



## Assistance to the Infarcted Patient in the Intensive Care Unit

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### ABSTRACT

Introduction: Acute myocardial infarction (IAM) is given by a coronary artery occlusion, through the formation of a clot or atheroma plaque, decreasing blood flow and taking part of the myocardium to a process of necrosis which triggers in a large number of Deaths in the world population. Objective: To carry out a systematic review of literature on acute myocardial infarction, emphasizing the assistance to the patient postmyocardial interned in intensive therapy unit. Methodology: A search was carried out on scientific portals such as PubMed and SciELO using as descriptors the terms "acute infarction of the infarction" and "UTI". The search period was 2018 to 2023. Results and discussion: In Pubmed were found 23 articles and in SciELO 45, totaling 68 articles. Articles that did not deal with patient care were excluded, leaving 26 articles, the ones that composed this study. The selected articles were analyzed and the subjects separated in 09 (nine) topics for better understanding of the theme. Final considerations: It was observed the emphasis of the publications in the fact of the IAM to be a pathology of easy diagnosis, but that if not treated in time has a high index of deaths in the first hours. Gravity depends on the extent of the affected region and all associated risk factors.

**Key Words:** Acute myocardial infarction. ITU. Assistance.

### INTRODUCTION

The term myocardial infarction basically means the death of cardiomyocytes caused by prolonged ischemia. In general, this ischemia is caused by thrombosis and/or vaso-spasm over an atheromatous plaque. The process migrates from the subendocardium to the subepicardium. Most events are caused by sudden rupture and thrombus formation over vulnerable, inflamed, lipid-rich plaques with a thin fibrous cap.

A smaller portion is associated with atherosclerotic plaque erosion (BRUNNER et.al, 2019). In the world, cardiovascular diseases still remain as the first cause of proportional mortality, responsible for 29% of deaths in 2019. Acute myocardial infarction (AMI) is the second most frequent cause of death (7%).

Hospital mortality of patients hospitalized for AMI remains persistently high: on average, 16.2% in 2000, 16.1% in 2020, and 15.3% in 2021 for hospitalizations. recorded across the planet. The high mortality is attributed to the difficulties in the access of patients with AMI to intensive care treatment, reperfusion methods and therapeutic measures established for AMI (VALLABHAJOSYULA et.al, 2019).

Every procedure in the ICU is considered essential for the patient and therefore it is extremely important that it is performed precisely, however, it is known that there are some techniques that are sometimes not performed due to the emergency care that occurs in the unit. such as cardiac arrest and intubation (HAJJAR et.al, 2019).

Nursing care in the ICU deserves special attention, because while performing a technique, the professional's care when handling so many therapeutic and diagnostic artifacts can cause serious damage to the continuity of care, such as accidental exit, obstruction or incorrect positioning. of catheters, cannulas, probes and drains (VALLABHAJOSYULA et.al, 2019).

The positive prognosis of these patients fundamentally depends on the agility in reaching a medical service and on the efficiency of this service in obtaining coronary reperfusion as quickly as possible.

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## OBJECTIVE

Conduct a systematic review of the literature on acute myocardial infarction, emphasizing care for post-infarction patients admitted to the Intensive Care Unit.

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## MATERIAL AND METHODS

This work is a literature review study, which compiled the results of research on the subject of Acute Myocardial Infarction, in a systematic and orderly manner, contributing to the deepening of knowledge of the investigated subject.

To carry out this review, initially, the research question was identified, which was “the importance of care for post-infarction patients admitted to the Intensive Care Unit” combined with the selection of the descriptors “Acute Myocardial Infarction, ICU”, and, in then, the criteria for inclusion and exclusion of articles were established (articles published in the last 5 years were used). From this, the following steps were followed during the elaboration of this study: the selection of the sample was carried out through the search in the databases; later, there was a summary of the information extracted from the selected articles; evaluation of studies; interpretation and discussion of results; and the last stage consisted of presenting the review and synthesis of knowledge. For selection of articles, the following databases were used: PubMed and SciELO.

