

Diagnosis, treatment and impact of mental health problems after infarction: a systematic review

Diagnóstico, tratamento e impactos dos problemas de saúde mental no pós-infarto: uma revisão sistemática

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ABSTRACT: Depression and anxiety are prevalent disorders in after an infarction and are factors that add disabilities and influence the morbidity and mortality of infarction patients. However, there are no national guidelines regarding the repercussions on quality of life, diagnostic strategies, and the best treatment for these comorbidities. Furthermore, the existing evidence is not gathered in specific internationally accepted protocols, making it difficult to reproduce the most appropriate conduct. Thus, the objective of this systematic review is to analyze the impact of mental health problems for the post-infarction patient, seeking to present treatment options and management strategies that can be offered by Primary Health centers. Thus, the search was carried out in the PubMed, Lilacs, SciELO and BVS databases with the Mesh Terms “myocardial infarction”, “mental health” and “primary care” and the Boolean operator “AND”. Thirty articles associated with the objectives of this study, in Portuguese and English, were selected using the PRISMA criteria. The studies were published from 2011 to 2021. The survey results showed associations between anxiety, depression and other mental health problems and decreased quality of life, hospital readmission, higher health care costs, chest pain, and increased risk of cardiovascular complications. The validated scales proved to be useful tools for diagnosing post-infarction mental comorbidities. The most effective treatment options found were psychosocial therapy and Cognitive Behavioral Therapy, with no consensus on the use of antidepressants. Considering their impact on the quality of life of infarction patients, further studies are needed to define better therapeutic approaches with a clear reduction in mortality.

Keywords: Myocardial infarction; Depression, Anxiety, Mental health, Primary care.

RESUMO: Depressão e ansiedade são transtornos prevalentes no período pós-infarto do miocárdio e constituem fatores que acrescem incapacidades e influenciam a morbimortalidade do paciente previamente infartado. No entanto, não há diretrizes nacionais no que diz respeito às repercussões na qualidade de vida, às estratégias para diagnóstico e ao melhor tratamento dessas comorbidades. Além disso, as evidências existentes frequentemente não se encontram reunidas em protocolos específicos internacionalmente aceitos, dificultando a reprodutibilidade da conduta mais adequada. Dessa forma, o objetivo desta revisão sistemática é analisar as repercussões dos problemas de saúde mental para o indivíduo previamente infartado, buscando apresentar opções terapêuticas que possam ser ofertadas pela Saúde Primária. Assim, realizou-se pesquisa nas bases de dados *PubMed*, *Lilacs*, *SciELO* e *BVS* com os *Mesh Terms* “myocardial infarction”, “mental health” e “primary care” e o booleano “AND”. Foram selecionados 30 artigos em língua portuguesa e inglesa que mais adequadamente se relacionavam com os objetivos deste trabalho, utilizando-se os critérios PRISMA. O recorte temporal analisado compreende os anos de 2011 a 2021. Os resultados da pesquisa mostraram associações entre ansiedade, depressão e outros problemas de saúde mental e diminuição da qualidade de vida, como readmissão hospitalar, maiores custos em saúde, dor torácica, e maior risco de desfechos cardiovasculares. As escalas validadas mostraram-se ferramentas úteis no diagnóstico das comorbidades mentais no pós-infarto. Dentre as opções terapêuticas mais eficazes encontradas, estão as de enfoque psicossocial e a Terapia Cognitivo-Comportamental, havendo grande divergência literária a respeito dos antidepressivos. Dada a grande repercussão na qualidade de vida do indivíduo pós-infartado, mais estudos são necessários para definir melhores abordagens terapêuticas com evidente redução na mortalidade.

Descritores: Infarto do miocárdio; Depressão; Ansiedade; Saúde mental; Atenção primária.

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INTRODUCTION

The relationship between mental health and cardiovascular events is well known. As for infarction and depression/anxiety, there's two ways to look at their correlation: there is both evidence of the contribution of depression and/or anxiety to cardiovascular events and there is a link between the occurrence of an infarction and the subsequent development of these disorders^{1,2,3,4}. It is estimated that major depression occurs in 15-20% of patients hospitalized with myocardial infarction (MI)⁵. Furthermore, if signs and symptoms of depression are considered, the prevalence can reach 30%, while symptoms of anxiety can be present in up to 60% of cases, with frequent co-occurrence of the two⁶. In addition to these, other psychopathologies such as schizophrenia⁷, bipolar disorder⁸ and post-traumatic disorder⁹ are associated with post MI, influencing the evolution of the underlying disease.

