

**CHARACTERIZATION OF THE VICTIMS OF MYOCARDIAL INFARCTION  
ADMITTED TO A CORONARY UNIT****CARACTERIZAÇÃO DAS VÍTIMAS DE INFARTO DO MIOCÁRDIO ADMITIDAS  
EM UMA UNIDADE CORONARIANA****CARACTERIZACIÓN DE LAS VÍCTIMAS DE INFARTO DEL MIOCARDIO  
ADMITIDAS EN UNA UNIDAD CORONARIA**

Danielle Santana Soares<sup>1</sup>, Thalita Silva Santos<sup>2</sup>, Suellen Rodrigues de Oliveira Maier<sup>3</sup>,  
Mayara Rocha Siqueira Sudré<sup>4</sup>, Cezar Augusto da Silva Flores<sup>5</sup>, Wanmar de Souza Oliveira<sup>6</sup>

**ABSTRACT**

**Objective:** To characterize the victims of acute myocardial infarction admitted to a coronary intensive care unit of a hospital in the southern state of Mato Grosso. **Methodology:** cross-sectional study with a sample of 213 patients admitted to the coronary unit of a hospital in southern Mato Grosso. Data were collected through records at the unit from January to December 2017. Data analysis was performed using the Epi Info 3.5.1 program. **Results:** 67.6% were male, 31.9% were aged between 65 and 74 years, and 58.2% came from emergency services. The length of stay was up to 72 hours with 63.8% and the clinical outcome was 89.7% of hospital discharge. **Conclusion:** knowledge about the characteristics of patients admitted to this unit may favor health care planning.

**Descriptors:** Myocardial Infarction, Intensive Care Units, Health Profile.

---

<sup>1</sup> Graduada de Enfermagem, Universidade Federal de Mato Grosso, Campus Universitário de Rondonópolis.

<sup>2</sup> Graduada de Enfermagem, Universidade Federal de Mato Grosso.

<sup>3</sup> Enfermeira. Mestre em Educação. Professora Adjunta II da Universidade Federal de Mato Grosso, Campus Universitário de Rondonópolis.

<sup>4</sup> Enfermeira. Mestre em Enfermagem. Professora Assistente II da Universidade Federal de Mato Grosso, Campus Universitário de Rondonópolis.

<sup>5</sup> Enfermeiro e Pedagogo. Mestre em Educação. Professor Adjunto II da Universidade Federal de Mato Grosso, Campus Universitário de Sinop.

<sup>6</sup> Graduado de Enfermagem, Universidade Federal de Mato Grosso.

## RESUMO

**Objetivo:** caracterizar as vítimas de infarto agudo do miocárdio admitidas em uma unidade de terapia intensiva coronariana de um hospital no sul do estado de Mato Grosso. **Metodologia:** estudo transversal com amostra composta por 213 pacientes admitidos na unidade coronariana de um hospital no sul de Mato Grosso. Os dados foram coletados, por meio dos registros na unidade, de janeiro a dezembro do ano de 2017. A análise dos dados foi realizada por meio do programa Epi Info 3.5.1. **Resultados:** foram 67,6% são do sexo masculino, 31,9% apresentaram idade entre 65 e 74 anos, sendo 58,2% provenientes dos serviços de urgência e emergência. O tempo de permanência foi de até 72 horas com 63,8% e o desfecho clínico foi 89,7% de alta hospitalar. **Conclusão:** o conhecimento acerca das características dos pacientes admitidos na referida unidade pode favorecer o planejamento da assistência à saúde.

**Descritores:** Infarto do Miocárdio, Unidades de Terapia Intensiva, Perfil de Saúde.

## RESUMEN

**Objetivo:** caracterizar a las víctimas de infarto agudo de miocardio ingresadas en una unidad de cuidados intensivos coronarios de un hospital en el estado sureño de Mato Grosso. **Metodología:** estudio transversal con una muestra de 213 pacientes ingresados en la unidad coronaria de un hospital en el sur de Mato Grosso. Los datos se recopilaron a través de los registros en la unidad de enero a diciembre de 2017. El análisis de los datos se realizó mediante el programa Epi Info 3.5.1. **Resultados:** 67.6% eran hombres, 31.9% tenían entre 65 y 74 años y 58.2% provenían de servicios de emergencia. La duración de la estancia fue de hasta 72 horas con un 63,8% y el resultado clínico fue del 89,7% del alta hospitalaria. **Conclusión:** el conocimiento sobre las características de los pacientes ingresados en esta unidad puede favorecer la planificación de la atención médica.