The search was carried out between the months of May and June 2023. The inclusion criteria of the articles defined for this review were: having been published in the last 5 years; in the English language; be available electronically in full; and address Acute Myocardial Infarction related to assistance in the Intensive Care Unit. Studies that did not fit the aforementioned characteristics were excluded from this review. The controlled descriptors were used: “Acute Myocardial Infarction” and “UTI”. The results found were described by means of frequencies, presented in text form and discussed according to the relevant literature, allowing the reader to assess the applicability of the integrative review elaborated, in order to achieve the objective of this method.

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## DISCUSSIONS

According to Thiele (2021), there is a dynamic pattern of thrombosis and thrombolysis simultaneously, associated with vasospasm, which can cause intermittent flow obstruction and distal embolization (one of the mechanisms responsible for tissue reperfusion failure despite obtaining flow in the affected artery). Within a spectrum of possibilities related to the time of evolution, the myocardium undergoes progressive aggression represented by areas of ischemia, injury and necrosis successively.

In the first, electrolyte disturbances predominate, in the second, reversible morphological changes and in the last, definitive damage (BRUNNER et.al, 2019).

These steps correlate with the diversity of clinical presentations ranging from unstable angina and non-elevation infarction to ST-segment elevation infarction. That is why infarction management is based on rapid diagnosis, immediate clearance of the culprit coronary artery, maintenance of the flow obtained, prophylaxis of distal embolization and reversal of potentially fatal complications (arrhythmias, heart failure and mechanical disturbances) (BRUNNER et. al, 2019).

In recent decades, there has been a significant reduction in the mortality rate from cardiovascular diseases related to advances in primary prevention and treatment of acute coronary syndrome (ACS). Although this reduction is a worldwide trend, it is more pronounced in developed countries, where it is possible to have timely access to adequate treatment, with reperfusion by primary angioplasty or fibrinolysis, dual antithrombotic therapy and intensive care (SAMSKY et.al, 2021).

According to Thomas et.al (2021), the recognition that for the adequate treatment of AMI, the interaction of several sectors is necessary (community, emergency care units, emergency transport service and hospital with hemodynamic and therapy services intensive) induces the creation of systems or AMI Care Lines to optimize patient care, from early diagnosis to adequate and timely treatment. Acute myocardial infarction (AMI) is the biggest public health problem in industrialized countries. Its incidence has been increasing alarmingly.

The study of acute myocardial infarction (AMI) is fundamental due to the high prevalence, mortality and morbidity of the disease. Epidemiological studies reveal general mortality rates of around 30%, with half of the deaths occurring within the first two hours of the event and 14% dying before receiving medical attention. However, patients admitted to emergency services early were the ones who benefited most from the therapeutic advances of recent decades (SAMSKY et.al, 2021).

Cardiovascular diseases remain the leading cause of death worldwide, accounting for nearly 32% of all deaths. Among them, acute myocardial infarction is still one of the major causes of morbidity and mortality. Despite therapeutic advances in recent decades, infarction still has significant mortality rates and most patients do not receive adequate treatment. In-hospital mortality, around 30% before 1960, decreased to 16% with the advent of coronary units. Later, with the development of fibrinolytics and primary angioplasty, rates declined to around 6%-8% in the first 30 days after the infarction (SAMSKY et.al, 2021).

Cardiovascular diseases (CVD) are the main causes of death, as well as morbidity and disability, among developed Western countries. In the context of CVDs, atherosclerosis, both of the coronary arteries and of the brain, constitutes, in these countries, a serious public health problem, assuming the contours

of a true epidemic, factors that predispose to a greater risk of developing atherosclerosis among which emerged as the most important age group, male gender, heredity, hypercholesterolemia, systemic arterial hypertension (SAH) and diabetes mellitus (DM) (SAMSKY et.al, 2021).