These disorders affect quality of life, add new limitations in daily living and are associated with a higher incidence of angina¹, as well as a greater demand for health services, especially hospitals^{1,2,10}. In this sense, some studies have sought to understand the pathophysiological mechanisms by which anxiety and depression increase the mortality of post-MI patients and a probable biochemical mechanism that involves increased inflammation has been proposed^{1,11}. From a behavioral perspective, the increase in mortality is due to the fact that depressive symptoms reduce adherence to drug therapy and health recommendations^{2,12,13}, increasing the death rate due to cardiovascular events¹. This low adherence, in turn, is associated with non-participation in Cardiac Rehabilitation (CR) programmes and sedentary habits^{14,15}.

However, the diagnosis of these comorbidities is often difficult. One of the barriers is the very existence of a chronic underlying disease, with symptoms that can mask those of depression and a drug treatment that can affect mood^{1,3}. In addition, the practice of screening post-MI patients is insufficient and there is a low rate of patient disclosure about these disorders¹. Other challenges are: uncertainty about the best course of action^{5,11,16}, the scarcity of information provided to patients after the infarction and the fragmentation of continuity of care after hospital discharge^{10,13,17,18}. Therefore, this study seeks to explore the post-infarction period regarding mental health and impact of mental health comorbidities for the post-infarction patient and gather information on the most appropriate course of action, with a focus on long-term follow-up that

can be offered by Primary Health centers.

OBJECTIVE

The objective of this systematic review is to analyze the impact of mental health problems for the post-infarction individual, seeking to present therapeutic options and management strategies that can be offered by Primary Health centers.

METHOD

To conduct this systematic review, the research question was elaborated using the PICO strategy. The study population consisted of post-infarction patients, with the objective of assessing the impact of mental health problems on the quality of life of this population and determining the best treatments to manage this condition. As for the search strategy, PubMed, Lilacs, SciELO and VHL databases were searched using the MeSH terms “myocardial infarction”, “mental health” and “primary care” and the Boolean operator “AND”. Full-text studies from 2011 to 2021 in Portuguese or English were selected. This search returned 208 articles, of which 36 duplicates were excluded. Among the remaining, 75 studies were selected after reading the titles and abstracts that were associated with any of the keywords of the theme. The search and selection of articles was performed by the main author, without the aid of other tools. To select studies more appropriate to the theme, the following exclusion criteria were applied: articles that, after careful reading, did not fit the theme of the present study; studies with a population that did not contain post-infarction patients or consisted of patients with coronary heart disease or ischemic heart disease, without a significant percentage (majority) of post-infarction patients; articles in which MI was analyzed exclusively as an outcome and not as a pre-existing condition; ongoing studies and/or studies with no available results; expert opinions. After applying the exclusion criteria, 44 studies were excluded and, of the remaining 31, a secondary study was excluded because it presented results from a larger study that was already included. A total of 30 articles were used in this study. Final data analysis was performed by two of the authors, and critical reviews were performed by all three.

The summary of the article selection process is demonstrated in Figure 1.

