



## EDITORIAL COMMENT

# Brief psychological intervention in patients admitted after acute coronary syndrome: Essential or secondary?☆



## Breve intervenção psicológica em doentes internados após síndrome coronária aguda: essencial ou acessória?

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Psychosocial factors have a significant effect on cardiovascular risk, to an extent that is comparable to that of hypertension or abdominal obesity.<sup>1</sup> Acute coronary syndromes (ACS) also trigger emotional reactions that can be severe,<sup>2,3</sup> and an acute cardiac event or unexpected admission to an intensive care unit can be frightening and stressful.<sup>4</sup> Studies on individuals who have suffered myocardial infarction (MI) reveal high levels of depression and anxiety (31% and 26%, respectively, before discharge,<sup>2</sup> as well as one and two years afterwards<sup>2,3</sup>). These figures are important because depression and anxiety are independent predictors of reinfarction,<sup>5</sup> due to a variety of pathophysiological mechanisms including hyperactivity of the sympathetic nervous system and of the hypothalamus-hypophysis-adrenal axis, alterations in platelet function, inflammation, and endothelial dysfunction.<sup>6–8</sup>

Studies have shown a strong association between a major stressful event and the occurrence of MI and cardiac mortality. Cardiovascular mortality increases in the weeks following the death of a loved one<sup>9,10</sup> and immediately after

a terrorist attack,<sup>11</sup> natural disaster<sup>12</sup> or an important football match.<sup>13,14</sup>

In Hospital de Santa Marta, psychological assessments have revealed that in over 50% of MI cases there was an acute stress trigger: divorce, death of a close relative, moving home, retirement, or change of employment (Abreu et al., unpublished data, presented at the 2010 Portuguese Congress of Cardiology). These patients already have causal factors related to anxiety and depression that do not disappear with the MI. It can be speculated that these predisposing factors may worsen the patient's emotional state, beyond the acute stress caused by the MI itself.

Patients with depression or anxiety are hospitalized more often in the year following MI<sup>15</sup> and those with depression are less likely to return to work, both full time and at reduced working hours.<sup>16</sup>

This negative impact on prognosis shows the importance of identification and prompt and appropriate treatment of the emotional problems arising from ACS.

A brief psychological intervention following ACS has both benefits and limitations. Nowadays, the psychological dimension should be central to any cardiac rehabilitation (CR) program, unlike in the past when such programs were mainly exercise-based.<sup>17</sup> CR is a structured, wide-ranging, multidisciplinary intervention that includes functional, nutritional and psychosocial components and a variety of

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strategies, and as such is an excellent means for achieving the aim of optimizing patients' physical and mental state after an acute cardiovascular event. Appropriate interventions can modify the behavioral and emotional consequences of such an event; CR programs that include a psychological component have shown significant beneficial effects on morbidity and mortality following ACS,<sup>18,19</sup> although unfortunately patients with psychological problems are less likely to participate in a CR program.<sup>20</sup>

Educational interventions can have positive effects on the patient's psychological state, reducing anxiety and fear and correcting erroneous ideas about ischemic heart disease and its consequences, as well as increasing motivation to change habits and to adhere to therapy. It is essential to discuss patients' worries, fears and health beliefs with them. This can be done by individual counseling, which is more specific and covers only that patient's problems and risk factors, while group meetings enable cardiac patients to share their common concerns, provide mutual assistance, obtain useful information and receive guidance on how to return to their normal activities.<sup>21,22</sup>

The article by Fernandes et al. entitled "Brief psychological intervention in phase I of cardiac rehabilitation after acute coronary syndrome"<sup>23</sup> in this issue of the *Journal* sets out to evaluate the efficacy of acting on the psychological status of patients following ACS, particularly MI, during hospital stay. The investigators applied two questionnaires, the Hospital Anxiety and Depression Scale (HADS)<sup>24</sup> and the Brief Illness Perception Questionnaire (BIPQ),<sup>25</sup> both translated into Portuguese, and both previously validated,<sup>26,27</sup> to assess emotional adaptation and representations, respectively, of three brief sessions, one (1 hr 15 min) within three days of admission, one (1 hr 15 min) before hospital discharge, and a third (20 min) one month after discharge.

The clinical and demographic characteristics of the experimental and control groups were similar, although patients who underwent the intervention and improved were younger. As usual with ACS, the proportion of men (70%) was higher than that of women.