The most frequent risk factors for coronary artery disease were systemic arterial hypertension. From the identification of these factors, a persistent work began aiming at their elimination or attenuation, in such a way that, in most of the western developed countries, it has been noticed, in the last decades, a reversal in the tendency of mortality due to coronary artery disease (CAD) (SAMSKY et.al, 2021).

Establishing an effective treatment for acute myocardial infarction (AMI) was one of the most important medical achievements of the second half of the 20th century. Hospital mortality dropped from an alarming 30% to 40% in the 1950s and 1960s to less than 5% in 2006, as a result of the introduction of various therapeutic strategies, among which the installation of cardiovascular intensive care units (ICU) stands out, coronary units, and the introduction of reperfusion therapy (chemical or percutaneous) (SAMSKY et.al, 2021).

The introduction of percutaneous coronary intervention (PCI), using a balloon catheter, by Andreas Gruentzig, in 1977, revolutionized the treatment of coronary artery disease (CAD). Coronary lesions, until then, were only approached as a surgical procedure, involving a thoracotomy, and started to be treated with a balloon catheter taken to the coronary system by simple peripheral arterial puncture (BENNETT et.al 2019).

Coronary stenosis, a common complication in the early years, was reduced with the implantation of coronary stents used from 1982 onwards, a procedure that came to become standard. The bare-metal stents, initially used, were replaced, as of 2001, by drug-eluting stents, and diluted first with sirolimus, followed by paclitaxel, and later by other different drugs which, if they did not abolish restenosis and the need for intervention, became less frequent (HAJJAR et.al, 2019).

According to Papolos et.al (2021), it is estimated that 2 to 3 million stents are currently implanted annually worldwide, approximately 70% of which are diluted with drugs. The limitation for its use is the cost, mainly in countries with economic difficulties to maintain their health systems. Non-pharmacological stents are reimbursable, however their number per patient is controlled, with the implantation of up to two stents allowed in 20% of the total procedures per service (SAMSKY et.al, 2021).

The treatment of acute myocardial infarction currently has a range of therapeutic options, always with the aim of reducing damage to the left ventricle. Among the possibilities, surgical revascularization finds its place, linked mainly to reperfusion after thrombolytic to angioplasty complications (BENNETT et.al 2019).

Initially, surgery was used as a form of recanalization, being performed earlier after AMI, with the aim of reducing the infarcted area, but with high surgical morbidity and mortality (VALLABHAJOSYULA et.al, 2019).

The development of interventional cardiology has made it possible for a larger number of patients with a greater degree of complexity to be approached non-surgically, notably in cases of coronary artery disease. This fact has contributed to the emergence of new services that perform such procedures and, as a consequence, a smaller volume of procedures per service (VALLABHAJOSYULA et.al, 2019).

In the postoperative period of reperfusion after AMI, the patient must be immediately referred to the ICU, on mechanical ventilation, with monitoring of central venous pressure and invasive arterial line.

Primessnig (2021) states that the use of non-invasive ventilatory support has been acting as an adjunct to cardiac rehabilitation in an attempt to improve the functional capacity of patients. Within the scope of cardiac rehabilitation (CR), individual conditioning is sought, with the objective of improving functional capacity and returning to work and social activities, in which physical performance is a limiting factor.

One of the main problems is the development of acute respiratory failure due to reduced lung compliance, which increases the work of breathing. Such a reduction is the result of circulatory failure caused by left ventricular (LV) dysfunction, which can cause acute and/or chronic impairments in respiratory function (BENNETT et.al 2019).

In this scenario, the use of non-invasive ventilatory support (NIVS) arises as an adjunct to cardiac rehabilitation in an attempt to improve the functional capacity of patients, since NIV reduces the work of breathing, improves oxygenation, increases lung compliance associated with improvement ejected volume due to increased intrathoracic pressure. The use of SVNI has been an alternative in an attempt to increase arterial oxygenation and provide better tolerance during physical exercise due to its sensitive performance in cardiorespiratory interaction, providing a better cardiac and respiratory response during exercise. However, there are few studies that take into account the use of SVNI associated or not with exercise in HF in the context of CR (BENNETT et.al 2019).