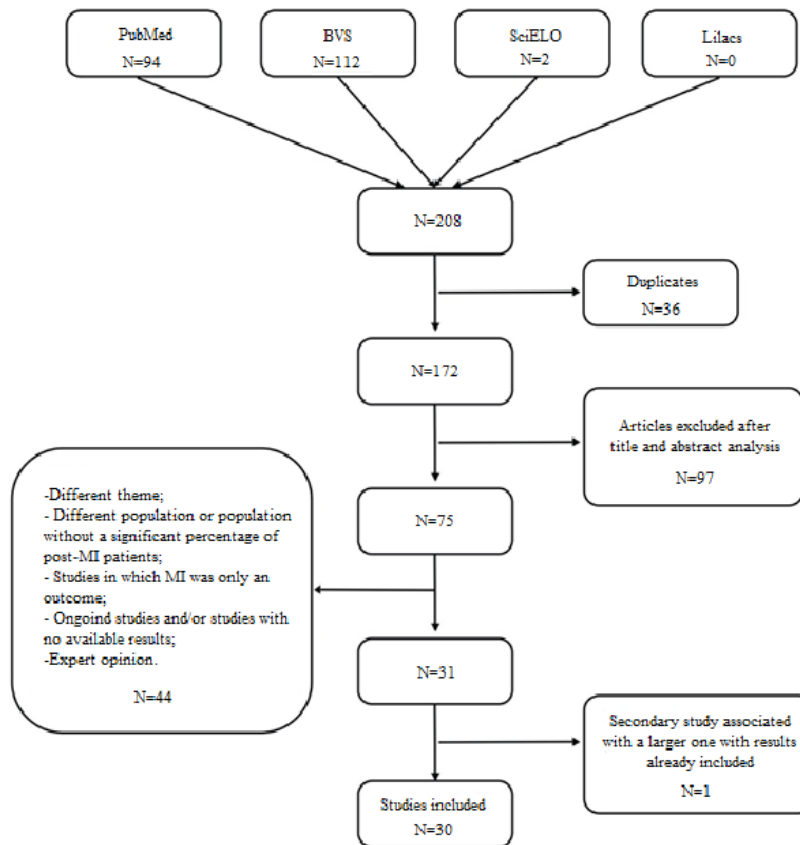


Figure 1- Methodology

RESULTS

The characteristics and main findings of the studies selected are presented in Table 1.

Table 1- Characteristics of included studies.

Author/ year	Qualis	Objectives	Main Findings
Gulliksson et al. 2011	A1	To assess the influence of cognitive-behavioral therapy on the recurrence of cardiovascular events.	The intervention group showed lower recurrence of infarctions and cardiovascular events during the follow-up period compared to the control group ²⁴ .
Hawkes et al. 2012	B2	To describe the effectiveness of an intervention for post-infarction patients.	The intervention group showed better quality of life and emotional health in the scales ²⁵ .
Mourad et al. 2012	B2	To compare depressive symptoms between patients admitted for non-cardiac chest pain and myocardial infarction.	There were no significant differences between patients with non-cardiac chest pain and myocardial infarction regarding prevalence or severity of depressive symptoms ²⁶ .
P. Kurdyak et al. 2012	B2	To compare mortality within 30 days of discharge and post-AMI care among individuals with and without schizophrenia.	Patients with schizophrenia had a higher risk of dying within 30 days of discharge for AMI compared to the group without this comorbidity. In addition, individuals with this diagnosis were less likely to receive a cardiac procedure ²⁷ .
Shah et al. 2012	B1	To examine the association between a form of anxiety (financial stress) and long-term outcomes after AMI.	Self-reported financial stress was associated with worse cardiovascular symptoms, worse outcomes while recovering from AMI, higher risk of hospital readmission and higher risk of death compared to patients without this form of stress ²¹ .
Turkstra et al. 2013	B2	To evaluate the cost-effectiveness of an intervention for infarction patients.	The intervention was not cost-effective, with higher costs in the intervention group compared to the group that received the usual care ²⁸ .
Author/ year	Qualis	Objectives	Main Findings

continue

continuation

Table 1- Characteristics of included studies.