**Descriptores:** Infarto del Miocardio, Unidades de Cuidados Intensivos, Perfil de Salud.

## INTRODUCTION

Coronary Artery Disease (CAD) is a class of cardiovascular disease, which is caused by deposits of atherosclerotic plaque inside the coronary arteries, causing narrowing of the same and leading to an inadequate blood supply to the cardiac muscle.<sup>1</sup>

The DAC has as its forms of presentation, Acute Coronary Syndrome (ACS) that among their rankings, there is the Acute Myocardial Infarction (AMI), which is caused by rupture or erosion of atherosclerotic plaque, leading to decreased or absent perfusion to the heart tissue,

which causes imbalance between the supply and demand of oxygen and results in irreversible cell commitment and cardiac muscle necrosis.<sup>2-3</sup>

Regarding risk factors for AMI they can be classified based on the degree to which may or may not be modifiable from changes in lifestyle and individual behavior. In this case, they are modifiable risk factors high blood pressure, hyperglycemia, diabetes mellitus, hypercholesterolemia, smoking, obesity and physical inactivity. On the other hand,

they are not modifiable risk factors family history of CAD, age, sex and race.<sup>4</sup>

With regard to clinical manifestations of AMI, these are present as a chest pain, which may extend to the left arm and jaw region, accompanied by sweating, nausea and vomiting. This condition may appear after angina, becoming an emergency situation that requires immediate specialized treatment, especially in Intensive Care Units (ICU).<sup>4</sup>

From this perspective, The ICU is a hospital sector intended for users in a serious medical condition or medical or surgical risk, which require multidisciplinary intensive care. Among its ratings, we highlight the Intensive Cardiac Care Unit (CCU), the which aims accomplish attendance victims of serious cardiovascular diseases with high risk complications.<sup>5</sup>

Thus cardiovascular diseases are the most common occurring in visits and admissions to emergency rooms and intensive care, and is considered the main cause of mortality in Brazil, since, in 2017, IAM was responsible for 112 406 hospitalizations, and in 2016 it was recorded about 94, 148 óbitos.<sup>6-7</sup>

Before the exposed facts, comes the desire to ascertain the question: What are the sociodemographic and clinical characteristics of victims of acute

myocardial infarction admitted to a coronary intensive care unit?

In this perspective the knowledge about the characteristics of the admitted users in the unit may encourage the implementation of the individualized and holistic care. Therefore, the aim of this study was to characterize the victims of acute myocardial infarction admitted to a coronary intensive care unit of a hospital in the southern state of Mato Grosso.

## **METHOD**

It is a descriptive study, cross-sectional with a quantitative approach. For its realization, they followed the ethical and legal principles in research with human beings, according to Resolution No. 466/2012 of the The National Health Council<sup>8</sup>. Thus this research has favorable ethical opinion No. 1,931,153 with the Presentation Certification for Ethics Assessment (CAAE) No 62895316.8.0000.8088.

The study was conducted in a CCU of a hospital in the south of Mato Grosso. This unit consists of nine hospital beds for adults, getting users of both public and private health plan.

The study population consisted of 213 users who were admitted to the CCU as having AMI diagnosis. The data collected were from January to December 2017, through the internal register and electronic

medical records, from January to December 2017, it is recorded in an instrument developed by the authors, containing information relating to gender, age, provenance sector, length of stay and clinical outcome.

The analysis of the data was performed using the program Epi Info 3.5.1, and made a double typo for the adjustment of the inconsistencies. Continuous variables were described with mean, minimum, and maximum, and the categorical variables

were described with absolute numbers (n) and the frequency with which the relative (%).

## RESULTS

In 2017, the coronary care unit of a hospital in southern Mato Grosso, admitted a total of 593 users, and of these, 213 were victims of AMI. Table 1 shows the sociodemographic and clinical characteristics of these victims.