The management of acute myocardial infarction (AMI) has been markedly modified during the last decade with the introduction and subsequent incorporation into clinical practice of effective therapies and the evaluation of new and promising ones (VALLABHAJOSYULA et.al, 2019).

The mechanism by which beta-blockers reduce cardiac events is not fully understood. It is known to improve the relationship between myocardial oxygen supply and consumption by decreasing heart rate; prevents ischemia; increases filling of coronary arteries in diastole; reduces the area of the IAM; stabilizes coronary plaques; and increases the threshold for ventricular fibrillation in the presence of myocardial ischemia. (HAJJAR et.al, 2019).

IV beta-blockers exert a beneficial effect by reducing oxygen consumption, as antagonists of the adverse effects of catecholamines, antiarrhythmic properties and favorable influence on the distribution of coronary blood flow (VALLABHAJOSYULA et.al, 2019).

The ISIS-1 study evaluated the effect of intravenous (IV) atenolol initiated on AMI, showing a moderate reduction in vascular mortality (3.9% vs 4.6%) with statistically significant evidence of a beneficial effect on the combined outcome of death, cardiac arrest and reinfarction. Information on combining beta-blockers with thrombolytic therapy and aspirin is limited. In the TIMI-IIb study, immediate IV beta-blocker versus delayed oral therapy was compared in patients undergoing thrombolytic therapy. There was a lower incidence of reinfarction, recurrent angina, and hemorrhagic stroke for those treated after six days in the immediate IV group (BENNETT et.al 2019).

According to Kaji et.al (2019), many studies have evaluated the effects of ACE inhibitors in the first 24 hours after the onset of AMI in unselected patients and, among these, four are broad with adequate statistical power: CONSENSUS-II, GISSI-1, ISIS -4, CCS-1. CONSENSUS-II (IV enalaprilat vs placebo) showed no difference in terms of mortality, with an excess of hypotension (12% in Enalaprilat Group compared to 3% in placebo,  $p < 0.001$ ). The GISSI-3 studies (oral lisinopril VS placebo) with a significant reduction of 12% in mortality ( $2p = 0.03$ ), the CCS-1 (oral captopril or placebo) in patients with suspected AMI, with a significant reduction in mortality in 4 weeks.

Nitrates are venous, arterial, and arteriolar vasodilators, including coronary vasodilators. In preliminary clinical studies, the use of IV nitrate in AMI showed a 35% reduction in mortality ( $p < 0.001$ ) and with the use of oral nitrate, a non-significant reduction of 21%. Taken together, oral or IV nitrates showed a 31% reduction in mortality ( $p < 0.001$ ) in 3122 patients. Subsequently, the effects of nitrates on AMI were evaluated in two large studies involving more than 70,000 patients. In ISIS-4, which evaluated the use of isosorbide-5-mononitrate vs placebo in 58,050 patients, 35-day mortality did not differ between the nitrate group (7.34%) vs controls (7.54%). The GISSI-3 study compared nitroglycerin VS control and the 42-day mortality showed no significant difference (VALLABHAJOSYULA et.al, 2019).

According to Damluji et.al (2021) in both studies the power to detect any real benefit with the therapy was reduced by the early and extensive use (>50%) of nitrates in the control groups (contamination). When we combine data from ISIS-4, GISSI-3 and 20 small studies, a reduction in mortality with nitrates of 5.5% ( $2p = 0.003$ ) is observed, which would prevent 3.8 deaths per 1,000 patients treated. Health institutions have as a basic principle in customer service the provision of goods and services with a minimum or total absence of risks and failures that could compromise patient safety.