Zuidersma et al. 2013	B1	To evaluate the cardiovascular effects of antidepressant treatment in depressive AMI patients.	There was no significant reduction in mortality and morbidity with the intervention ¹⁶ .
Larsen et al. 2013	A2	To identify aspects of the practice of screening for depression in patients with MI.	Only 27.3% of patients were screened for depression within the first year after discharge. A greater number of consultations was associated with a higher rate of screening. As for screening, most general practitioners asked about specific symptoms instead of using a symptom checklist ⁵ .
Groenewold et al. 2013	B1	To investigate differences in symptoms between depressed patients without cardiovascular disease and infarction patients	Most depressed MI patients were men and had first depression onset at a later age. There were no differences between the groups regarding somatic symptoms, but cognitive symptoms were less present in the post-MI population ³ .
A. Fors et al. 2014	A1	To explore aspects of the patients' experience during hospitalization for myocardial ischemia.	Patients felt surprised and anxious due to the cardiac event, and some felt it was unfair. In addition, they believed they would get an explanation for the disease and reported a desire to return to their jobs soon ¹⁷ .
Hunger et al. 2014	A2	To evaluate a home-based intervention with a mental health component in older post-AMI patients.	Patients who received the intervention had better mean depression scores during the period studied ¹⁸ .
Iles-Smith et al. 2015*	A1	To investigate psychological factors associated with readmission for chest pain within six months of Primary Percutaneous Coronary Intervention (PPCI) for ST-elevation myocardial infarction (STEMI).	Psychological distress/mental health problems were predictors of hospital readmission ⁴ .
A. Smith et al. 2015	A2	To explore primary care patients' perceptions of the effect of coronary heart disease (CHD) in their lives	There was a higher incidence of depression among women. Most patients were ambivalent about their illness. About 37% of participants reported that their life was worse since the diagnosis, which was explained by: Restricted Lifestyle, Recognised Mortality, Loss and Burden. Patients with anxiety and recurrent chest pain were more likely to report that their life was worse ²³ .
Nielsen et al. 2015	B1	To examine the long-term use of healthcare contacts after a first-time myocardial infarction.	Patients with anxiety symptoms had 24% more consultations with general practitioners during the 24-month period after the MI. In contrast, patients with anxiety symptoms had less contact with hospitals during the first 6 months after the MI ² .
Ski et al. 2016	B1	To assess the effectiveness of psychosocial interventions for people with depression and coronary heart disease.	These interventions may be related to reductions in depressive symptoms. There was no evidence on the impact of these interventions on morbidity and mortality ¹² .
Amin et al. 2016	A1	To determine if the occurrence of bleeding in AMI patients has an impact on their quality of life.	The occurrence of bleeding due to dual antiplatelet therapy was associated with a decrease in quality of life, even when considering minor bleeding ²⁹ .
Beckman et al. 2016	A1	To assess the associations between financial difficulties and health status in relation to gender in AMI patients.	Men and women with at least one financial barrier reported lower functional status and quality-of-life scores, and more depressive symptomatology after infarction ¹⁹ .
Wachelder et al. 2016	A1	To determine the relationship between coping and quality of life in patients with cardiac arrest and patients with a myocardial infarction.	The group of patients with myocardial infarction showed more depressive/anxious symptoms in the HADS scale compared to the group of patients with cardiac arrest ²² .
Tylee et al. 2016	*	To develop a nurse-led intervention and evaluate its acceptability, feasibility and costs, testing methods for a definitive trial. The intervention allows patients to specify goals to be modified.	The intervention proved to be acceptable and feasible for primary health care. Both the control group and the intervention group had improvements in depressive symptoms, but the former visited the emergency department less often than the latter. At 12 months, the intervention group had a mean increase of 2.5 points in self-efficacy group versus 0.9 points in the control group. self-efficacy in the PC group. However, the mixed-effects model indicated no difference between groups ¹ .
Author/ year	Qualis	Objectives	Main Findings

