



EDITORIAL COMMENT

Cardiac rehabilitation training in cardiology residency: A missing block in the training program

Reabilitação Cardíaca no internato de Cardiologia: uma rotação em falta na formação!

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Cardiac rehabilitation (CR) reduces cardiovascular mortality by about 25% and hospitalizations by 20% in patients following acute myocardial infarction (MI), and improves quality of life, both after MI and in heart failure (HF),^{1,2} with an impact on health gains from the benefits provided by the most modern cardiovascular drugs and interventions. This is why the European Society of Cardiology (ESC) and the American Heart Association/American College of Cardiology categorize CR as a class I intervention after MI, in HF, and in other cardiovascular diseases.^{3–5} Despite this recognition from the world's most prestigious medical societies, this intervention is not widely available in Portugal, particularly in cardiology centers without interventional cardiology and cardiac surgery facilities.⁶ The situation is particularly bad in inland cities in the east of the country, where cardiology departments are short-staffed and deal almost exclusively with acute disease.

Although the Portuguese situation is one of the worst in Europe, with fewer than 10% of post-MI patients participating in phase II (post-hospital discharge) CR programs (CRPs), only 30–50% of patients in Europe and 20–30% in the USA participate in CRPs, well below the 70% target rate recommended for patients who have recently suffered an MI.⁷

The obstacles to participation in a CRP have been identified and are well-known worldwide. The barriers most often mentioned are related to: (a) physicians (not referring their patients for CR or even informing them about it,

in many cases because the physician is unaware of or disbelieves in its benefits); (b) patients (who are unwilling or unable to follow the program, usually due to financial or time constraints); and (c) the health system (no CR center within 20–30 km of the patient's residence or workplace, at an affordable cost, and with a convenient schedule of sessions).⁸ There may be additional specific reasons for Portugal not implementing CRPs. Some of the most significant reasons may be a lack of promotion of physical activity, especially in older age-groups and in females, low levels of health literacy, an aging network of public hospitals in which it is difficult to find space for a gymnasium, difficulties in putting together multidisciplinary teams, lack of outpatient or specialized rehabilitation centers, and chronic underfunding of public hospitals. In addition, the residency training programs in the specialties of cardiology and physical medicine and rehabilitation (PMR) do not yet include a specific CR block, nor is there a post-specialty competency or subspecialty recognized by the Portuguese Medical Association (PMA) (*Ordem dos Médicos*). Such a module is essential to provide training for an adequate number of specialized physicians to make up the medical staff of the CR teams required to provide CR around the country.

In this context, the study by Vilela et al. published in this issue of the *Journal*⁹ takes on particular importance by providing a picture of the current Portuguese situation, raising important questions and identifying the barriers which need to be overcome to successfully implement a network of CR centers in Portugal.

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A total of 1276 potential participants on the mailing list of the Portuguese Society of Cardiology (SPC), cardiologists and residents from the third to the fifth (final) year of the training program, were invited to respond to a voluntary 32-item structured online questionnaire about CR (demographics, training, attitudes, and general knowledge of CR). There were 97 responses (7.6% response rate), mostly from cardiologists (81.4% of respondents), 56.4% of them with a CR program in their workplace.

This paper has some methodological limitations, clearly identified by the authors in their discussion, but has great merit in raising several interesting questions and in increasing awareness regarding CR:

1. Most respondents considered that insufficient time is dedicated to CR during residency and pointed out that a specific block is needed. This response is not surprising, since the current cardiology training program in Portugal, in place since 2006, does not include any training block in CR, although residents usually have some contact with CR in hospitals where there is a CRP during the three-month electrocardiography (ECG) block, which includes ECG, Holter ECG, exercise stress testing, and ambulatory blood pressure monitoring.
2. Most respondents (52.6%) had not dedicated (or intended to dedicate) time to CR training, mainly due to lack of time (51%) and lack of interest (25.5%) or recognition by international societies (19.6%). This response is reasonable in the present situation, considering that to date no specific CR block is included in the cardiology training program and that 81.4% of respondents were already cardiologists, many of them with a different focus on the specialty, and did not have the opportunity, time, or interest to go back for specific training in a field outside their professional scope. Nevertheless, the responses regarding the lack of scientific recognition reveal ignorance of the existence of the European Association of Preventive Cardiology's Certification in Preventive Cardiology, launched in 2022, which has a specific domain for CR, and has already been achieved by several Portuguese cardiologists.¹⁰
3. The 45.4% rate of respondents who did not usually refer patients for CR is explained by the fact that most of them lacked human resources for CR in their center or there was no CR center in their region, even in private or social facilities, because there were no reimbursement plans provided by the health ministry, health subsystems (for civil servants, army, or police), or insurance companies.
4. Most participants (72.2%) reported being either interested or very interested in CR. The 2.3% rate of respondents expressing scepticism regarding the benefits and cost-effectiveness of CRPs is reasonable in the context of a general survey in which many respondents may not have adequate knowledge about CR.
5. The responses to the specific questions assessing general knowledge of CR are particularly encouraging for Portuguese cardiology, since most survey respondents showed good knowledge regarding the indications for CR and its multidisciplinary approach, even in a context of little contact with CR. This may be due to their participation in the frequent sessions on CR in the SPC's scientific meetings. The incorrect answers to questions on quality

indicators may be related to the fact that many cardiologists have no direct contact with CR.

This survey is published more than a year after the Portuguese College of Cardiology and the PMA approved a new cardiology residency program, inspired by the ESC's Core Curriculum for the Cardiologist,¹¹ which was launched in 2020 with specific targets for residents' CR training. This new Portuguese training program is awaiting approval by the national health authorities, which it may receive in a few months, and may begin to be implemented immediately or after a two-year transition period in cardiology departments. For the first time, the new training program includes a two-month block on exercise pathophysiology (conventional and cardiopulmonary exercise testing) and CR. Simultaneously with the new residency program, the PMA also decided that after a 24-month transition period following the launch of the new program, general cardiology training will only be provided by cardiology departments with an active CRP.

Both requirements will improve general cardiology training in Portugal, since they will update and upgrade the overall medical knowledge required and will provide new cardiologists with tools that will be crucial for CR implementation and dissemination in the country.

This goal will only be attained if we can attract and provide training for the different types of professionals (in medicine and allied fields) that constitute a CR team.¹²

It is crucial to implement CR through the joint work of cardiologists and PMR specialists. This is why the two specialist colleges of the PMA are working together to establish a common competency in CR, which will be submitted to the PMA's board in a few months.

The medical competency board of the PMA, with both specialties working together, will be responsible for defining the professional and scientific skills to be attained by recognized specialists able to work in the field and the quality measures to be achieved by CR centers.¹³

It will be a real game-changer!

Conflicts of interest

The author has no conflicts of interest to declare.

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