However, there are situations that predispose to the risk of adverse events, such as: technological advancement with incompatibility with the necessary personal improvement, distancing from the actions of each professional, lack of motivation, absence or limitation of systematization and documentation of nursing care, delegation of care without adequate supervision and service overload. Health professionals, like any human beings, are subject to failures, however, adverse events are not identified when professionals sympathize and mask such situations (KALLUR et.al, 2023).

According to Papolos et.al (2021), there must be a critical and investigative look at the failures, in order to point out gaps that need to be remedied to benefit not only the team, but mainly the client. Several terms are used as synonyms for adverse events: occurrences of iatrogenic events; nursing errors; occurrences, reactions; iatrogenic complications; iatrogenic; iatrogenic disease and failures. However, all are defined as undesirable, unintentional events, of a harmful or harmful nature to the patient, compromising their safety, whether or not resulting from the fault of the professional involved.

The problem of adverse events in the ICU is related to technological and scientific advances characterized by various devices and the use of new diagnostic and therapeutic technologies, specific care, in addition to the greater number of professionals involved in care (MØLLER et.al, 2023).

According to Henry et.al (2019), ICU patients are more vulnerable to adverse events and more susceptible to nosocomial infection. A study carried out at the Faculty of Medicine at Harvard University, in Boston, found that more than 20% of patients admitted to the ICU suffered an adverse event.

The assessment of care is an important instrument in the control of work processes in health. The expected quality is the satisfaction of the expectations of patients and family members. In the ICU, the expectation is to guarantee the best result within the clinical conditions and severity of the patients, with the lowest possible rates of complications resulting from the procedures performed (KALLUR et.al, 2023).

Notification and acceptance of the existence of adverse events facilitate the investigation of the quality of nursing care, as failures happen and are important for the evaluation of health services.

Cardiac surgeries are major surgeries spread worldwide, among which myocardial revascularization (MVR) and valve replacement stand out. The patient undergoing cardiac surgery will remain on mechanical ventilation (MV) in the immediate postoperative period until he regains full lucidity, in some cases for even longer, and must remain in bed for three to six weeks. Due to the hemodynamic instability that can occur in the immediate postoperative period, the patient may need vasoactive drugs (VAD) and will remain in the Intensive Care Unit (ICU) as long as necessary. Systemic diseases, especially respiratory and metabolic ones, such as chronic obstructive pulmonary disease (COPD) and diabetes, can increase the length of stay in the ICU and, in some cases, increase the time on MV. Professionals who work in an emergency unit (EU) should increasingly receive specific training and technical-scientific improvement in practice, as it is in this place that the nursing team, together with the medical team, perform synchronized care for the victim of an accident. Chest pain is identified as one of the main complaints reported by patients who seek emergency care. About 5 to 15% of patients who refer chest pain are diagnosed with Acute Myocardial Infarction (AMI), that is, in relative data, 400,000 per year in our country. Considering that this pain is the classic symptom of Acute Coronary Syndrome (ACS), attention to it needs to be redoubled (KALLUR et.al, 2023).

According to Biran et.al (2019), nurses who work in an emergency service, in risk classification, need to be aware of chest pain, which may have cardiac ischemia in its origin and, given its subjectivity, evaluate and classifying chest pain is not a simple task. Therefore, in this case, the identification of the severity in the classification must be quick and the service specialized, since time is decisive for the success of the service.

In this context, care protocols that meet the needs of nurses for decision-making during risk classification emerge as a technology of care and an instrument for the basis of nursing practice. With regard to coronary events, the reduction of cases such as AMI in ACS occurs through the use of guidelines with proven scientific evidence. The use of clinical protocols is useful to optimize the quality of care (LAU et.al, 2019).