The results show that anxiety, depression and illness representations improved significantly in the group who underwent the psychological intervention compared to the control group. These improvements were maintained or enhanced at 1- and 2-month follow-up, whereas there was a deterioration in psychosocial adjustment in the control group. The authors concluded that a brief psychological intervention program delivered during hospitalization for ACS and combined with standard medical care can have positive effects in terms of psychosocial outcomes that have proven impact on cardiac rehabilitation and prognosis. A longer follow-up would be useful in order to determine whether the changes observed are maintained in the long term, and this is a limitation of the study that is acknowledged by the authors. A short-term effect is likely to be less valuable than one that is sustained over time.

The article does not report on the use of anxiolytic, antidepressant and sedative drugs. Anxious or depressed patients are frequently prescribed medication that can improve these states, which may be independent of any psychological intervention they have undergone. It is not stated whether the experimental group were taking different quantities or types of drugs compared to the controls, but

this information is essential to ascertain the independent effect of the psychological intervention.

Although other outcomes were not assessed, such as new ACS, hospitalization for cardiac cause, percutaneous coronary intervention (PCI) or compliance with drug therapy or exercise training, the reductions in levels of anxiety and depression, both well-known independent markers of cardiovascular risk following ACS,<sup>28-32</sup> point to an improved prognosis.

As pointed out by Fernandes et al.,<sup>23</sup> several investigators have suggested that emotional states and illness representations should be assessed early in order to optimize adherence to and benefits of CR by promoting better psychosocial adaptation following ACS.<sup>33-36</sup> Patients' beliefs about their illness and treatment are known predictors of clinical and psychological outcomes post-discharge. High levels of social support can soften the impact of depression on mortality rates in post-MI patients.<sup>37</sup>

Evidence in the literature points to the need for clinical interventions directed specifically at the psychological aspects of adherence to cardiological treatment and lifestyle modification. The cognitive-behavioral approach to modifying behavior appears to be the most effective strategy.<sup>38</sup> It is important to maintain flexibility in therapeutic approaches according to the needs of different types of patient.<sup>39</sup>

Despite the benefits of this type of early psychological intervention, the question arises of length of hospital stay. Nowadays most ACS patients are admitted to the cardiology department, undergo diagnostic catheterization followed by PCI, and are discharged 3-5 days after the event if there are no complications. Psychological assessment and intervention take place after the patient leaves intensive care. In practical terms, if a patient has an ACS and is admitted to the cardiology ward on a Friday evening, they may immediately undergo PCI and, barring complications, be discharged on the following Monday. It seems more sensible, in at least some cases, to carry out the psychological intervention early in the outpatient phase.

An intervention during hospital stay can also function as preparation for the subsequent phase. CR programs are divided into three phases: in-patient (phase I), early post-discharge (phase II), and maintenance (phase III), each of which has different characteristics.

In phase I, following careful assessment, lifestyle modification should be dealt with from the outset, offering clear and firm guidance but in a calm and non-aggressive manner. In this phase, CR in general and psychological interventions in particular are limited by the short duration of hospital stay, as pointed out above. Furthermore, patients are often in a state of shock resulting from acute stress, especially if they are young or were unaware that they had coronary disease, and in this state are unlikely to remember later what they were told in the hospital. This phase of hospitalization is often accompanied by fear and insecurity, and hence the patient must be appropriately calmed and provided with both information and motivation to prepare them for the support they will receive following discharge from the multidisciplinary CR team, particularly the psychologist. Psychological support may be particularly important in certain cases. Especially in the immediate post-discharge period, training for lifestyle modification and control of risk

factors, as well as psychological intervention, should be implemented step by step, without pressuring or overloading the patient, on the principle of 'one thing at a time'. An essential aspect of an early intervention is adherence to therapy; depression, anxiety and acute stress are associated with lower adherence rates to both drug and non-drug therapy.<sup>40</sup>

Not all MI patients will need the same type of intervention. Each one should be assessed individually and then treated accordingly. Equally, as seen with other treatments, not all patients respond in the same way. There is no consensus as to which are the best types of intervention for different patient groups, but clearly the intervention should be tailored on an individual basis, in the same way as CR exercise programs.

Besides these considerations, it should be pointed out that in practice human resources are limited, and so a careful psychological assessment during hospital stay can help select patients who will benefit most from a psychological intervention. Given the small number of psychologists compared to the number of patients, many centers will need to perform an initial triage, carried out by a cardiologist or nurse, to decide which patients should be referred to the psychologist.

The latest surveys of CR in Portugal<sup>41,42</sup> show that in 2009, only 3%<sup>41</sup> and in 2014 only 8%<sup>42</sup> of ACS patients participated in phase I, II or III CR programs. Phase I was available in only 31%<sup>41</sup> and 40%<sup>42</sup> of centers in 2009 and 2014, respectively, while a psychological component was included in 43% of programs in the first survey,<sup>41</sup> rising to 61% in the second.<sup>42</sup> Despite improvements in recent years, access to psychological assessment and interventions during hospital stay as part of a CR program is still restricted to a few centers (no more than 40%).