**Table 1** - Characteristics sociodemographic and clinical victims of myocardial infarction admitted to the coronary care unit. Mato Grosso, Brazil, 2017

Variables	n	%	Average	Min.	Max.
<b>Sex</b>					
Male	144	67.6			
Female	69	32.4			
<b>Age</b>					
20   29 years	3	1.4			
29   38 years	4	1.9			
38   47 years	22	10.3			
47   56 years	27	12.7			
56   65 years	50	23.5	63.5 years	20 years	98 years
65   74 years	68	31.9			
74   83 years	30	14.1			
83   92 years	8	3.8			
92   98 years	1	0.5			
<b>Sector of origin</b>					
Wards	16	7.5			
Surgery Center	69	32.4			
Urgent and Emergency Services	124	58.2			
Clinics	1	0.5			
Other Hospitals	3	1.4			
<b>Length of stay</b>					
72 hours	136	63.8	96 hours	> 24 hours	600 hours
Over 72 hours	77	36.2			

Clinical outcome		
Discharge	191	89.7
Death	22	10.3

Source: Data of the authors.

Note: † = frequency range. Min. = Minimum. Max. = Maximum.

Note that there was a predominance of male users (67.6%), and the age was preponderance of the range between 65 and 74 years (31.9%) with a mean of 63.5 years, being considered as extreme minimum age 20 years and maximum 98 years. The variable age was separated by age group from the class calculating amplitude and frequency.

As for the origin sector, there was a predominance of victims from the urgent and emergency services (58.2%), since this service is responsible for offering fast and effective care, as well as being the gateway to the hospital service.

Also in relation to the merits, it is considered the wards as the hospital units, also including transfers from another critical unit of the hospital. The data corresponding to the operating room were grouped with the hemodynamics services, since it was understood in advance to admission to the CCU, the invasive procedures, diagnosis or correction.

Urgent and emergency services include public and private agreements of the hospital under study and other municipal hospitals. But the ambulatory

sector refers to private medical specialties. Finally the data from other hospitals, it is considered that are external transfers to the unit under study, considering that it is a reference for specialized care for cardiac affections.

As regards the residence time in the CCU, it was identified that was prevalent at the time of 72 hours (63.8%), with a mean of approximately 96 hours ranging from a minimum of less than 24 hours and not more than 600 hours. It was used as the basis of analysis at 72 hours, considering that the The Brazilian society of Cardiology<sup>4</sup> consider this a minimum hospital stay in order to avoid possible complications.

In relation to the clinical outcome, 89.7% and was high, that is to say, there has been a transfer in-hospital; it should be noted that there has been no case of a transfer to an externa.

## DISCUSSION

In the face of demographic data of this study, it appears that there was a predominance of males, corroborating e study<sup>9-10</sup> in which highlighted that men have difficulty recognizing their health needs and

end up neglecting seeking hospital services only in cases worsen dramatically. In this context, it appears necessary to seek alternative means of health promotion and disease prevention for men in order to ensure comprehensive care.

In studies in the states of the Southeast and Midwest Brazilian<sup>9-11</sup> point out that the dominance of the search for health care is people over the age of 60 years, considering that is the age group the fastest growing population proportion in due to increased life expectancy.

These facts confirm that, with the increase of population aging, consequently also added the frequency of older users with health problems that require ICU treatment, since the incidence of chronic degenerative diseases, including cardiovascular disease, which increase with advancing age.

Thus, it can be explained that, with increasing age, tends to change the organic metabolism and in particular arteries, which lose elasticity and become rigid. This occurrence may become more susceptible to injury and facilitate the formation of thrombi, which can clog the blood vessel and contribute to the development of AMI.<sup>12</sup>

Regarding the admission of origin in the ICU studies carried out in the southern region of Brazil<sup>13-14</sup> contradict the findings in this study, both of which present prevalence of the operating room, being

related to higher incidence of emergency surgery in institutions.

However in this study it was shown that most patients are admitted arising from the urgent and emergency service. Aiming at the magnitude of AMI and its risk factors, users who are attended in the early hours of the onset of symptoms, are favored by early assistance, reducing the prediction of undesirable<sup>4</sup>.

