (25.6%) reported symptoms of angina pectoris.[36]

Therefore, it is striking that the treatment related to AMI/ACS is varied and depends on the time of the clinical status and diagnosis of the patient affected. Thus, the rapid and correct definition of therapeutics instituted ahead, as well as the treatment and control of these comorbidities, pipelines are indispensable to the effectiveness of the proposed treatment and better outcomes in these patients.

Conclusion

After analysis of the information, it can be argued that the SCA still presents a serious public health problem and needs to be tackled on a daily basis.

As regards the risk factors for the onset of AMI, we observed that there are several responsible for unleashing this pathology. Among the most frequent found the TB, SAH, DM, followed of sedentary lifestyle and overweight. External factors such as family history were also evident in studies, but less often. Another important fact noticed in studies was that the patients with AMI, had in common, the presence of two or more risk factors concurrently, suggesting that the risk factors in conjunction, potentiate the risk of an ischemic event.

The information raised demonstrate the need for public health policies and health education strategies to the population, in order to prevent these risk factors and control

them in that possesses them. Another fact was evidenced the need for active search and tracking of the population at risk in the community, in order to guide them as to the risk of developing ACS and about the importance of the quick search by a hospital unit in the presence of early signs and symptoms. These practices require knowledge and commitment of health professionals, especially nurses, who constantly plays in the promotion of health and prevention of diseases in the population.

Regarding gender affected by AMI, we observed a predominance of males among patients with AMI in comparison to the female gender. However, the incidence of SCA in the female population seems to be growing in recent years.

As a limitation found in this review, is the lack of intervention studies, which limits the statements listed here. Another critical point was the fact that few studies have analyzed the stress as an important risk factor for the development of ACS, since this factor is frequent in actuality.

REFERENCES

1. Jesus AV, Campelo V, Silva MJS. Perfil dos pacientes admitidos com Infarto Agudo do Miocárdio em Hospital de Urgência de Teresina-PI. Rev. Interd. 2013; 6(1):25-33.
2. Araújo IFM, Santos ISC, La Longuiniere ACF, Valença Neto PF, Franklin TA. Profile of the population affected by acute myocardial infarction. Rev. enferm. UFPE on line. 2016. [acesso em: 11 nov 2018];10(7):2302-9. Disponível em: file:///C:/Users/biare_000/Downloads/11284-25528-1-PB%20(1).pdf.
3. Torres GKV, Marques IR. Estudo sobre o perfil dos pacientes portadores de Síndrome Coronariana Aguda. Rev. Enferm. UNISA. 2012; 13(1):21-6.
4. Piegas LS, Avezum A, Guimarães HP, Muniz AJ, Reis HJL, Santos ES, *et al.* Acute Coronary Syndrome Behavior: Results of a Brazilian Registry. Arq. Bras. Cardiol. 2013; 100(6):502-10.
5. Mozaffarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, *et al*. Heart disease and stroke statistics, 2015 update: a report from the American Heart Association. Circulation. 2015;131:e29–e322.
6. Andrade PB, Rinaldi FS, Bienert IRC, Barbosa RA, Bergonso MH, Matos MPB, *et al*. Clinical and angiographic profile of young patients undergoing primary percutaneous coronary intervention. Rev Bras Cardiol Invasiva. 2015;23(2):91-5.
7. Damasceno CA, Queiroz TL, Santos CAST, Mussi FC. Factors associated with the decision to seek health care in myocardial infarction: gender diferences. Rev. Esc. Enferm. USP. 2012; 46(6):1362-70.
8. Soares T, Souza EN, Moraes MA, Azzolin K. Tempo Porta-Eletrocardiograma (ECG): um indicador de eficácia no tratamento do infarto agudo do miocárdio. Rev. Gaúcha Enferm. 2009; 30(1):120-6.
9. Bahall M, Seemungal T, Legall G. Risk factors for first-time acute myocardial infarction patients in Trinidad. BMC Public Health. 2018;18(1):161.
10. Fernández-Rodríguez D, Regueiro A, Cevallos J, Bosch X, Freixa X, Trilla M, *et al*. Gender gap in medical care in ST segment elevation myocardial infarction networks: Findings from the Catalan network Codi Infart. Medicina Intensiva, 2017;41(2):70-7.
11. Marino BCA, Marcolino MS, Reis Júnior RS, França ALN, Passos PFO, Lemos TR, *et al*. Epidemiological Profile and Quality Indicators in Patients with Acute Coronary Syndrome in Northern Minas Gerais – Minas Telecardio 2 Project. Arq. Bras. Cardiol. [online]. 2016. [acesso em: 5 jan 2018]; 107(2):106-15. Disponível em: http://dx.doi.org/10.5935/abc.20160095.
12. Maier GSO, Martins EAP, Dellaroza MSG. Pre hospital indicators in assessing the quality of care for patients with acute coronary syndrome. Rev. Gaúcha Enferm. 2015; 36(3):49-55.
13. Soeiro AM, Fernandes FL, Soeiro MC, Serrano Jr CV, Oliveira Jr MT. Clinical characteristics and long-term progression of young patients with acute coronary syndrome in Brazil. Einstein (São Paulo). 2015;13(3):370-5.
14. Andrade KBS, Pinheiro APB, Bessa ATT, Paes GO, Stipp MAC. A avaliação do tempo de espera do eletrocardiograma inicial em pacientes com Síndrome Coronariana Aguda. Rev. enferm. UERJ. 2015; 23(4):443-8, 2015.