The ability to offer such interventions soon after ACS requires the availability of sufficient numbers of psychologists in hospitals and on CR teams to be able to provide this service.

Finally, as demonstrated by Fernandes et al.'s article and other data in the literature, early psychological assessment and intervention in ACS patients is important, especially when – as in this study – it is inexpensive and does not occupy too much hospital time, especially important in an era of scarce human and financial resources. Such an intervention should always be individually tailored and integrated into a CR program. Patients' attendance at and adherence to CR programs are in fact improved by the inclusion of a psychological intervention, since patients suffering from depression are less likely to participate. It is therefore important not to minimize the role of such interventions following ACS.

It would be interesting in future studies to compare the benefits of a brief early intervention with a longer intervention after hospital discharge, evaluating the long-term effects of both.

## Conflicts of interest

The author has no conflicts of interest to declare.

## References

1. Ounpuu S, Negassa A, Yusuf S, for the INTER-HEART Investigators. INTER-HEART: a global study of risk factors for acute myocardial infarction. *Am Heart J.* 2001;141:711–21.
2. Lane D, Carroll D, Rings C, et al. The prevalence and persistence of depression and anxiety following myocardial infarction. *Br J Health Psychol.* 2002;7:11–21.
3. Osler M, Martensson S, Wjumbj Andersen IK, et al. Depression after first hospital admission for acute coronary syndrome: a study of time of onset and impact on survival. *Am J Epidemiol.* 2016;183:218–26.
4. Moser DK, Dracup K. Role of spousal anxiety and depression in patients' psychosocial recovery after a cardiac event. *Psychosom Med.* 2004;66:527–32.
5. Whooley MA, Wong JM. Depression and cardiovascular disorders. *Annu Rev Clin Psychol.* 2013;9:327–54.
6. Nemeroff CB, Dominique L, Musselman DL. Are platelets the link between depression and ischemic heart disease? *Am Heart J.* 2000;140:557–62.
7. Musselman DL, Evans DL, Nemeroff CB. The relation of depression to cardiovascular disease: epidemiology, biology and treatment. *Arch Gen Psychiatry.* 1998;55:580–92.
8. Nemeroff CB, Musselman DL, Evans DL. Depression and cardiac disease. *Depress Anxiety.* 1998;8 Suppl 1:71–9.
9. Kaprio J, Koskenvuo M, Rita H. Mortality after bereavement: a prospective study of 95647 widowed persons. *Am J Public Health.* 1987;77:283–7.
10. Li J, Hansen D, Mortensen PB, et al. Myocardial infarction in parents who lost a child: a nationwide prospective cohort study in Denmark. *Circulation.* 2002;106:1634–9.
11. Meisel SR, Kutz I, Dayan KI, et al. Effects of Iraqi missile war on incidence of acute myocardial infarction and sudden death in Israeli civilians. *Lancet.* 1991;338:660–1.
12. Leor J, Poole WK, Kloner RA. Sudden cardiac death triggered by an earthquake. *N Engl J Med.* 1996;334:413–9.
13. Witte DR, Bots ML, Hoes AW, et al. Cardiovascular mortality in Dutch men during 1996 European football championship: longitudinal population study. *BMJ.* 2000;321:1552–4.
14. Carroll D, Ebrahim S, Tilling K, et al. Admissions for myocardial infarction and World Cup football: database survey. *BMJ.* 2002;325:1439–42.
15. Strik JJ, Lonsberg R, Cheriex EC, et al. One year cumulative incidence of depression following myocardial infarction and impact on cardiac outcome. *J Psychosom Res.* 2004;56:59–66.
16. Soderman E, Lisspers J, Sundin O. Depression as a predictor of return to work in patients with coronary artery disease. *Soc Sci Med.* 2003;56:193–202.
17. British Association of Cardiovascular Prevention and Rehabilitation. BACPR standards and core components for cardiovascular prevention and rehabilitation 2012. London: BACPR; 2012.
18. Broadbent E, Leggat A, McLachlan A, et al. Providing cardiovascular risk management information to acute coronary syndrome patients: a randomized trial. *Br J Health Psychol.* 2013;18:83–96.
19. McIntyre TM, Fernandes AC, Araújo-Soares V. Programa de intervenção psicológica na reabilitação cardíaca pós-enfarte do miocárdio. *Psicologia.* 2002;7:399–414.
20. Lane D, Carroll D, Rings C, et al. Predictors of attendance at cardiac rehabilitation after myocardial infarction. *J Psychosom Res.* 2001;51:497–501.
21. Piepoli MF, Corrà U, Benzer W, et al. Secondary prevention through cardiac rehabilitation: from knowledge to implementation. A position paper from the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. *Eur J Cardiovasc Prev Rehabil.* 2010;17:1–17.