Chow et.al (2019) described that the reception with Risk Classification (RCA) emerged with the purpose of better coordinating the order of care, excluding the order of arrival and including the classification of severity or associated risk factors that predispose to a possible life-threatening risk. For risk classification, the work of a nursing professional with a higher education level is necessary, equipped with an instrument that supports the conduct of the case and assesses its severity or its potential for worsening the case. The care protocols systematize the professional's action, in addition to being fundamental for the effective risk classification and assessment of the patient's vulnerability. Sexual activity can start around 30 days after the AMI. Sexual intercourse should be avoided after large meals and alcohol intake (it is advisable to wait three hours). Avoid sexual intercourse in environments with excessive heat or cold, when fatigued or tired. In the presence of anginal pain (chest pain) during sexual intercourse, use a coronary vasodilator according to medical advice (LAU et.al, 2019).

A slow and gradual return to physical activities at home is important, as the heart repair process is completed in around 60 to 90 days. It is advisable to walk daily in flat and calm places, gradually increasing the route (start walking about 300 to 400 meters) according to your tolerance.

It is also recommended to avoid walking when tired, after meals and in troubled environments. It is recommended to avoid weight bearing up to 68 weeks after AMI (LAU et.al, 2019). It is recommended to return to work around one to two months after the infarction and according to medical advice. It is not advisable to travel in the first two months after the AMI. It is also important to avoid long and tiring trips (GUAGLIUMI et.al, 2021).

During the performance of any physical activity, if fatigue, malaise, chest pain, shortness of breath and palpitation occur, it is recommended that you stop the activity immediately and seek a specialized health service. It is important that the prescribed medications are used correctly and that the patient attends periodic medical visits (KALLUR et.al, 2023).

Studies in pioneering countries that have rapid response teams (RRT), such as England and Australia, have shown that the early identification of signs of clinical instability and the performance of rapid response teams in the care of unstable patients can lead to a decrease in the number of cardiac arrests and unanticipated transfers to intensive care unit (ICU) beds, reducing the mortality of hospitalized patients (LAU et.al, 2019).

According to Jentze et.al (2019), several prognostic index systems have been developed to assess the severity of patients and estimate mortality in Intensive Care Units (ICU). Its application seeks to identify patients with greater recovery potential and who, therefore, benefit from ICU care, facilitating the selection of those who will meet admission and discharge criteria. Hyperglycemia on admission of patients with acute coronary syndrome (ACS) is a frequent situation and constitutes an excellent predictor of survival and hospital complications in patients with or without diabetes mellitus. Hyperglycemia in AMI is associated with an increase in free fatty acids, which induce cardiac arrhythmias and insulin resistance, leading to increased oxygen consumption and worsening of ischemia. Hyperglycemia is also related to microvascular dysfunction, prothrombotic state, vascular inflammation, in addition to endothelial dysfunction (KALLUR et.al, 2023).

In studies of critically ill patients with strict glycemic control, better evolution was observed in the group of patients who maintained glycemia between 80 and 110 mg/dl in patients in the surgical ICU. However, in a subsequent study, it was observed that strict glycemic control did not bring benefit in patients who stayed up to three days in the ICU or in those who had a previous diagnosis of diabetes (HAJJAR et.al, 2019).

Among the proposed systems, the most used currently in several countries is APACHE (Acute Physiology and Chronic Health Evaluation), initially developed by Knaus, in 1981, and improved, in 1985, to APACHE II. Another existing system is the SAPS (Simplified Acute Physiology Score), which differs from APACHE II because it contains other clinical variables, such as diuresis, serum bicarbonate and bilirubin, and because it does not consider the hospitalization diagnosis. There are other different systems available, which have application for specific subgroups, such as trauma, hemodynamic instability, myocardial ischemia, postoperative cardiac surgery, multiple organ dysfunction (SOFA) and SEPSIS, although, at the moment, few studies are being developed with the subgroup of heart patients with heart failure (HF) (BENNETT et.al 2019). Some classifications, related to the severity of patients with acute myocardial infarction, began to be described, such as the KILLIP classification and, later, the hemodynamic classification of acute myocardial infarction. For other pathologies, such as traumatic brain injury, the Glasgow Coma Scale is widely used (GUAGLIUMI et.al, 2021).