continue

Table 1- Characteristics of included studies.*continuation*

Tylee et al. 2016	*	To identify patients' perceptions of the relationship between their physical and mental health and explore their experiences with coronary heart disease and their strategies for coping with it and with depression as a comorbidity.	Going to the gym, studying health issues, meditating, being an active member of a religious community and being in the natural environment were reported as strategies to deal with health and emotional well-being. Participants were not very concerned with their coronary heart disease. Ambivalence about accessing mental health services was associated with cultural and religious perceptions, lack of knowledge about depression, discomfort in talking about emotional issues, especially with the community, underestimation of problems and fear about the subject. In the patient's perception, the following factors contributed with mental health issues: fear of dying, boredom, unhappy relationship, chronic pain and disability, alcohol abuse, low self-confidence, and grief/bereavement. Feelings of loss and lack of social support were also commonly reported ¹ .
Tylee et al. 2016	*	To understand the relationship between coronary heart disease and depression in primary health care patients.	It was found that 44% of the sample had persistent chest pain, which was associated with depression, anxiety, and social factors. These patients had lower quality of life scores. The strongest predictor of depression was having had a myocardial infarction. There was no difference in the use of health services between depressed and non-depressed patients, however, depressed patients were hospitalized more times and for longer periods. In almost all analyzed domains, depressive patients incurred higher costs ¹ .
Bucholz et al. 2017	A2	To understand gender differences at the time of AMI in relation to sociodemographic and clinical factors.	Women were more likely to have a diagnosis of depression and reported higher levels of stress, more angina-related limitations and lower quality of life ²⁰ .
Norlund et al. 2018	A1	To evaluate the effectiveness of an internet-based cognitive behavioral therapy to reduce symptoms of depression and anxiety among patients with a recent MI.	There was no difference or benefit to the intervention group that received the internet-based treatment in relation to the control group treated by the local health service (usual care) ⁶ .
von Kanel et al. 2018	A1	To test the efficacy of a single therapy session on the prevention of post-traumatic stress disorder after AMI.	The intervention showed no benefit when compared to the control group ⁹ .
Resurrección et al. 2019	A1	To assess factors associated with non-participation of patients with cardiovascular disease, including infarction patients, in cardiac rehabilitation programmes.	Depressive patients were four times more likely not to participate and seven times more likely to dropout from the Cardiac Rehabilitation programme compared to non-depressive patients ¹⁴ .
Mohamed et al. 2019	B1	To define the prevalence of Severe Mental Illness in patients with AMI and analyze their associations and outcomes.	The presence of schizophrenia and other non-organic psychoses was associated with adverse cardiovascular and cerebral events. Major depression was associated with a higher risk of bleeding ⁸ .
Pristipino et al. 2019	A1	To assess whether short-term psychotherapy enhances outcomes in patients with a recent infarction.	The intervention group showed improvements in the NYHA classification over the entire period analyzed. This group showed gains in relation to cardiovascular events and non-cardiovascular comorbidities in the first year of intervention, while the control group had benefits when analyzed over the five years of follow-up ³⁰ .
Herawati et al. 2019	A2	To explore the perceptions of patients who underwent PCI due to STEMI in relation to self-care after the event.	Anxiety and depression symptoms occurred on the first day after the infarction, decreased thereafter, and again increased in the third and sixth months. These problems were associated with physical limitations ¹⁵ .
Sweda et al. 2020	A1	To investigate the effect of antidepressant therapy on cardiovascular outcomes and mortality in patients with acute coronary syndrome.	There was no difference in all-cause mortality between the groups. However, it was found that antidepressants decreased the risk of repeat hospitalizations. Another finding was the decrease in recurrent infarction in patients on drug therapy compared to control groups ¹¹ .
Valaker et al. 2020	B2	To determine aspects of continuity of care for patients after percutaneous coronary intervention.	There was a correlation between quality of life and continuity of care. Patients who experienced greater continuity of care felt "happier" and had fewer symptoms. Patients also reported improvements in the mental component after follow-up ¹⁰ .
Hauck et al. 2020	B1	To understand the impact of myocardial revascularization on the mortality of patients with schizophrenia and infarction.	Individuals with schizophrenia are more likely to die after AMI and to receive less effective treatment during and after myocardial infarctions ⁷ .
Soldati S, et al. 2021	B1	To measure adherence to medication for secondary prevention of AMI.	Mental disorders were strongly associated with poor medication adherence ¹³ .

*Does not have Qualis in the 2013-2016 quadrennium.

DISCUSSION

There are many meanings and repercussions of an infarction in an individual's life. The event often surprises the victim, who then looks for explanations and causes and, thereafter, tries to understand their future. In this sense, the period right after the acute cardiovascular event is full of uncertainties, questions, fear, anxiety, and elaboration of strategies to overcome the event and prevent its recurrence¹⁷. Part of the patients with AMI show signs of depression, anxiety, and other signs of psychological distress while still in the hospital, where they can receive some guidance about these disorders. However, the advances in the diagnosis and management of the condition reduced the duration of hospital stays after AMI, consequently reducing the time for this orientation. In this context, hospital discharge is a critical moment for the comprehensiveness of care: it is when patients are the most vulnerable and it can lead to discontinuity of care, exposing the patient, often alone, to the challenges of their new condition^{10,13,18}.