At baseline, less than 20% of myocardial infarction victims have cardiovascular changes, which can put you at greater risk of developing complications, so after you enter the urgent and emergency service, it is necessary to route the same the ICU, in view of the need for ECG monitoring. This is due to the reason the most common cause of death after acute myocardial infarction arrhythmias are, in addition to drug therapy and intensive care, with a minimum hospital stay of at least 72 hours.<sup>15-16, 4</sup>

As regards the residence time in a study conducted in Rio Grande do Sul<sup>17</sup> data demonstrated similar to that study, with an average between 48 to 96 hours. Reflects that this is a hospital with intensive care, seeking to stabilize the user with the shortest time possible because the delay in the period of stay in the ICU is associated with poor prognosis in the user recovery, as well as institutional financial burden .

In a study conducted in a town in a state in the Midwest Brazilian<sup>10</sup>, when analyzing data from three different adult ICUs were found that in all there was a predominance of hospital admissions for cardiovascular disease, with 45%, and the most frequent reason were AMI, 7%, thereof, by analyzing the cases of clinical outcome, data coming into line with the present study, with higher prevalence of cases of the ICU, which were sent to other units the institution.

## CONCLUSION

By the characteristics of the victims admitted AMI, can be seen that were prevalent male users, aged between 65 and 74 years and merits of urgent and emergency services. The clinical outcome was highlighting the hospital and the residence time in the unit were to 72 hours.

It is clear that the knowledge of the socio-demographic data and clinical studies of the victims, met in may to promote the planning and implementation of the assistance, thereby implying improvements in the quality of it, being able to focus on the customer on the specific requirements of the user, thus as a preventive measure for an improvement in the state's primary care physician, and to avoid a new event is obstructive. It is considered as a limitation of this study is the fact that the

characteristics to reflect only the local way of life.

**ACKNOWLEDGMENT:** To our fellow residents and graduate students of the Study Group and Nursing Research in Cardiology (Cardio GEPEN) and especially the students Wanmar Oliveira de Souza and Anna Beatriz Moreira Ribeiro Ketsia Bazzano, who assisted us translation of the abstract this present study.

**Financing source:** Foundation for Research Support of the State of Mato Grosso (FAPEMAT).

**Manuscript link:** Completion of course work presented the Federal University of Mato Grosso- Campus Rondonópolis.

## REFERENCES

1. Magalhães CC, Serrano Junior CV, Consolim- Colombo FM, Nobre F, Fonseca FAH, Ferreira JFM. Tratado de cardiologia SOCESP. 3° ed. São Paulo (SP): Manole; 2015.
2. Mertins SM, Kolankiewiz ACB, Rosanelli CLSP, Loro MM, Poli G, Winkelman ER, et al. Prevalencia de factores de riesgo en pacientes con infarto agudo de miocárdio. Av Enferm [internet]. 2016; 34(1):30-8. Disponible: doi: <http://dx.doi.org/10.15446/av.enferm.v34n1.37125>.
3. Aehlert, B. Síndromes Coronarianas Agudas. In: Aehlert, B (ed.) ACLS: Suporte avançado de vida em cardiologia: emergência em cardiologia. 4° ed. Rio de Janeiro (RJ): Elsevier; 2013. p. 211-75.
4. Piegas LS, Timerman A, Feitosa GS, Nicolau JC, Mattos LAP, et al. V Diretriz da Sociedade Brasileira de Cardiologia sobre Tratamento do Infarto agudo do Miocárdio com Supradesnível do Segmento ST. Arq Bras Cardiol. 2015 [acesso em 02 de dez 2017]; 2(105). Disponível em: <http://publicacoes.cardiol.br/2014/diretriz>

s/2015/02\_TRATAMENTO%20DO%20IAM%20COM%20SUPRADESNIVEL%20DO%20SEGMENTO%20ST.pdf.

5. Brasil. Ministério da Saúde. Resolução nº 137, de 8 de fevereiro 2017. Dispõe sobre os requisitos mínimos para funcionamento das Unidades de Terapia Intensiva e dá outras providências. Diário Oficial da União 09 fev 2017; Seção 1. p. 44.