15. Sousa AG, Fichino MZS, Silva GS, Bastos FCC, Piotto RF. Epidemiology of coronary artery bypass grafting at the Hospital Beneficência Portuguesa, São Paulo. Braz J Cardiovasc Surg 2015;30(1):33-9
16. Almeida MCA, Montenegro CEL, Sarteschi C, Montenegro GL, Montenegro PBR, Livera JR, *et al*. Comparação do Perfil Clínico-Epidemiológico entre Homens e Mulheres na Síndrome Coronariana Aguda. Rev. Bras. Cardiol. 2014; 27(6):423-9.
17. Araújo DF, Araújo ERM, Silva MRV, Silva NC, Guimarães MSO, Amorim Neta FL. Perfil clínico e epidemiológico de pacientes com síndrome coronariana aguda. Rev. Enferm. UFPI. 2014; 3(2):78-84.
18. Lima MSM, Dantas RAN, Mendes NPN, Alves LCM, Silva TTM, Brito AGR, *et al.* Clinical-epidemiological aspects of patients submitted to Percutaneous Coronary Intervention in a university hospital. Rev Bras Enferm. 2018;71(6):2883-90.
19. Deora S, Kumar T, Ramalingam R, Nanjappa Manjunath C. Demographic and angiographic profile in premature cases of acute coronary syndrome: analysis of 820 young patients from South India. Cardiovasc Diagn Ther. 2016;6(3):193–198.
20. Agrawal V, Lohiya BV, Sihag BK, Prajapati R. Clinical Profile with Angiographic Correlation in Naïve Acute Coronary Syndrome. J Clin Diagn Res. 2016;10(9):OC10–OC14.
21. Silva LN, Karino ME, Martins JT, Galdino MJQ, Scholze AR, Ribas JJ. Epidemiological and clinical profile of patients with acute coronary syndrome. J Nurs UFPE on line. 2018; 12(2):379-85.
22. Egholm G, Madsen M, Thim T, Schmidt M, Christiansen EH, Bøtker HE *et al.* Evaluation of algorithms for registry-based detection of acute myocardial infarction following percutaneous coronary intervention. Clin Epidemiol 2016;8:415–23.
23. Pogorevici A, Citu IM, Bordejevic DA, Caruntu F, Tomescu MC. Canada acute coronary syndrome score was a stronger baseline predictor than age ≥75 years of in-hospital mortality in acute coronary syndrome patients in western Romania. Clin Interv Aging. 2016;11:481–488.
24.Hayıroğlu MI, Çanga Y, Yıldırımtürk O, Bozbeyoğlu E, Gümüşdağ A, Uzun AO, *et al*. Clinical characteristics and outcomes of acute coronary syndrome patients with intra-aortic balloon pump inserted in intensivecardiac care unit of a tertiary clinic. Turk Kardiyol Dern Ars. 2018; 46(1):10-7.
25. Grieshaber P, Oster L, Schneider T, et al. Total arterial revascularization in patients with acute myocardial infarction - feasibility and outcomes. J Cardiothorac Surg. 2018;13(1):2.