The first prognostic index proposed for patients admitted to intensive care was the APACHE (Acute Physiology and Chronic Health Evaluation), developed by Knaus (Knaus et al) in the USA, later improved to the APACHE II version (COMBES et.al 2020).

Today it is the most used system among severity indices. More recently, APACHE III was introduced, which uses seventeen variables, a higher number than the variables used in the previous version. Although the presence of arrhythmias, hyponatremia, the size of the ventricular cavities and the level of serum catecholamines are proven to be important factors in the long-term evolution of the heart disease, these variables can also influence the acute phase of decompensation. In this series, we observed that hyponatremia, with serum sodium lower than 129mEq/l, doubles the mortality of patients, compared to patients with normal sodium dosage (GUAGLIUMI et.al, 2021).

Complications in the postoperative period were defined as: significant chest bleeding (above 500 mL per day), re-operation, prolonged mechanical ventilation time (above 12 hours), pneumothorax, massive pleural effusion (above 500 mL estimated by imaging exam and/or that required thoracentesis and/or drainage), atrial fibrillation or flutter, ventricular dysrhythmias, AMI, peripheral arterial insufficiency, nosocomial infections (present after 48 hours of hospitalization: pneumonia, urinary tract infection, bacteremia originating from catheter vascular, sternal wound infection, mediastinitis), new

stroke, tonic-clonic seizures, acute renal dysfunction (defined as creatinine increase greater than 50% or than 2.0 mg/dL or diuresis less than 0.5 mL/kg/hour and need for diuretics) and death during hospitalization (BERG et.al 2019).

In PubMed, 23 articles were found and in SciELO, 45, totaling 68. These articles were screened and those that did not deal with care were excluded, leaving 26 articles that made up this study. The selected articles were analyzed and classified into 09 (nine) topics, namely: 1) profile of patients with acute myocardial infarction; 2) main risk factors for acute myocardial infarction; 3) epidemiology of iam; intervention in acute myocardial infarction; 4) ventilatory support for patients with acute myocardial infarction; 5) adjuvant therapy in acute myocardial infarction; 6) adverse events of care in the intensive care unit; 7) nursing care in acute myocardial infarction; 8) guidance manual with acute myocardial infarction; 9) prognosis of the patient with acute myocardial infarction. Most of the experiences reported were developed in countries in North America and Europe and descriptions of experiences in developing countries, such as Brazil, are scarce. Most of the incidence of acute myocardial infarction occurred in males, in a ratio of 2/1. The literature, when discussing the role of the sex factor in the development of ischemic heart disease, commonly relates it to age. This fact is due to the characteristics peculiar to each sex and that make men and women age in different ways. When comparing the incidences between the two genders, we found that the greatest difference between them occurred in the 30-40 age group, 5 men for 1 woman. With advancing age, this difference decreased, however, in all age groups, the incidence in males was higher (ALUSHI et.al 2019)

According to Aissaoui (2020), it was observed that, with regard to age, the highest concentration of patients is in the 50-70 age group, followed by those aged between 70 and 80 years. These results confirm that infarction predominantly affects middle-aged and elderly individuals.

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## FINAL CONSIDERATIONS

According to this bibliographic review study, it can be considered that AMI is an easily diagnosed pathology, but if not treated in time, it has a high death rate in the first hours of symptoms. The severity of AMI depends mainly on the extent of the affected region and on all associated risk factors. Therefore, it will be extremely important to change lifestyle habits as early as possible, a change that in most cases will contribute to a good prognosis and also reduce the risk of reinfarction. However, it should be noted that quality care provided to post-AMI patients is the best way to recover them and make them independent of help for their survival and that the quality of life of patients undergoing post-AMI rehabilitation has a relative influence on his recovery and non-recurrence of heart attack.

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