22. Brown JP, Clark AM, Dahlal H, et al. Patient education in the management of coronary heart disease. *Cochrane Database Syst Rev.* 2011;12:CD008895.
23. Fernandes AC, McIntyre T, Coelho R, et al. Intervenção psicológica na fase I da reabilitação cardíaca pós-síndrome coronária aguda. *Rev Port Cardiol.* 2017;36.
24. McIntyre T, Pereira MG, Soares V, et al. Escala de Ansiedade e Depressão Hospitalar. Portuguese experimental version. Braga, Portugal: Universidade do Minho; 1999.
25. McIntyre T, Johnston M, Gouveia J, et al. Resultados psicossociais na reabilitação pós-enfarte do miocárdio em mulheres Portuguesas e Escocesas. Braga: Universidade do Minho; 2004. Contract No.: FCT POCTI/ESP/35749/2000.
26. Bjelland I, Dahl AA, Haug TT, et al. The validity of the Hospital Anxiety and Depression Scale. An updated literature review. *J Psychosom Res.* 2002;52:69–77.
27. Ng TS. Brief Illness Perception Questionnaire (Brief IPQ). *J Physiother.* 2012;58:202.
28. Frasura-Smith N, Lesperance F. Depression and cardiac risk: present status and future directions. *Postgrad Med J.* 2010;86:193–6.
29. Martens EJ, de Jonge P, Na B, et al. Scared to death? Generalized anxiety disorder and cardiovascular events in patients with stable coronary heart disease: the Heart and Soul Study. *Arch Gen Psychiatry.* 2010;67:750–8.
30. Shibeshi WA, Young-Xu Y, Blatt CM. Anxiety worsens prognosis in patients with coronary artery disease. *J Am Coll Cardiol.* 2007;49:2021–7.
31. Roest AM, Martens EJ, Denollet J, et al. Prognostic association of anxiety post myocardial infarction with mortality and new cardiac events: a meta-analysis. *Psychosom Med.* 2010;72:563–9.
32. Lichtman JH, Bigger JT, Blumenthal JA, et al. Depression and Coronary Heart Disease. Recommendations for screening, referral and treatment. A Science Advisory Council on Cardiovascular Nursing, Council on Clinical Cardiology, Council on Epidemiology and Prevention and Interdisciplinary Council on Quality of Care and Outcomes Research. *Circulation.* 2008;118:1768–75.
33. Roest AM, Zuidersma M, de Jonge P. Myocardial infarction and generalized anxiety disorder: 10-year follow-up. *Br J Psychiatry.* 2012;200:324–9.
34. Scherrer JF, Chrusciel T, Garfield LD, et al. Treatment-resistant and insufficiently treated depression and all-cause mortality following myocardial infarction. *Br J Psychiatry.* 2012;200:137–42.
35. McIntyre TM, Fernandes AC, Araújo-Soares V. Intervenção Psicológica na Reabilitação pós-enfarte do miocárdio: um esforço interdisciplinar [Psychological intervention after myocardial infarction: a multidisciplinary effort]. *Psicol Saúde Doenças.* 2000;1:3–10.
36. Tan MP, Morgan K. Psychological interventions in cardiovascular disease: an update. *Curr Opin Psychiatry.* 2015;28:371–7.
37. Frasura-Smith N, Lesperance F, Gravel G, et al. Social support, depression, and mortality during the first year after myocardial infarction. *Circulation.* 2000;101:1919–24.
38. Miller NH. Adherence behavior in the prevention and treatment of cardiovascular disease. *J Cardiopulm Rehab Prev.* 2012;32:63–70.
39. Cobb SL, Brown DJ, Davis LL. Effective interventions for lifestyle change after myocardial infarction or coronary artery revascularization. *J Am Acad Nurse Pract.* 2006;18:31–9.
40. DiMatteo MR, Lepper HS, Croghan TW. Depression is a risk factor for noncompliance with medical treatment: meta-analysis of the effects of anxiety and depression on patient adherence. *Arch Intern Med.* 2000;160:2101–7.
41. Abreu A, Bettencourt N, Fontes P. Panorama nacional de reabilitação cardíaca em 2007-2009. *Rev Port Cardiol.* 2010;29:545–58.
42. Silveira C, Abreu A. Reabilitação cardíaca em Portugal. Inquérito 2013-2014. *Rev Port Cardiol.* 2016;35:669–71.