6. Silva RB, Castro CM, Iser BPM, Castilho LJC. Perfil dos pacientes com síndromes coronarianas agudas em um hospital da Região Sul do Brasil. *Rev Soc Bras Clin Med* [periódico online]. 2016 [acesso em 06 mai 2018]; 14(1):33-7. Disponível em: <http://pesquisa.bvsalud.org/portal/resource/pt/biblio-18>.

7. Brasil. Ministério da Saúde. Departamento de Informática do Sistema Único de Saúde (DATASUS). Informações de Saúde [publicação online]. 2018 [acesso em 22 jun 2018]; Disponível em: <http://datasus.saude.gov.br/informacoes-de-saude>.

8. Brasil. Ministério da Saúde. Resolução nº 466, de 12 de dezembro de 2012. Conselho Nacional de Saúde. Brasília, 2012 [acesso em 11 de out 2017]. Disponível em: <http://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf>.

9. Soriano KS, Pires DBP, Melo LS, Chaves SDDR, Salviano MEM, Tannure MC. Perfil de pacientes vítimas de infarto agudo do miocárdio internados em uma unidade coronariana de Belo Horizonte. *Enfermagem Revista* [periódico online]. 2016 [acesso em 30 abr 2018]; 1(19):21-9. Disponível em: <http://periodicos.pucminas.br/index.php/enfermagemrevista/article/view/11632>.

10. Castro RR, Barbosa NB, Alves T, Najberg E. Perfil das Internações em Unidades de Terapia Intensiva Adulto na Cidade de Anápolis - Goiás - 2012. *Revista de Gestão em Sistemas de Saúde*. 2016; 2(5):115-24. Disponível em: doi: 10.5585/rgss.v5i2.243.

11. Dordetto PR, Pinto GC, Rosa TCSC. Pacientes submetidos à cirurgia cardíaca: caracterização sociodemográfica, perfil clínico-epidemiológico e complicações. *Rev Fac Ciênc Méd Sorocaba*. 2016; 18(3):144-9. Disponível em: doi: 10.5327/Z1984-4840201625868.

12. Lima AEF, Lima LD, Sandes TKS, Oliveira Neto JF, Silva KMM, Pereira RB. Perfil na mortalidade por infarto agudo do miocárdio por idade e sexo no município de Paulo Afonso no estado da Bahia. *Revista Rios Saúde* [periódico online]. 2018 [acesso em 22 jun 2018]; 3(1):26-37. Disponível em: <https://www.fasete.edu.br/revistariossaude/>.

13. Rodriguez AH, Bub MBC, Perão OF, Zandonadi G, Rodriguez MJH. Epidemiological characteristics and causes of deaths in hospitalized patients under intensive care. *Rev Bras Enferm* [Internet]. 2016; 69(2):210-4. Available from: doi: <http://dx.doi.org/10.1590/0034-7167.2016690204i>.

14. Nogueira L de S, Sousa RMC, Padilha KG, Koike KM. Clinical characteristics and severity of patients admitted to public and private icus. *Texto Contexto Enferm*. 2012; 21(1):59-67. Available from: doi: <http://dx.doi.org/10.1590/S0104-07072012000100007>.

15. Medeiros TLF, Andrade PCNS, Davim RMB, Santos NMG. Mortality by an acute myocardial infarction. *Rev Enferm UFPE* [internet]. 2018; 12(2):565-72. Available from: doi: <http://doi.org/10.5205/1981-8963-v12i2a230729p565-572-2018>.

16. Ouchi JD, Teixeira C, Góes Ribeiro CA, Oliveira CC. Tempo de Chegada do Paciente Infartado na Unidade de Terapia Intensiva: a Importância do Rápido Atendimento. *Ensaio Cienc, Cienc Biol Agrar. Saúde*. 2017; 21(2):92-7. Disponível em: doi: 10.17921/1415-6938.2017v21n2p92-97.

17. Silveira CR, Santos MBK, Moraes MAP, Souza EN. Desfechos clínicos de pacientes submetidos à cirurgia cardíaca em um hospital do noroeste do Rio Grande



do Sul. Rev Enferm UFSM. 2016;  
6(1):102-11. Disponível em: doi:  
10.5902/2179769216467

RECEIVED: 28/05/2019  
APPROVED: 01/10/2019  
PUBLISHED: 12/2019