Review Article

Advanced Role and Field of Competence of the Physical and Rehabilitation Medicine Specialist in Contemporary Cardiac Rehabilitation

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The definition of physical and rehabilitation medicine (PRM) given by the Union of European Medical Specialists (UEMS) is that it is an independent medical specialty concerned with the promotion of physical and cognitive functioning, behavior, and quality of life (QoL), and modifying personal and environmental factors. Nowadays PRM specialists are responsible for the prevention, diagnosis, treatment and rehabilitation management of people with disability. The background competences and skills required of PRM specialists during the cardiac rehabilitation (CR) process are described in the White Book of Physical and Rehabilitation Medicine and the Action Plan of the Professional Practice Committee of the UEMS-PRM Section.[1-3] The majority of aptitudes and competences of PRM specialists are provided during the core specialty training and are further enhanced by knowledge and experience of work in other medical specialties (orthopedics, neurology, internal medicine, etc.).[4] Nowadays, CR is increasingly recognized as an integral component of the comprehensive cardiac care of patients with chronic heart failure.[5] Known benefits of CR include a reduction in morbidity and mortality, improved functional capacity, better QoL, improved blood lipid levels, more psychosocial well-being, less stress, fewer recurrences of myocardial infarction (MI), and less need for myocardial revascularization procedures.[6-8] Contemporary outpatient CR services are medically supervised and conducted by an interdisciplinary team including other professionals, such as cardiologists, PRM specialists, physical therapists, psychologists, dietitians and nurses.[9,10] Outpatient CR programs offer a cost-effective, interdisciplinary and comprehensive approach, aiming to modify the underlying risk factors, and to restore maximal physiological, psychosocial, and functional status.[11] Papadakis et al[12] reported evidence to support the cost-effectiveness of supervised CR services as compared to usual care in MI and heart failure, with the range of cost per life-year gained estimated to be from US$2193 to US$28193.[12] The ultimate goal of the CR process is the reintegration of cardiac patients into the community, although many factors contribute

to the degree of success achieved. The reported reduction in mortality and morbidity rates by supervised CR approaches 25%, in comparison with usual care, where CR services are underutilized.[13] Despite this recognition and exhortation, current statistics continue to demonstrate disappointingly low participation and referral rates of eligible patients.[14,15] Several factors are responsible for the poor referral and participation rates of outpatient CR. Poorest participation is particularly associated with low socioeconomic status, low education, advanced age, rural areas, and and/or female sex.[16,17] The pioneers of CR (Tobis, Wenger, Zohman and Bruce) would not be able to imagine in their time the amount of development that their modest exercise training for low-risk patients underwent in the following decades. The poor CR program applied in the USA in the early 1960s has now become a multidisciplinary strategy for secondary prevention and an interventional tool of public health.[18]

The role of the PRM specialist in CR has changed during recent decades, as a result of reductions in mortality, morbidity, and hospitalizations and improvements in QoL.[19,20] PRM specialists on CR teams are optimally situated to ensure that behavioral lifestyle treatments and drug therapies are applied systematically to attain favorable clinical outcomes in patients with heart disease. The decision-making role of the PRM specialist in contemporary CR is to define policies and strategies, to perform patient assessments, to communicate in an effective and timely fashion with the referring cardiologist or general practitioner (GP), to assure patient safety, and to ascertain that the plan of care is cost-effectively attaining favorable patient outcomes for participants.[21] Contact with other medical specialists and health professionals involved in the CR team is vital and should occur regularly.[22]

Another field of competence (FOC) of the PRM specialist is to minimize CR team conflicts. The PRM specialist is ultimately responsible for ensuring that systems are in place to facilitate this process and that appropriate communication with referring physicians is maintained.[23] The roles and FOC of the PRM specialist in contemporary CR are presented in Table 1.

Any contemporary CR program should have a manual issued, describing the elements that are also managed by the PRM specialist (Table 2).

The American Heart Association suggests that strict compliance with the indications and contraindications listed in Table 3 is of crucial importance to the safety and success of CR programs.[24] Of all the criteria, the following have to be taken most attentively into account: basic and accompanying/concomitant disease; type of treatment—drugs or intervention; electrocardiogram (ECG) and echocardiogram data; patient lipid profile; functional capacity; risk factors; and psychoemotional and occupational status.[25] In addition to the abovementioned criteria for assessing patients for inclusion in CR programs, an in-depth analysis and evaluation of the QoL of cardiac patients is carried out by means of health-related QoL questionnaires, such as the Minnesota Living with Heart Failure[26] and the MacNew questionnaire.[27]

Recently, the National Institute for Health and Care Excellence, (NICE) published an updated, and much wider list of inclusion criteria, recommending the delivery of CR with an exercise component in a non-judgmental, respectful and culturally sensitive manner to all patients, regardless of their age. Furthermore, it suggests that people should not be excluded from the entire program if they choose not to attend specific components of it, and most importantly, that CR should be started as soon as possible, at least within 10 days of their discharge from hospital, and preferably before discharge. Despite all such ef-

Table 1. Key roles of the physical and rehabilitation medicine specialist in cardiac rehabilitation (CR).

Carrying out and coordination of diagnostic therapeutic CR events
Design and assessment of included patients
Monitoring patient progress and modifying the CR program
Coordination of the safety parameters for CR programs and management of emergency and urgent conditions
Communication with referring cardiologists and GPs
Coordination and resolution of health insurance issues

Table 2. Cardiac Rehabilitation Manual.

Diagnostic and evaluation criteria for inclusion and exclusion of patients
Methodology of the various cardiac rehabilitation programs
Measures for clinical assessment of patients
Daily notes on the course of treatment after every training session, including the achieved parameters and results
Keeping a record of changes in patient's functional status
Registration of changes in drug therapy
Registration of changes in patient's psycho-emotional status
Emergency management activities
Communication with referring health professionals to report the results achieved by patients