26. Ong ME, Hao Y, Yap S, Pek PP, Chua TS, Ng FS, et al. Validation of the new Vancouver Chest Pain Rule in Asian chest pain patients presenting at the emergency department. CJEM. 2017; 19(1):18-25.
27. Schmidt MM, Quadros AS, Martinelli ES, Gottschall CAM. Prevalence, etiology, and characteristics of patients with type-2 acute myocardial infarction. Rev Bras Cardiol Invasiva. 2015;23(2):119-23
28. Jensen MT, Pereira M, Araujo C, Malmivaara A, Ferrieres J, Degano IR *et al*. Heart rate at admission is a predictor of in-hospital mortality in patients with acute coronary syndromes: Results from 58 European hospitals: The European Hospital Benchmarking by Outcomes in acute coronary syndrome Processes study. Eur Heart J Acute Cardiovasc Care. 2018;7(2):149-57.
29. Jaconodino CB, Amestoy SC, Thofehrn MB. Conhecimento dos pacientes acerca dos fatores de risco relacionados às doenças cardiovasculares. Cogitare Enfermagem. 2007; 12(4):466-71.
30. Feijó IP, Schmidt MM, David RB, Martins JMP, Schmidt KE, Gottschall CAM, et al. Percutaneous Coronary Intervention in Young Patients. Rev Bras Cardiol Invasiva. 2015; 23(1):48-51.
31. Evangelista PA, Barreto SM, Guerra HL. Hospital Admission and Hospital Death Associated to Ischemic Heart Diseases at the National Health System (SUS). Arq. Bras. Cardiol. 2008; 90(2):130-8.
32. Pena FM, Peixoto RS, Soares JS, Pires Júnior HR, Pena GSA, Rosa Netto MV, *et al.* Perfil clínico e angiográfico de pacientes idosos com síndrome coronariana aguda admitidos em hospital terciário. Rev. SOCERJ. 2009; 22(3):176-80.
33. Santos ES, Minuzzo L, Pereira MP, Castillo MTC, Palácio MAG, Ramos RF, *et al*. Acute Coronary Syndrome Registry at a Cardiology Emergency Center. Arq. Bras. Cardiol. 2006; 87:597-602.
34. Ibanez B, James S, Agewall S, Antunes MJ, Bucciarelli-Ducci C, Bueno H, et al. 2017 ESC guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation: The Task Force for the management of acute myocardial infarction in patients presenting with ST-segment elevation of the European Society of Cardiology (ESC). Eur Heart J 2018;39:119–177.
35. Baena CP, Olandoski M, Luhm KR, Costantini CO, Guarita-Souza LC, Faria-Neto JR. Tendency of Mortality in Acute Myocardial Infarction in Curitiba (PR) in the

period of 1998 to 2009. Arq. Bras. Cardiol. 2012;98(3):211-7.
36. Takiuti ME, Hueb W, Hiscock SB, Nogueira CRSR, Girardi P, Fernandes F, et al. Quality of Life after Surgical Myocardial Revascularization, Angioplasty or Medical Treatment. Arquivos Brasileiros de Cardiologia. 2007; 88(5):537-44.

RECEIVED: 09/01/2019
APPROVED: 17/07/2019
PUBLISHED: 07/2020