Among the challenges that arise after the ischemic event, Tylee et al. highlights the most common: chronic pain and disabilities, loneliness, fear of dying, alcohol abuse, boredom, loss of self-worth, frustration with disabilities, erectile dysfunction, and loss of sexual intimacy¹. Another study found a relationship between Major Depression in MI patients and increased risk of bleeding due to antiplatelet therapy, which is common in secondary prevention⁸. These obstacles can affect MI patients, making them more vulnerable to anxiety, depression, and other mood disorders³. However, some individuals seem to be at greater risk for the occurrence of these post-MI conditions. Studies have consistently showed that gender can be a risk factor, as women more often experience depressive disorders associated with adverse cardiac events and have a higher mortality risk after an AMI^{5,19,20}. On the other hand, the MIND-IT study found a higher incidence of depression after the cardiac event among men³. In addition, the existence of several risk factors that are common to cardiovascular diseases and psychiatric diseases may also contribute to their frequent co-occurrence.

In the financial aspect, a Swedish study showed that, even though authorities in their country recommend sick leave for approximately 4 weeks after Acute Coronary Syndrome (ACS), about 40% of patients remain on leave for at least twice that time. However, in this same study, the patients interviewed expressed desire to return to work as soon as possible. This indicates that some factors may hinder their return to work while recovering at home, such as psychological distress and negative perceptions about their own illness¹⁷. Another study by Shah et al.²¹ showed the association between self-reported financial stress after infarction and increased cardiovascular symptoms and worse health outcomes during recovery.

Persistence of chest pain was another factor commonly associated with post-MI psychological distress. This symptom probably accounts for a large part of the increase in the number of consultations among anxious patients^{1,2} and for the greater risk of hospital readmissions among depressive patients^{4,22}. In general, all emotional disorders and social problems were associated with decreased quality of life. In this context, continuous follow-up after AMI is necessary, as it allows greater contact between patient and healthcare system, increasing the chance of identifying mental health issues and allowing appropriate management. The primary care system can offer follow-up through the family health team, which is familiar with the patient's history, and provide multidisciplinary assistance through healthcare networks, involving other professionals such as psychiatrists and psychologists.

Regarding the diagnosis of these comorbidities, it was found that healthcare professionals routinely ask patients about specific symptoms. Studies show that the questionnaires developed for screening for depression and anxiety not only have high sensitivity and specificity⁵ but are also valued by patients, as they feel that the health professional takes their mental health into consideration¹. One of these questionnaires is the Hospital Anxiety and Depression Scale (HADS), which was commonly used in the follow-up of patients after infarction^{2,4,5,6,22}. Another popular survey was the Patient Health Questionnaire-9 (PHQ-9)^{1,19}, along with other less specific questionnaires on quality of life that still have components that can indicate mental health issues.

A recurring theme among the studies was the uncertainty about when to use the scales and when is the best time for an intervention. According to Herawati et al., anxiety levels are high on the first day after the infarction, decrease thereafter and increase again in the third and sixth month. Diagnostic and therapeutic intervention may be necessary in the long term, due to the accumulation of several limitations resulting not only from the cardiac event, but from the aging process itself. On the other hand, early diagnosis and management of the condition could prevent the progression of symptoms that may appear soon after hospital discharge.

However, the prophylactic approach does not seem to be adequate, as most of the studies found that feelings of anguish and stress immediately after the acute event were normal, and treatment was required only when symptoms were enduring^{1,12,23}. The results of a bedside intervention aiming to lower the incidence of post-traumatic stress disorder in patients still hospitalized for infarction corroborate this idea. In this intervention⁹, consisting of a single session, the group that received specific counseling soon after the infarction showed no benefit compared to the control group and had more self-reported symptoms of post-traumatic stress. Thus, given the uncertainty about the ideal moment for diagnosis and post-hospital treatment,

continuous follow-up and individualized management are the best option available.

This continuous attention to the patient allows for more treatment options. This is especially important, as post-MI patients are commonly reluctant to accept drug treatment for depression and/or anxiety¹. This opposition to drug treatment is possibly associated with an attempt to regain the feeling of control over their lives, starting with the choice of which medication to take. In addition to this factor, the benefits of antidepressants for this group are controversial, especially when it comes to Selective Serotonin Reuptake Inhibitors (SSRIs). These drugs seem to increase the risk of metabolic syndrome when they interact with 5-hydroxytryptamine receptors that are part of the weight and glucose metabolism process⁸. Another study reports that SSRIs can be harmful because they interact with certain classes of cardiac medications, such as beta-blockers¹¹. Additionally, a Dutch study¹⁶ that followed the evolution of infarction patients up to 8 years after antidepressant treatment initiation showed no beneficial effects on cardiovascular outcomes. On the other hand, another study pointed to an association between antidepressant therapy and less repeat hospitalizations. Another finding of this study was the decrease in recurrent MI in patients on antidepressant therapy compared to control groups¹¹.

