

Editorial

Future perspectives in cardiac rehabilitation: a new European Association for Cardiovascular Prevention and Rehabilitation Position Paper on 'secondary prevention through cardiac rehabilitation'

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Although the importance of prevention of cardiovascular diseases (CVD) is obvious, the role of cardiac rehabilitation as secondary prevention is crucial, as it has shown great promise as a means of reorganizing chronic care and optimizing cardiac patient outcomes. The cardiac patient who has survived an acute event or who suffers from chronic heart disease needs special attention to restore the quality of life, to improve functional capacity, and education to help prevent the recurrence of events. Cardiac rehabilitation (CR), a multifaceted and multidisciplinary intervention [1], can help the patient in this endeavour, as it has been proven to improve functional capacity, recovery, emotional well-being, and to reduce hospital readmissions and mortality: remarkably, exercise-based CR has been shown to significantly decrease cardiac mortality both in coronary artery disease and in chronic heart failure [2–5]. Moreover, CR is unique in educating patients and in applying the appropriate medical therapy in addition to nonpharmacological treatment modalities. The core components of CR include baseline clinical assessment and risk stratification, optimal pharmacological therapy, management of related diseases, and nonpharmacological therapy. Nonpharmacological therapy is in the form of an integrated management project with a continuing programme of physical activity, exercise training, counselling, and education for risk-factor management, such as smoking cessation, weight reduction and change in nutrition, and psychological support [6]. CR services are available in a continuum that includes inpatient and outpatient reha-

bilitation. The more immediate objectives of CR services are to achieve clinical stability, limit the physiological and psychological effects of cardiac illness, improve the overall functional status, and help maintain independence with an emphasis on quality of life. In the longer term, the objectives are to reduce the risk of future coronary events, retard the progression of the underlying atherosclerotic process and of clinical deterioration, and ultimately to reduce morbidity and mortality. Therefore, secondary prevention goals are included in the overall goal of CR, which in turn can be viewed as the clinical application of preventive care by means of a professional multidisciplinary integrated approach for comprehensive risk reduction and global long-term care of cardiac patients. This approach integrates a flexible follow-up strategy with easy access to a specialized team [7], which is led and coordinated by a medical director who has expertise in CVD management and secondary prevention, training, and experience in the exercise training of patients with heart disease [8]. The complete and detailed guidelines regarding cardiac rehabilitation/secondary prevention programmes have been recently revised by the American Association of Cardiovascular and Pulmonary Rehabilitation [9], endorsed by the American Heart Association. The role of CR services has been promoted by various healthcare organizations and position statements [7,10–14]. Despite the known benefits of CR, the widespread endorsement of its use, and the inclusion of innovative CR standard proposals [15–19], CR is vastly underutilized [20], confirming that evidence by itself provides neither a complete recipe for success nor an imperative for action. Further refinement of evidence is needed if CR is to be useful in everyday practice [21]. The European Association of Cardiovascular Prevention

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and Rehabilitation (EACPR) acknowledges the complexity of the processes supporting change within the evidence-into-practice sequence. The EACPR directions to reduce the gap are, however, oriented towards better strategies in the referral to, enrolment in, and planning and completion of programmes in CR. Although greater emphasis is placed on the effectiveness of education, counselling, and behavioural intervention on outcomes (as well as on organizational issues, and on evaluation for the wide spectrum of cardiac patients who are candidates for CR), flexibility is the key principle of contemporary CR. The duration of attendance, nature, and intensity of CR programs should vary considerably in relation to individual patient need. Consequently, an inherent lack of shared definition of management, which limits the ability to compare and evaluate different programs, is admitted. Several domains for disease management have been described (Table 1): key elements include a coordinated system of care, delivery system support, support for patient self-care, identification of at-risk populations, a continual feedback loop between patients and care providers, and measures of clinical condition, physical function, quality of life, and other outcomes [22]. Common attributes of disease management and cardiac patient characteristics should both be appropriately considered when planning the CR core-components agenda.

Within the next few months, a novel EACPR Position Paper on 'secondary prevention through cardiac rehabilitation' will be organized and arranged, with the aim of describing and expanding the CR core components, according to the diagnoses and clinical conditions of CVD patients referred to CR. These clinical conditions include acute myocardial infarction or status after coronary artery bypass graft surgery, percutaneous coronary intervention, and heart transplant or heart-valve surgery. Adopting a 'how to do' modality, an innovative practical and pragmatic tactic will be provided. Importantly, owing to the distinctive EACPR structure [23], a broader perspective will be outlined, aspiring to boost generalizability, feasibility, and sustainability. The document will evidently be in the hands of the EACPR Cardiac Rehabilitation section: thereafter, support from the other EACPR sections, and liaison with members of the European Society of Cardiology and other international organizations will be fostered throughout, under the supervision of the Guidelines Committee. The ambition is to arrive at higher levels of both agreement and certainty on the core components of CR to be pursued and certified in the single cardiac patient: the field will then be ready for the development of planning and control mechanisms such as guidance, application of standards of practice, and performance management. Changes in practice will then follow from scientific background to local innovation.

Table 1 Domains for chronic disease management

(1)	Patient population	Risk status, demographic profile, and concentration of comorbidity.
(2)	Intervention recipient	Main targets of intervention (i.e. patients, or patients and caregivers).
(3)	Intervention content	Distinct components, including patient education, medication management, peer support, and others.
(4)	Delivery team	Cardiologists, nurses, dieticians, physical therapists, psychologists, pharmacists, and information-systems specialists.
(5)	Method of communication	In-person visitation, audiovisual information packets, and some form of electronic or telecommunication technology.
(6)	Intensity and complexity	Frequency and duration of intervention, as well as the mix of programme components.
(7)	Environment	Inpatient or outpatient programmes, community or home-based programmes, or a combination of both.
(8)	Clinical outcomes	Traditional primary and secondary outcomes, as well as patient-centred measures, such as adherence to medication, self-management, and caregiver burden.

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