Knowing this information and the patient's choice regarding the use of antidepressants, the physician responsible for follow-up can provide individualized care, using these medications carefully, monitoring adverse effects, and analyzing the results of the treatment. There are still other therapeutic options that have shown consistent efficacy, such as psychosocial interventions or Cognitive Behavioral Therapy (CBT), which has been analyzed in the SUPRIM²⁴ randomized trial. This study showed that the group exposed to a CBT intervention had more favorable outcomes regarding recurrent MI and other cardiovascular diseases. Another intervention with a focus on the participation of patients, allowing them to specify their own goals of improvement, was proved feasible and good for mental health¹.

In addition, healthcare professionals must treat the individual as a whole, in a practice that was called "Social Prescribing" in a study¹. This method consists of additional recommendations of physicians regarding non-medical services available in the wider community, such as financial advice agencies and social support groups/meetings. Encouragement to go to the gym enters the domain of social prescribing, since depressed individuals with CAD perceive going to the gym as beneficial for their mental health; however, they are physically active fewer days per week compared to non-depressed individuals. Therefore, greater integration between health and social care is necessary for these patients with chronic conditions.

There was no consensus regarding the best treatment

combinations, the correct moment for intervention, or even the use of antidepressants and whether any of the forms of treatment have a direct impact on mortality. However, cognitive behavioral therapy and social interventions were the most promising. In theory, treatment possibilities are limitless; however, much research is still needed to develop national protocols and find evidence of a decrease in mortality. Given the common perception of loss of control experienced by these individuals, a possible intervention strategy that can be highlighted was assessing the opinions and goals of the patients themselves, combining them with frequent monitoring of results and continuous adjustment of the treatment regimen.

Finally, it is worth highlighting the results of a study by Wachelder et al.²², which compared individuals with cardiac arrest and individuals with myocardial infarction. Against the initial hypothesis that cardiac arrest would be associated with more intense adverse mental outcomes, depression and anxiety symptoms were more present in patients who had an AMI. This shows that many of the mental health issues in patients with myocardial infarction do not derive only from the isolated stress of the cardiovascular event, but stem from the combination of many variables. Recognizing this fact and knowing these variables can reveal new intervention targets and show that much can be done to improve the patient's quality of life.

A limitation of the present study was the relative scarcity of specific information on psychiatric disorders after myocardial infarction. Thus, some of the data were more broadly associated with ischemic disease or coronary heart disease and their relationship with these mental disorders. However, even among these broader associations, only studies in which patients with myocardial infarction represented a significant percentage of the population were included in the present study. Another limitation was the fact that most studies only associated infarction to depression and anxiety, with little information about other mental disorders.

CONCLUSION

The research for this project clearly demonstrated that more attention should be paid to mental health problems after infarction, considering the benefits of long-term follow-up for these patients. In addition, it is possible to highlight the lack of Brazilian research on the subject, even though the high problem-solving ability of Brazilian Primary Care and the role of the Basic Health Unit (BHU) in the monitoring of the disease create a great space for further advances in this field.

It is evident that there are still many uncertainties about the appropriate treatment for these comorbidities. However, considering their impact on the quality of life and mortality of infarction patients, it is important to develop

further research to support public policies aimed at these patients. Given the evidence found, an association between cognitive behavioral therapy and psychosocial therapy, with the co-participation of patients in treatment planning, is a potentially beneficial combination. In addition, continuous

monitoring, individualized use of antidepressants and a broad approach using non-medical services such as gyms and social support and financial education groups are other strategies that can be used.

Contribution of the authors: *Samantha Tempra*: elaboration of the theme and objective, research, project writing, data analysis and critical review. *Henrique José Pegorini*: project writing, data analysis and critical review. *Lucimar de Lara Aires Reis*: guidance and critical review.

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